

The UK Logistics Network

Identifying our critical supply chain infrastructure to drive growth



LOGISTICS UK

We support, shape and stand-up for safe and efficient logistics

Logistics UK is one of the country's largest business groups and the only trade association which represents all of logistics. Our mission is to support, shape and stand up for safe and efficient logistics.

Our membership of more than 20,000 includes global, national and regional businesses and SMEs spanning road, rail, inland waterways, sea and air as well as the buyers of freight services, such as retailers and manufacturers.

We deliver services, representation and thought leadership, helping members and policymakers to seize new opportunities for the sector and the economy as a whole, right across the country.

The UK logistics sector contributes £185 billion GVA to the UK economy each year, which is 12% of UK non-financial GVA. 2.6 million people in the UK are employed by logistics businesses or perform logistics roles in other business – 8% of the UK workforce.

The logistics sector underpins the economy, with all other sectors being reliant on it. As a result, its efficiency and the productivity of the economy are intertwined.

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In order to provide a comprehensive picture of demand and the principal generators of that demand, the maps have been generated from a range of sources (which are referenced) and MDST's GB Freight Model, which has been employed extensively in both the public and private sector over recent years.

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Foreword



Logistics underpins our economy, delivering for its households, businesses and public services, every day. As we strive to meet the challenges of achieving balanced economic growth, technological advancement and decarbonisation, the efficiency and resilience of the UK's logistics corridors are paramount. In fact, according to Oxford Economics, with the right policy environment and strategic investments for the logistics sector, the government could boost the economy by up to £8 billion a year by 2030 through productivity-led growth.

With the UK government developing a 10-year infrastructure strategy, Logistics UK is starting a conversation about how we can build a long-term vision for improving the infrastructure required to support logistics activities and therefore UK economic growth, resilience and decarbonisation. This conversation must start with the identification of the UK Logistics Network.

Logistics UK has worked with transport economists MDS Transmodal to map the current state of the UK's logistics corridors, focussing on the flows on our key road and rail routes, what generates them and how they connect our ports, airports, urban and industrial centres. The maps within this report show the routes through which goods flow, highlighting both the connectivity between the nations and regions of the UK and the pinch points which limit the efficiency of this system and, therefore, the productivity of the economy. It is only by looking at the network as a whole, rather than focussing on individual roads and rail lines, that we can truly understand the complexities and interdependencies of our logistics corridors and identify the UK Logistics Network.

As recognised by the National Infrastructure Commission, UK infrastructure suffers from a lack of long-term investment. There is a pressing need for enhancements and innovations that can bolster the efficiency, capacity and sustainability of the network. The priorities for improvement outlined in this report are not suggestions but strategic imperatives to achieve the government's national growth and decarbonisation missions.

Despite the constraints on public finances, the modernisation of ageing infrastructure, the integration of cutting-edge technologies and the enhancement of intermodal connectivity are all needed to support economic growth. Our road and rail networks require substantial upgrades to handle the increasing volume of freight being transported and to reduce congestion. The adoption of smart logistics solutions, such as real-time tracking and autonomous vehicles, stands to revolutionise the sector, enabling it to be even more responsive and resilient. Our infrastructure must follow suit.

Furthermore, this report underscores the importance of sustainability. As the world grapples with the challenges of climate change, the logistics sector must pivot towards lower carbon practices. Investment in zero tailpipe emission technologies such as battery electric vehicles (BEVs) and hydrogen fuel cell electric vehicles, the expansion of rail and waterborne freight, and the development of more efficient supply chain processes are critical steps towards reducing the carbon footprint of our supply chains. Alongside this, there is a pressing need to ensure that our infrastructure is more resilient and better adapted to the impacts of a changing climate, mitigating the impacts of extreme weather on the delivery of essential goods and services.

This report is a call to action for collaboration across government, industry and communities to formally identify the UK Logistics Network and ensure that it can support the nation's ambitions for a thriving, sustainable future. The insights and priorities outlined here will guide us in building the robust, innovative, and environmentally responsible logistics infrastructure that meets the needs of today and anticipates the demands of tomorrow.

A handwritten signature in black ink, appearing to read 'D Wells', with a horizontal line underneath.

David Wells OBE
Chief Executive
Logistics UK

Executive summary

Logistics is fundamental to the nation's economic prosperity, ensuring the seamless movement of goods across the country. This network supports supply chains across industries, facilitating everything from everyday consumer deliveries to manufacturing components and critical healthcare supplies. As the UK strives for economic growth, technological advancement and decarbonisation, the need for more efficient, resilient and sustainable logistics corridors has become paramount. This report serves as a starting point for a conversation on how to identify the UK Logistics Network and create a long-term vision that addresses these challenges and positions the UK as a leading green economy.

Current state of the UK's logistics corridors

The findings of this report reveal both the interconnectivity of the UK's major logistics corridors and the critical bottlenecks that impair their efficiency. To achieve sustained economic growth and meet the UK's decarbonisation targets, long-term investment in and strategic improvements to the network are essential.

UK infrastructure faces several challenges, including ageing assets, capacity constraints and poor reliability. Underinvestment has left the network ill-equipped to handle increasing freight volumes, leading to inefficiencies that affect the productivity and growth prospects of the entire economy. This report highlights the urgent need for long-term thinking to enhance the capacity, sustainability and efficiency of the network, which is critical to improving the UK's global competitiveness in logistics.

Challenges and needs

Despite the current constraints on public finances, critical investments in logistics infrastructure cannot be delayed. With an emphasis on sustainability, the focus must be on modernising and adapting existing infrastructure, while also delivering a limited number of major new schemes such as the Lower Thames Crossing.

The logistics sector is a significant contributor to the UK's carbon emissions, and it must transition to lower carbon practices across all modes to support the country's net-zero goals. This will require investment in zero emission tailpipe technologies, charging and refuelling facilities, as well as improvements in supply chain efficiency to reduce its carbon footprint. Transport infrastructure must also be made more resilient to the impacts of climate change, such as extreme weather events, which are already disrupting the movement of goods.

The road network

The UK's road network is central to its logistics infrastructure, with approximately 81% of domestic freight being transported by road (in tonnage¹). However, the network is under severe strain in places, with congestion, poor road surfaces and capacity limitations posing significant challenges to logistics operators. Almost one third of all traffic on all major roads is logistics, and 47% of traffic on high-volume parts of the SFN is UK logistics, signifying how critical the road network is to supply chains². In addition, according to Logistics UK's latest Logistics Performance Tracker, road congestion and delivery times were rated as the trends expected to worsen the most for Q3 2024, reflecting increased traffic and infrastructure issues. Taking uncongested speed and average uncongested time on the network into consideration, it is estimated the total

¹ *Transport Statistics Great Britain: 2022 Summary. Department for Transport, December 2023*

² *This analysis has been conducted in passenger car units (PCU), which reflects the road space used by each vehicle type. This number has been multiplied by the road length to give PCU kilometres.*

cost of congestion on the SRN imposed on HGVs increased by £936 million a year between 2015 and 2024, illustrating the urgent need to address these inefficiencies in the network.

Major arterial routes, such as the M25, M6 and M1, often operate at or near capacity, leading to frequent delays, increased transportation costs and higher emissions. These problems are compounded by the poor condition of the roads, with potholes and other maintenance issues causing damage to vehicles and further increasing costs for businesses.

Investment in road infrastructure is urgently needed. A long-term strategy, extending over 30 years, should be developed to ensure that the road network is capable of supporting the future needs of the logistics sector, particularly as autonomous vehicles and zero-emission tailpipe technologies become more prevalent. Aligning the road network with the country's energy infrastructure will be critical to facilitating the widespread adoption of BEVs and hydrogen fuel cell electric vehicles.

The rail network

Rail freight is crucial for transporting consumer goods, construction materials and other essential commodities, and it provides a lower-carbon alternative to road transport. However, the UK's rail network has several bottlenecks, particularly on heavily used routes such as the West Coast Main Line and the Felixstowe to Nuneaton corridor. Currently, the high-volume routes represent just 2% of the network in kilometres, however, carry 15% of all rail freight tonne kilometres. These capacity constraints limit the potential for rail freight to grow, hindering the UK's efforts to decarbonise its economy.

The government's target to increase rail freight by 75% by 2050 is ambitious, but achievable with the right investments. Key infrastructure projects, such as electrification of rail lines, upgrades to congested routes and additional rail freight terminals are critical to unlocking this growth.

Enabling modal shift from road to rail and water for domestic freight movements must be an integral part of the UK's decarbonisation strategy. The development of integrated transport hubs that facilitate the smooth transition of goods between road, rail and maritime transport will be key to making this shift viable. The success of developments such as the East Midlands Gateway highlights the benefits of strong connectivity between different modes of transport, which can attract significant private sector investment and enhance the efficiency of logistics operations.

Key corridors

The UK's logistics corridors have evolved over time to connect different strands of economic activity, including the flow of imports and exports through strategic ports, the distribution of goods to and from major urban centres, and the movement of goods to the devolved nations and more remote regions. This network supports the smooth functioning of supply chains across the country. However, it is highly dependent on a small number of critical routes, which creates vulnerabilities.

The previous government's Future of Freight strategy outlined a vision for improving the efficiency and sustainability of UK logistics, including through the development of a National Freight Network. However, the government has yet to identify this network and, in addition, the UK's freight and logistics strategy should be expanded and supported with detailed delivery plans and appropriate funding to ensure that it has a meaningful impact on the country's logistics performance and, therefore, its economy. In particular, the UK needs a freight and logistics strategy that focuses on improving key road, rail and maritime connections, as well as enhancing the resilience of the network to meet challenges such as climate change and the transition to a low-carbon economy.

The UK road network

The UK road network is a critical component of the country's logistics infrastructure, carrying around 81% of domestic freight movements³. Almost one third of all traffic on all major roads is logistics. This rises to 47% on high volume routes, as identified in **figure 1**⁴. However, the network faces significant challenges in terms of capacity and efficiency, impacting its effectiveness with poor road conditions, overrunning works and capacity constraints combining to make journey planning highly unpredictable, increasing business costs such as through missed deliveries, unnecessary overtime, increased fuel consumption, inefficient fleet utilisation and damaged vehicles.

As illustrated in **figure 1**, the core road freight network connects London northwards to the East and West Midlands and on to Yorkshire and the North West, with critical links across east-west routes between these regions. From this network, key tributaries extend to principal ports and into Wales and Scotland, as well as the significant industrial and urban centres of the other English regions. Responsibility for managing many of these important routes which connect businesses to the Strategic Road Network (SRN) sits with local authorities.

Congestion is a major challenge, particularly on arterial routes such as the M25 around London, the M6 through the Midlands, the M62 in Northern England and the M1 connecting London to Leeds. These roads often operate at or near capacity, especially during peak hours, leading to delays and increased transportation costs. Industry has reported a decrease in reliability in recent years, with respondents to the Logistics Industry Survey identifying a deterioration in scheduling reliability due to road congestion in 2023 compared to 2022⁵. Congestion and traffic have now returned to pre-pandemic levels, highlighting the importance of ongoing infrastructure improvements.

The condition of UK roads is a major concern to the logistics industry, especially as logistics operators rely on roads beyond the SRN for national, long-distance movements. The RAC estimates that there could be at least one million potholes across the roads of the UK⁶. This brings significant impacts to the industry in terms of safety, damage to vehicles and longer journey times. This issue needs to be addressed as potholes are acting as a tax on business. The government should invest in improved road maintenance and pothole repair by ensuring both national agencies and local authorities are provided with sufficient long-term funding to effectively maintain a reliable, modern road network.

In many parts of the UK, there is a lack of viable alternative routes for logistics transport, particularly where freight must compete for space with private passenger transport, such as across the Pennines, around London and between the towns and cities of the Midlands. Overall, this makes the network less resilient to incidents such as accidents or roadworks, which can cause substantial delays.

There is a need for significant investment in upgrading and improving the efficiency of the road network. The decision to cancel projects such as upgrades to the A303 near Stonehenge will negatively affect road freight, while there is an urgent need to approve and deliver the Lower Thames Crossing to add much needed capacity and resilience to a nationally important route. In addition to these immediate pressures, a long-term, 30-year vision is required.

The UK should also avoid an investment strategy that deals solely with the transport needs of today. Road freight is evolving rapidly, driven by technological improvements and the need to decarbonise. Making the most of the potential benefits of autonomous vehicles will require a network that is digitally connected, while aligning the country's energy infrastructure to the road freight corridors identified in this report is essential to enable the transition to zero-emission vehicles.

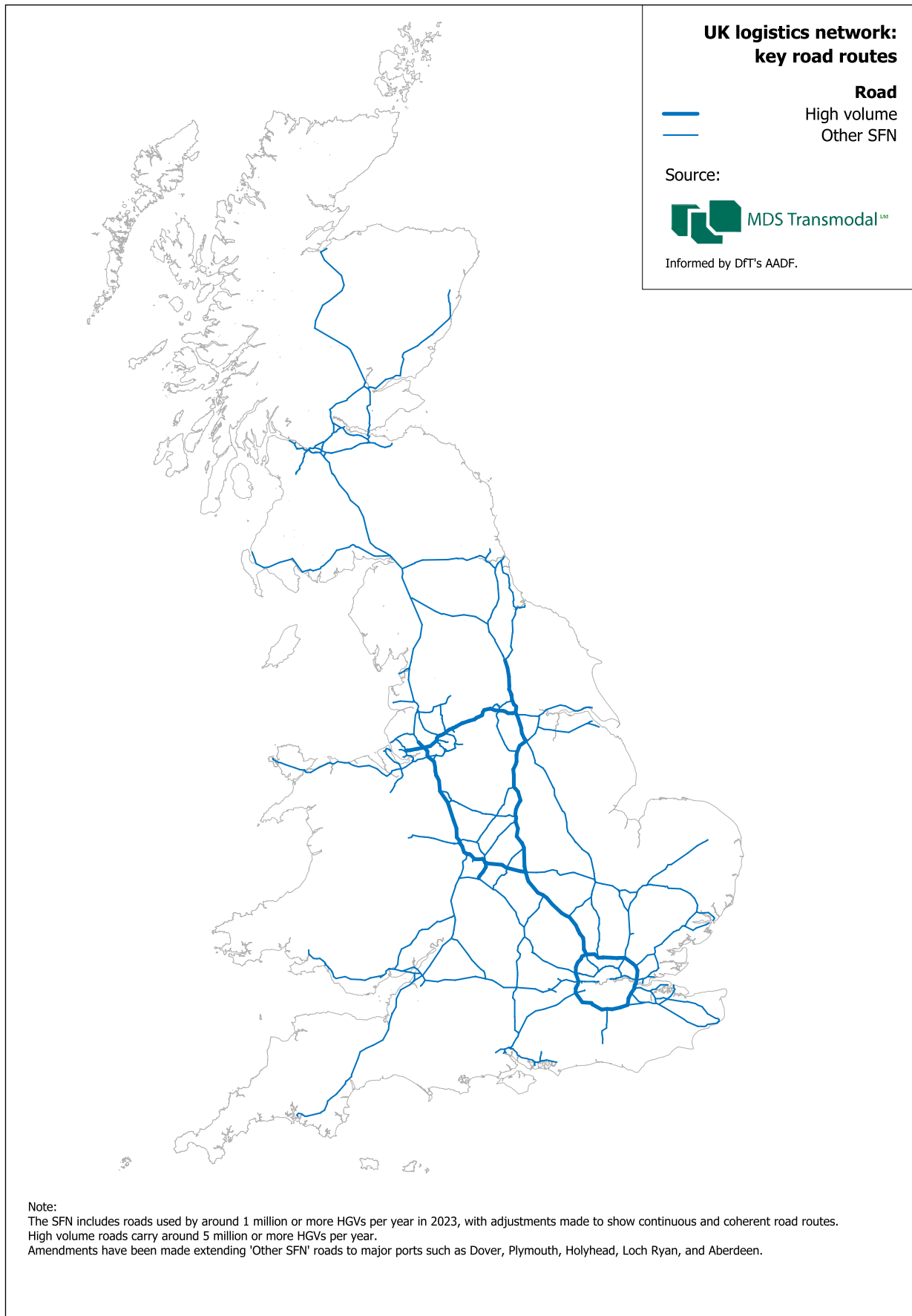
³ *Transport Statistics Great Britain: 2022 Freight*. Department for Transport, 14 December 2023

⁴ *MDS Transmodal*, October 2024

⁵ *Logistics Report 2024*. Logistics UK, June 2024

⁶ *RAC Pothole Index – statistics and data for UK roads*

1 UK logistics network: key road routes



The UK rail network

The importance of the UK rail network for logistics is often undervalued. It facilitates the movement of a range of critical goods, contributing £2.45 billion to the UK economy every year⁷. However, as with the road network, several bottlenecks and capacity issues hinder rail's and therefore the economy's optimal performance and act as a barrier on growth, undermining progress towards achieving the government's rail freight growth target of 75% by 2050.

The UK rail network is essential for transporting goods such as consumer products and construction materials and plays a crucial role in supporting onward movement for container freight from ports on the south and east coasts. It offers a lower carbon alternative to road transport, helping to reduce UK emissions. A diesel-hauled rail freight service reduces carbon emissions by 76% per tonne compared to road transport⁸.

Many parts of the rail network are operating at or near full capacity, particularly during peak times. The rail routes identified in **figure 2**, carry around 70% of all rail freight. Currently, the high-volume routes shown are just 2% of the network in kilometres, however, carry 15% of all rail freight tonne kilometres and a much higher proportion of all trains at some point on their journey⁹. Capacity issues are particularly challenging for key freight routes such as the West Coast Main Line, which is also heavily used by passenger services. The decision to cancel High Speed 2 (HS2) north of Birmingham will potentially place even further pressure on the most congested part of the rail freight network in Staffordshire.

There are other specific points on the network, such as congested junctions and single-track sections, that create significant bottlenecks. For example, the capacity of the Felixstowe to Nuneaton route, a vital corridor for container traffic from the port of Felixstowe, is severely constrained by infrastructure limitations.

Due to bottlenecks on the Felixstowe-Nuneaton line, and particularly at Ely, a sizable amount of containerised freight flows south via the Great Eastern Main Line, across North London, and onwards to numerous destinations. This inhibits rail freight to and from London Gateway and leads to conflict with the need to provide additional capacity for passenger rail services, particularly along the North London line. The limited rail connectivity from Felixstowe to the high concentration of warehousing and distribution in the Golden Triangle encompassing Nottingham, Birmingham and Northampton puts more of a burden on the SRN, which in turn affects how well it operates and how much carbon it emits.

This lack of capacity and resulting congestion limits the availability of rail paths and therefore the appeal of moving goods and commodities by rail as opposed to road. As an example, rail freight movements between the important urban and industrial centres of Teesside and Liverpool often travel via suboptimal routes in the Midlands. This adds time and costs to these journeys and hinders the potential of this corridor to act as a land bridge between Europe and Ireland.

Investment in infrastructure to increase capacity on key routes is crucial. Projects such as the upgrading of the Transpennine route and enhancements to the Felixstowe to Nuneaton corridor will help to alleviate some of the current congestion issues. Further investment to improve rail access and capacity to and from UK ports would support trade and economic growth.

There must also be an intensive focus on filling in the gaps in electrified rail. Electrification not only reduces the emissions of rail freight but also creates capacity by enabling faster acceleration and deceleration. Industry research suggests that while only around 10% of rail freight is currently electrically hauled, just 800 miles of additional electrification would be required to enable 95% to be electrically hauled by the mid-2040s¹⁰. Analysis by the Chartered Institute for Logistics and Transport (CILT) shows that the initial 60 miles of 'in-fill' electrification, which would bring some of the most immediate benefits, would cost approximately £50 million per annum for two years, which is around 0.12% of Network Rail's budget for 2024 to 2029¹¹.

Enabling modal shift from road to rail freight for domestic movements is a critical part of the industry's efforts to reduce carbon emissions. To do this, developing more integrated transport hubs that facilitate smooth transitions between rail, road and maritime transport is essential. Successful developments such as East Midlands Gateway show how strong connectivity between different transport modes can bring significant private sector investment.

⁷ *Assessing the Value of Rail Freight, a report for the Rail Delivery Group. Deloitte, 2021*

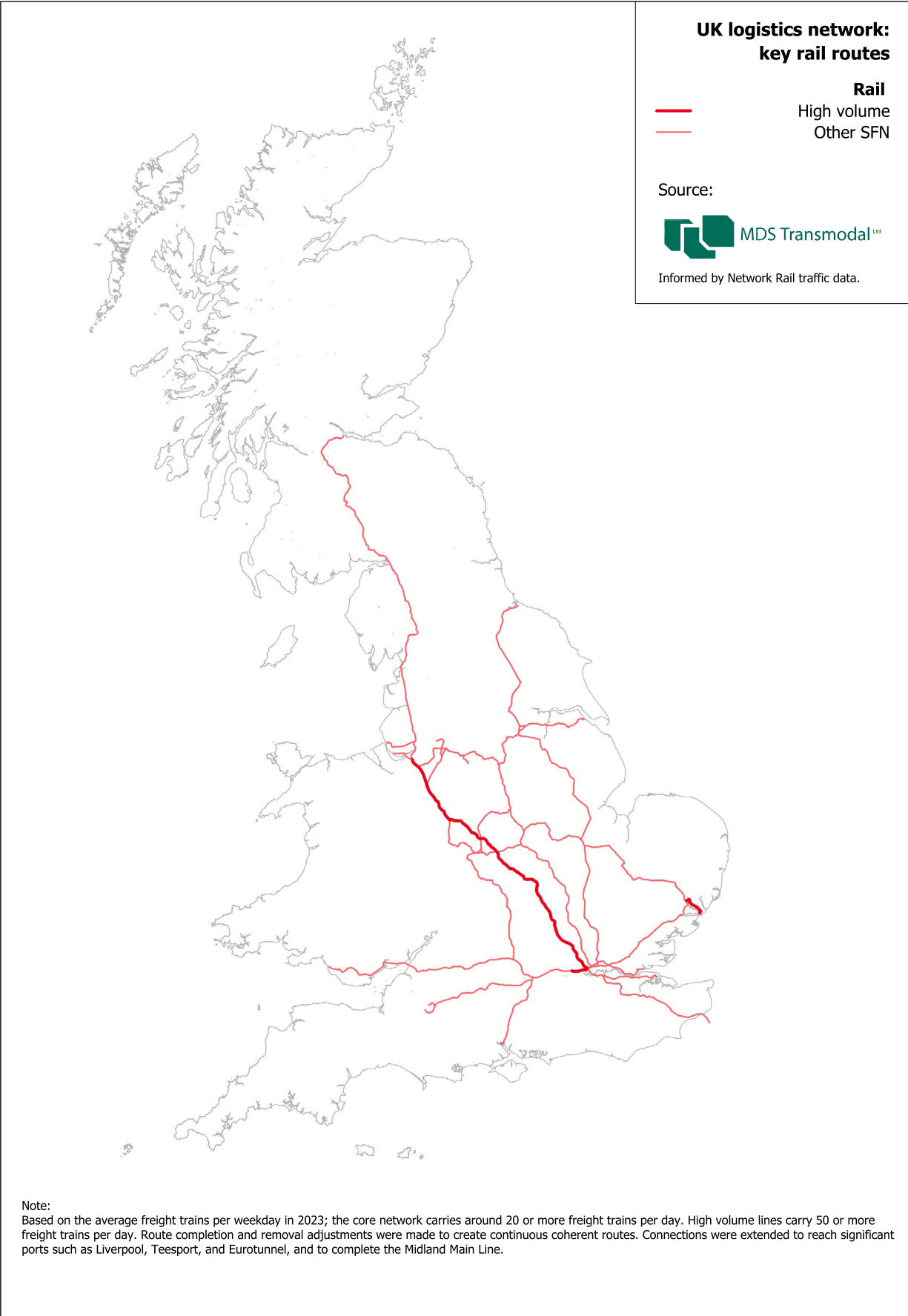
⁸ *Office of Rail and Road – Rail emissions 2020-21*

⁹ *MDS Transmodal, October 2024*

¹⁰ *CILT Freight Electrification Map. CILT (UK), March 2023*

¹¹ *Regulator confirms Network Rail's £43.1bn 2024-29 funding plans. Network Rail, October 2023*

2 UK logistics network: key rail routes



Key corridors

Figure 3 shows the evolution and development of the UK's principal logistics corridors, illustrating how they have developed over time to connect three key pillars of the economy: a) the flow of imports and exports through strategic points of entry; b) the major conurbations of the South East, the Midlands, and Northern England; and c) the onward flows to the devolved nations and the South West of England. This complex network is essential for the smooth functioning of the country's supply chains, ensuring that goods move efficiently across regions, from ports and airports to industrial centres and distribution hubs, often on a 'just in time' model.

Logistics businesses are naturally drawn to areas with strong transportation links and so tend to cluster around this network. **Figure 3** highlights the presence of major warehousing developments alongside key road and rail corridors. These clusters, often around new railheads, are not coincidental. They are strategically located to maximise efficiency in the movement of goods and vehicles. Over recent years, the UK has seen substantial growth in the development of large warehouses and around a quarter of respondents to Logistics UK's latest Logistics Performance Tracker plan to invest in warehouse expansion this year¹². This expansion is largely driven by evolving consumer habits, such as the increasing demand for e-commerce, as well as the desire among businesses to operate from newer, more efficient and sustainable premises. Companies are investing in advanced logistics facilities to meet these demands, leading to the growth of logistics hubs that are well-integrated with the national transport infrastructure.

The UK's logistics corridors and hubs are a product of long-term economic trends and policy decisions. This complex system incorporates multiple modes of transport, including road, rail, air and maritime routes. However, despite its complexity, the system is heavily dependent on a relatively small number of critical routes, which creates vulnerabilities. The constraints imposed by this reliance act as a brake on economic growth. Congestion on key routes is a persistent problem (**figures 4 and 5**), exacerbated by the slow pace of planning and decision-making in the UK. Infrastructure investment has also been inconsistent, characterised by a stop-start approach that leaves many congestion hotspots unaddressed. Furthermore, the challenge of preparing and providing infrastructure for decarbonisation, crucial for the logistics industry, has not yet been met with the urgency it requires.

In international terms, the efficiency with which goods are moved within and across the UK has deteriorated since 2014, following a period when the country was regarded as a global leader in logistics. Several international benchmarks provide insights into the relative quality and efficiency of different countries' logistics services. Among these, the World Bank's Logistics Performance Index (LPI) is one of the most prominent. The LPI assesses various aspects of logistics services, including the quality of infrastructure, the efficiency of customs procedures, and the timeliness of shipments. In 2014, the UK was ranked 4th globally, a position that signified its strength and competitiveness in the logistics sector. However, the most recent edition of the LPI, which covers the period up to 2023, reveals a significant decline, with the UK falling to joint-19th position. This drop represents the most substantial decrease among the leading economies, highlighting the challenges the UK faces in maintaining its logistics efficiency¹³.

The decline in the UK's logistics performance can be attributed to several factors, with the most significant drops observed in the areas of timeliness, infrastructure quality, and the efficiency of customs operations. A critical underlying issue has been the relatively low level of investment in transport infrastructure over the past decade. For example, between 2016 and 2019, the UK's annual growth rate in transport infrastructure investment was just 0.7%. In contrast, Germany, one of the UK's main competitors in the logistics sector, saw its transport infrastructure investment grow by nearly 9% per year over the same period¹⁴. This stark difference in investment levels has had tangible consequences for the UK's logistics capabilities, contributing to the country's decline in international rankings. However, as identified by Oxford Economics, with the right policy environment and strategic investments for the logistics sector, the government could boost the economy by up to £8 billion a year by 2030 through productivity-led growth.

In response to these challenges, the previous government introduced the Future of Freight strategy, which included a commitment to developing a National Freight Network. This strategy aimed to improve the efficiency and sustainability of the UK's logistics network by focusing on key road, rail, water and air connections. The strategy also proposed reforms to the planning system to facilitate the development

¹² *Logistics Performance Tracker. August 2024, Logistics UK*

¹³ *Logistics Performance Index. The World Bank, 2023*

¹⁴ *Logistics: a solution to the UK's productivity puzzle. Oxford Economics, September 2023*

of logistics infrastructure. However, the government has yet to identify this network and, in addition, these initiatives must be expanded to cover all aspects of logistics, ensuring that investment is directed towards the most critical areas. This would enable goods to be moved in the most productive, strategic and environmentally friendly way, helping to reduce congestion and carbon emissions. Furthermore, improved connections with ports and airports would boost trade, while enhancing the resilience of the overall logistics system and the broader economy.

Building on the foundations of the Future of Freight strategy, there is a pressing need for the government to develop and commit to a long-term infrastructure strategy. Specifically, a 30-year, cross-government infrastructure plan, aligned with industry, should be established, outlining how the UK Logistics Network will be identified, developed and maintained. This strategy should be comprehensive, setting clear objectives for the logistics sector and aligning them with broader national goals, such as economic growth, decarbonisation and resilience. Detailed delivery plans, supported by appropriate funding, should accompany the strategy, ensuring that it is not just a vision but a practical roadmap for the future of UK logistics.

Coordination between transport and other related policy areas, such as energy and the transition to net zero, must also be significantly improved. The logistics industry is already making considerable efforts to reduce emissions and embrace new technologies in line with the net zero agenda. However, to achieve further progress, especially in decarbonising long-distance freight movements, the industry needs greater certainty about the infrastructure that will support these efforts. This includes the development and increased supply of low carbon fuels, the electrification of transport networks, and the creation of charging and refuelling infrastructure for BEVs and hydrogen fuel cell electric-powered vehicles.

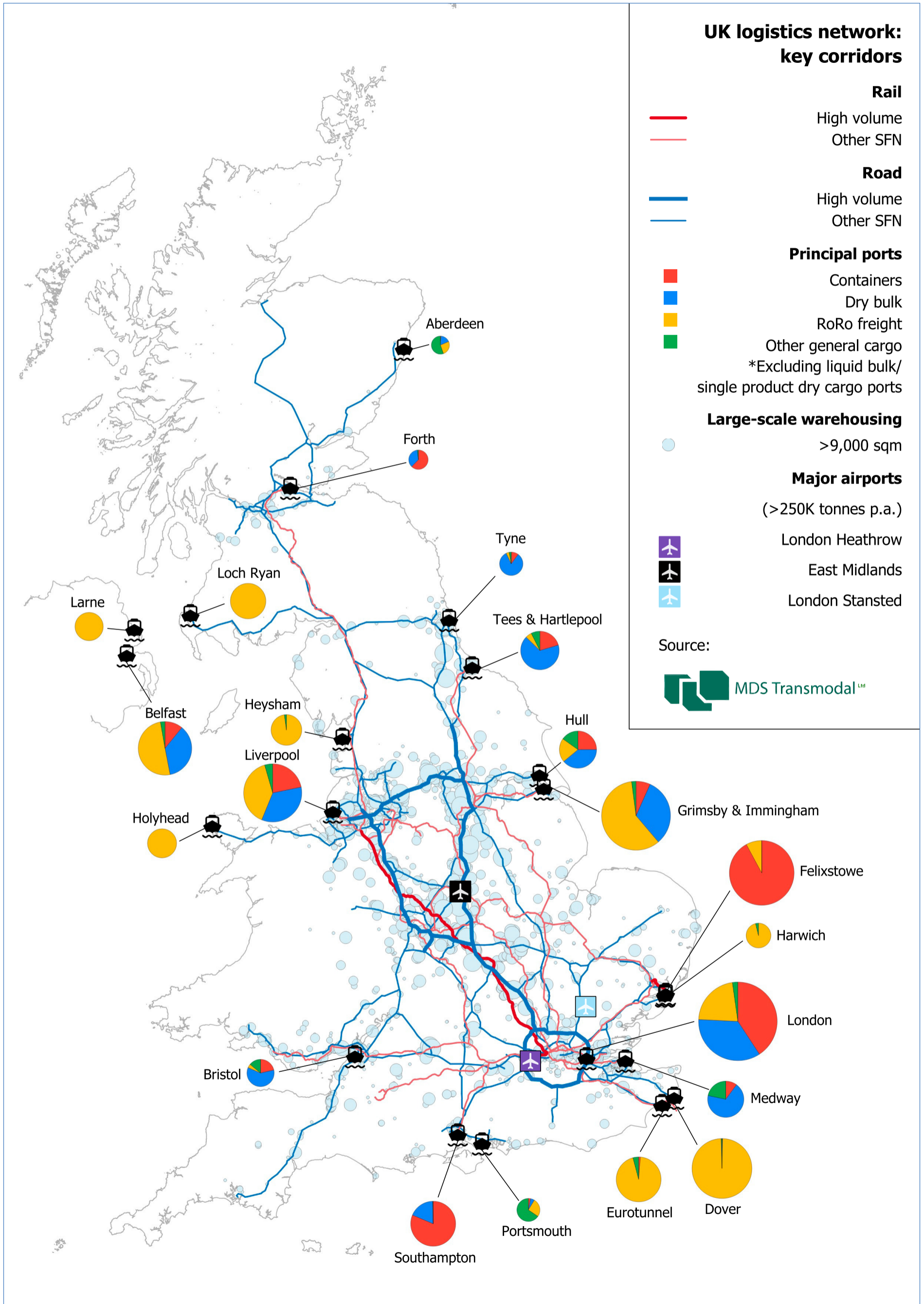
As outlined in the Logistics Report 2024, there are stark inequalities between regions in terms of current electric vehicle charging devices across the UK. London has the highest total number of devices at 19,469, which equates to 654 devices per 100,000 vehicles, in comparison Northern Ireland has 545 devices, just 43 per 100,000. Logistics operators are concerned about the transition to electric vehicles, with current barriers including vehicle range, high capital costs and challenges around securing sufficient power supplies. Therefore, there is a critical need for an immediate uplift in the number of public charge points across the network that can be used by battery electric vans and trucks to enable the transition.

UK logistics is at a crossroads. The challenges it faces, from congestion and infrastructure bottlenecks to the need for decarbonisation, are significant but not insurmountable. With a clear, long-term strategy and a commitment to sustained investment, the UK can reverse its decline in international logistics rankings and reestablish itself as a global leader in this critical sector. Achieving this will require not only financial resources but also a coherent and coordinated approach that aligns transport, energy, and economic development policies. By doing so, the government and private sector can identify and build a UK Logistics Network that is efficient, resilient and fit for the future, supporting the country's economic growth and its transition to a low-carbon economy.

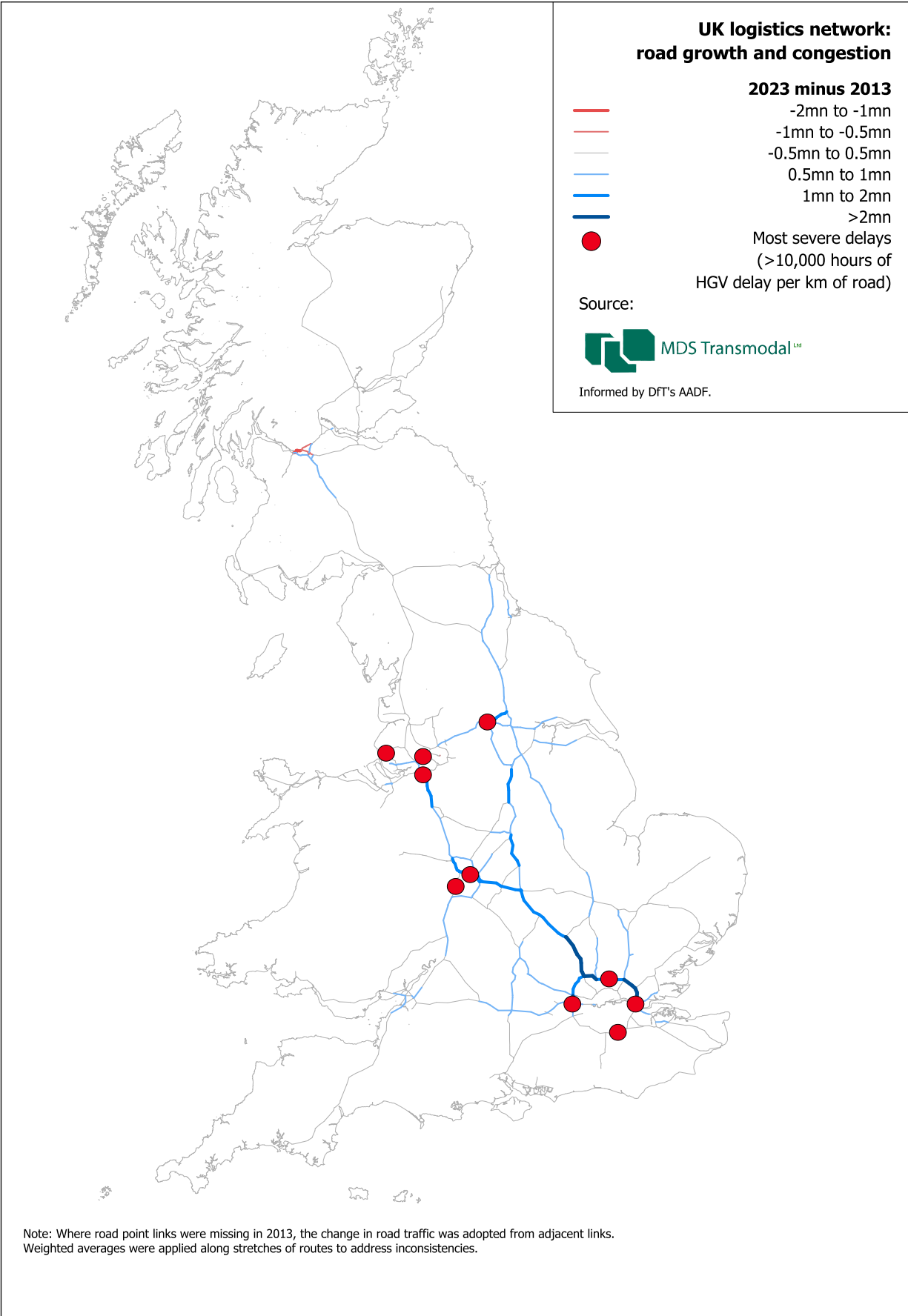


An aerial photograph showing a residential neighborhood with numerous houses and trees. A road runs through the middle of the neighborhood, and a large, dense forested area is visible in the foreground. The image is overlaid with a dark blue tint.

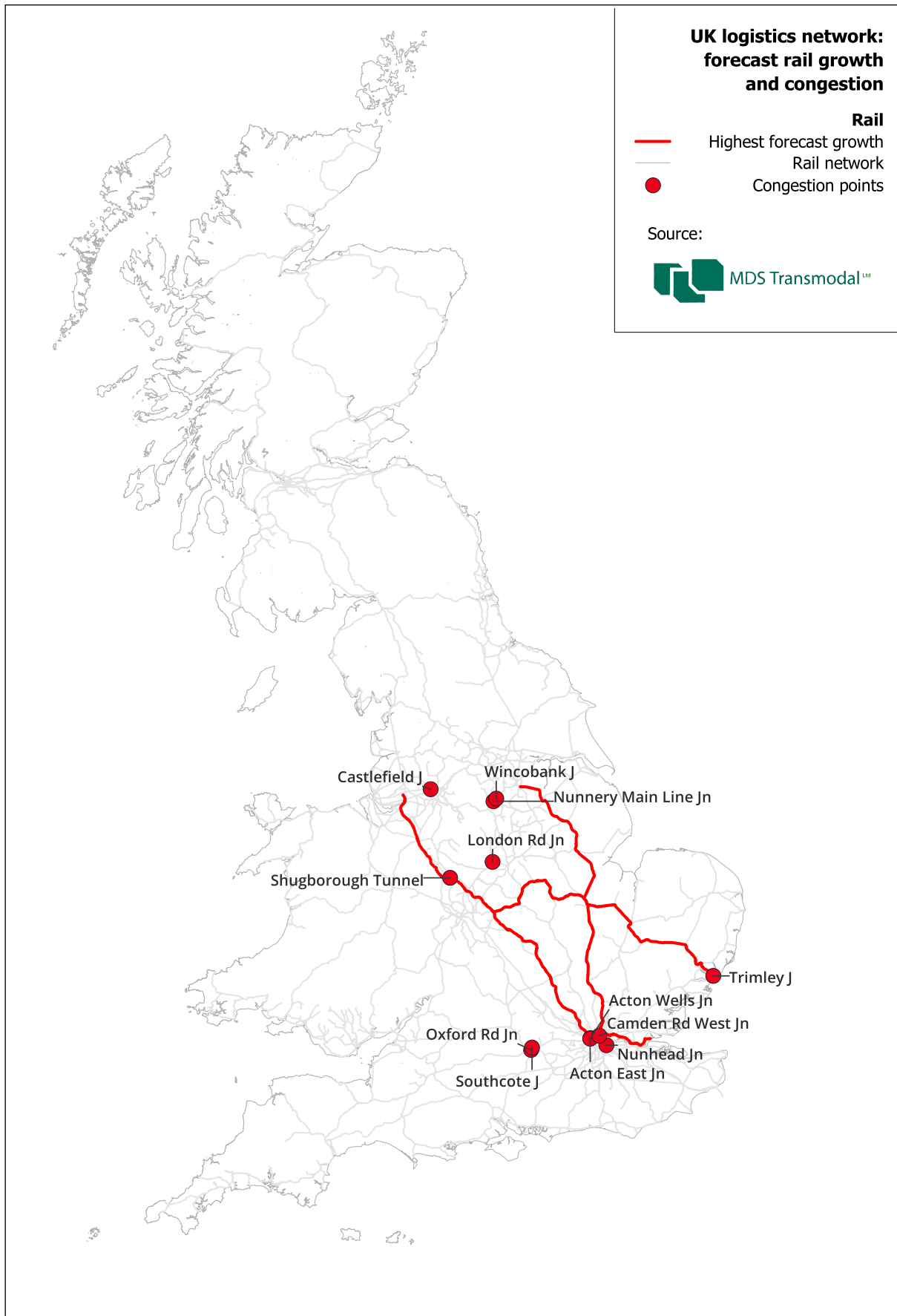
The UK logistics network: key corridors



4 UK logistics network: road growth and congestion



5 UK logistics network: forecast rail growth and congestion



An aerial, top-down view of a railway yard. The image shows several parallel tracks with gravel ballast. On the left side, there are several freight trains, including a long one with many empty open-top wagons. On the right side, there are several high-speed passenger trains, likely British Rail Class 350 or 355, parked at the tracks. The overall scene is a busy rail yard. The text is overlaid in white on a dark blue background.

**The UK logistics network:
road growth and congestion**

**UK logistics network:
forecast rail growth and congestion**

Road growth with congestion

Figure 4 illustrates the changes in freight traffic on the UK's major road network over the 10-year period from 2013 to 2023. The map shows variations in traffic volume and highlights areas with the most severe delays, providing insights into freight transport trends and congestion issues across the UK.

According to Logistics UK's Logistics Performance Tracker survey, road congestion and delivery times were predicted to worsen in Q3 2024, rated at -0.48 where -1 signifies worsening trends and +1 represents improving trends¹⁵. In comparison, other issues such as availability of vehicle parts scored -0.27 and driver availability scored -0.07, illustrating the severity of infrastructure and traffic issues for logistics. With the sector already anticipating worsening road congestion, there is concern about how the network will cope with increasing volumes in future to align with growth.

This map represents changes in HGV traffic volumes, indicating areas of both growth and decline. The blue lines show where road traffic has increased, with darker shades indicating more significant growth. The most substantial increases (greater than 2 million vehicle kilometres) are primarily concentrated along key routes in England, such as the M1, M6, and M25 motorways. These routes form the backbone of the UK's freight network, connecting major logistics hubs, industrial areas and ports.

The Department for Transport indicates a reduction in overall speed on the SRN between June 2015 and June 2024 of 5.6%. Taking uncongested speed and average uncongested time on the network into consideration, it is estimated the total cost of congestion on the SRN imposed on HGVs increased by £936 million a year between 2015 and 2024¹⁶. This would be further increased if the additional financial impact on supply chains was taken into account. These productivity impacts include consignment delays, vehicle and driver unavailability for further work and mitigating measures.

Traffic growth is particularly evident in the central and southern parts of England, reflecting the high demand for freight transport in these economically vital regions. This growth aligns with the continued expansion of industries such as e-commerce, manufacturing and distribution, which have driven an increase in the movement of goods. The Midlands, often referred to as the UK's logistics "Golden Triangle," shows particularly strong growth, emphasising its role as a key hub for national distribution networks.

Conversely, the map shows some, albeit far fewer, areas where road traffic has decreased, represented by red lines. The most notable reduction is along a section of the A74(M) in southern Scotland, indicating a decline of between 1 and 2 million vehicle kilometres. Other areas showing slight declines or stagnation are more scattered and less pronounced. These declines may be attributed to factors such as shifts in freight logistics patterns, increased use of rail freight, or local economic changes.

The map also highlights areas experiencing severe delays, marked by red circles. These circles indicate locations where the average total annual delay exceeds 10,000 hours per heavy goods vehicle kilometre (HGV km). The most severe congestion is observed at major motorway junctions and key intersections, particularly around Birmingham, Manchester, and London. These areas are crucial nodes in the UK's road network, where high traffic volumes, including a significant proportion of HGVs, lead to frequent bottlenecks. The Logistics Report 2024 reports that average delays on the SRN have been increasing since a dip in 2020, reaching 10.5 seconds per vehicles mile by 2023, with urban roads seeing a significant jump to 81.3 seconds, suggesting worsening congestion across all road types. In the Midlands, where the M1, M6, and M42 motorways converge, significant congestion issues are also evident. Similarly, the M25 around London shows high levels of congestion. The presence of these severe delays suggests that infrastructure improvements have not kept pace with demand, leading to increased pressure on the UK's critical corridors.

The map underlines the growing pressures on the UK's Logistics Network over the past decade. The significant growth in traffic, especially in the central and southern regions, reflects broader economic trends and the increasing reliance on road freight. However, this growth has also led to worsening congestion in key areas, particularly around major urban centres and motorway junctions. Addressing these bottlenecks will be essential for improving the efficiency of freight transport, reducing delays, and supporting the continued growth of the UK economy.

In summary, the map illustrates a decade of uneven road freight growth, with significant increases in traffic in key economic areas counterbalanced by growing congestion, particularly in already busy motorway corridors. This highlights the need for strategic investments in infrastructure to manage both current demands and future growth.

¹⁵ Logistics Performance Tracker Q2, Logistics UK, August 2024

¹⁶ MDS Transmodal, October 2024

Rail growth with congestion

Figure 5 shows the key rail corridors in the UK expected to experience the highest forecasted growth in freight usage over the next decade, alongside significant congestion points on network. Over the past 10 years, rail freight in the UK has undergone various shifts driven by economic trends, infrastructure developments and strategic planning aimed at managing congestion and meeting national growth targets.

The UK government has set an ambitious target to increase rail freight by 75% by 2050 as part of its broader environmental and economic goals. This is part of a European trend. In 2020 the French government set a target in law to double rail freight's modal share by 2030 from 9% to 18% and has plans to increase this share to 25% by 2050. Germany has a target to increase rail freight's modal share from 19% to 25% by 2030, from earlier this decade. Spain has a target to grow rail freight's modal share from 4% to 18%. The UK government's growth target is positive for the sector and meeting it is crucial for reducing carbon emissions, alleviating road congestion, and enhancing the resilience of supply chains.

The map highlights strategic routes, particularly in central and South East England, where the highest forecasted growth is expected. These routes are vital for connecting principal ports, industrial centres, and logistics hubs, particularly given rail's ability to move large volumes of certain commodities, such as aggregates and construction materials. Key corridors likely to see significant growth include the routes from London through the Midlands to Manchester and the east coast ports to inland distribution centres. This anticipated growth aligns with national efforts to shift more freight from road to rail, driven by a number of factors. Forecast growth is also high on routes connected to principal ports like Felixstowe (near Trimley Junction), reflecting the increasing importance of rail in facilitating international trade.

The government's rail freight growth target is a key component of the UK's net zero transport ambitions. Rail freight produces up to 76% less carbon dioxide than road freight per tonne-kilometre, making it a critical element in reducing the logistics sector's carbon footprint¹⁷.

Over the past decade, investments aimed at boosting rail capacity, such as upgrading existing lines, enhancing terminals and removing bottlenecks, have supported limited growth. Further investments are needed to meet the 2050 targets, especially in the corridors highlighted on the map.

It has been calculated that if speeds on rail paths could be improved by 25%, then an operating cost saving of up to £40 million per annum could be achieved¹⁸.

The decision by the previous government to cancel the northern leg of HS2, which was expected to alleviate pressure and free up capacity on the West Coast Main Line and other routes, has significant implications for rail freight. With the cancellation, the existing network, including the routes highlighted on the map, will face continued competition between passenger and freight trains. This decision makes the need for targeted investments even more urgent. Without the capacity relief that HS2 would have provided, critical congestion points on the West Coast Mainline and beyond are likely to remain major bottlenecks, hindering the achievement of the 75% freight growth target.

Without these measures, the anticipated growth may be stifled, undermining efforts to reduce road congestion and meet climate goals. The map highlights where these challenges are most acute, demonstrating the need for a focused approach to rail freight investment and planning in the coming years.

¹⁷ *Rail Emissions 2020-2021, Office of Rail and Road, August 2021*

¹⁸ *MDS Transmodal, October 2024*

Principal ports in the freight network

Figure 6 illustrates the critical role that UK ports play within the wider logistics landscape, particularly in handling the flow of goods between the UK and global markets. With ports often at the heart of regional growth ambitions, it is increasingly essential that the UK's road and rail networks adapt to support this expansion, ensuring that freight can move efficiently between ports and inland hubs.

The map shows the distribution of traffic through the principal ports around the UK coastline and the often specialised nature of their operations. Ports such as Felixstowe, Southampton and Liverpool act as primary hubs for containerised goods, while Dover and Holyhead are vital for RoRo (roll-on/roll-off) freight. The Short Straits, served by the Port of Dover and Eurotunnel, play a critical role in UK-EU trade, handling more than half of all trade carried in trailers and containers between the UK and the Continent¹⁹. Meanwhile, ports such as Immingham, Tees, Hull and Bristol specialise in handling dry bulk commodities. These ports not only serve their respective regions but also play a pivotal role in the national and international movement of goods.

The segmentation of commodities (containers, dry bulk, RoRo, and general cargo) across different ports shows that that local and national infrastructure investments must reflect the particular demands and purposes of these ports. Each type of freight requires distinct handling, storage and transportation solutions, necessitating corresponding upgrades to road and rail infrastructure.

Road networks are critical for moving goods from ports to warehouses, distribution centres and final consumers. However, as ports grow in capacity, especially those handling high volumes of containers (eg, Felixstowe and Southampton) or RoRo freight (eg, Dover and Holyhead), UK road networks face mounting pressures.

One of the most immediate challenges is mitigating congestion around principal ports on the south and east coasts. Ports like Dover and Felixstowe already experience significant congestion due to the sheer volume of trucks transporting goods. Upgrades to road networks, such as expanding key highways (eg, A14 for Felixstowe and M20 for Dover), are essential to facilitate smoother traffic flow. Enhancing road capacity, constructing dedicated freight lanes, and improving access points to ports can alleviate bottlenecks and reduce delays.

With the UK's increasing focus on net zero, road networks will also need to adapt by supporting cleaner, more efficient freight transportation options. This includes expanding the use of BEVs and hydrogen-powered trucks. Investments in BEV charging infrastructure, particularly near ports and along major freight corridors, will be essential to reduce the carbon footprint of port-related logistics. In addition, ports have a key role to play in the construction of offshore wind farms and other green technologies and, to support this, need high capacity and resilient surface transport links.

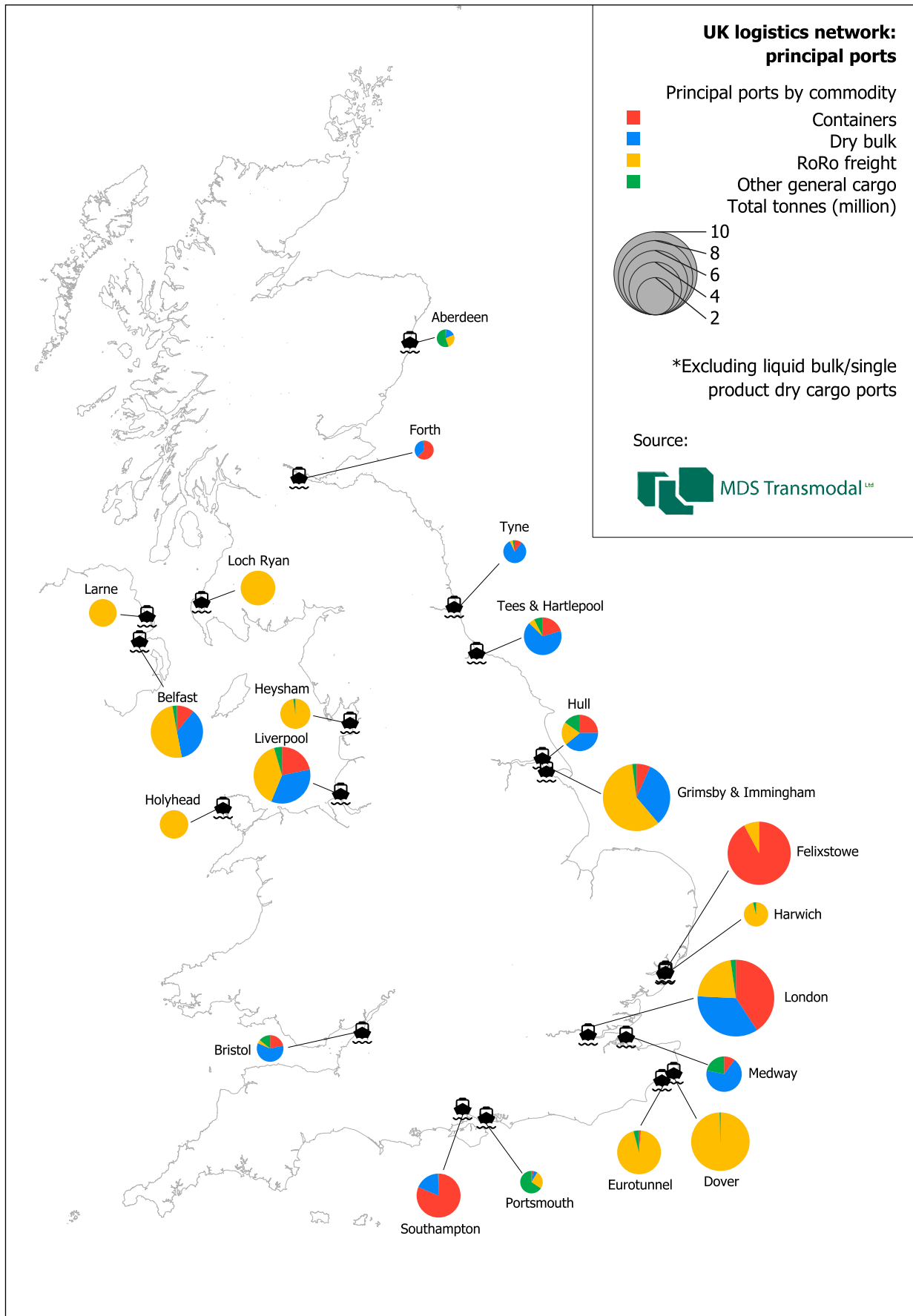
Ports in the north, such as Tees, Hartlepool and Hull, can play a role in alleviating congestion elsewhere in the UK, either by acting as a 'land bridge' from continental Europe, or through larger loads being broken down and moved through coastal shipping. This requires improved domestic connectivity to ensure that freight can be distributed effectively throughout the country.

Rail networks play an equally crucial role in facilitating the movement of freight from ports to inland destinations, especially for bulk commodities and large volumes of containerised goods. As the map demonstrates, the principal ports are all already linked to the rail network, demonstrating the importance of rail freight for the movement of imports and exports.

To support growth at these ports, the UK rail network must undergo significant capacity enhancements. This includes upgrading rail lines to accommodate longer, heavier freight trains, increasing the number of freight paths, and ensuring that key freight corridors are resilient to growing demand. Doubling tracks, adding passing loops, and modernising signalling systems will be essential to reducing delays and ensuring that freight trains can run efficiently alongside passenger services.

¹⁹ MDS Transmodal, September 2024

6 UK logistics network: principal ports



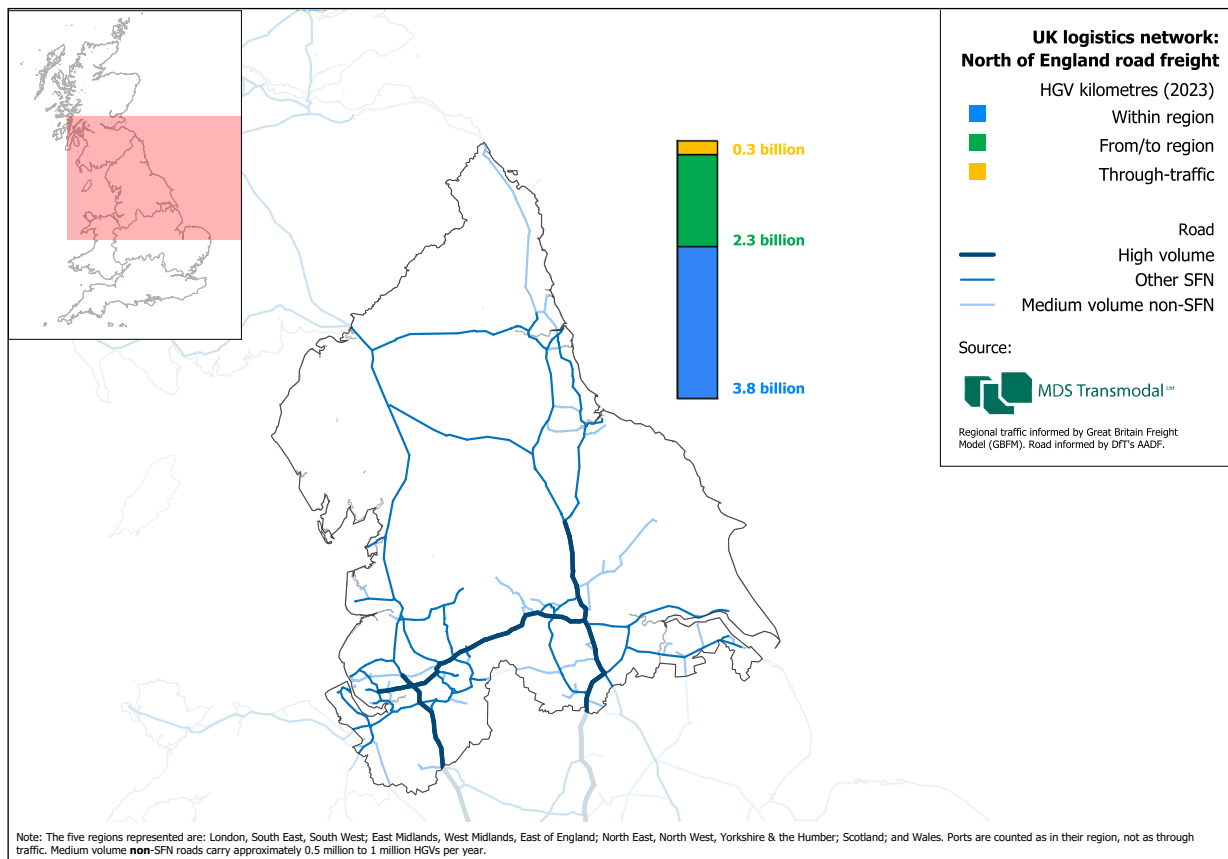
UK logistics network: North of England road freight

The North of England's logistics flows are characterised by significant HGV traffic, particularly within the region itself, which reached 3.8 billion HGV kilometres in 2023. The concentration of blue corridors on the map indicates that intra-regional freight movement dominates, with major routes connecting key cities such as Manchester, Leeds and Newcastle. These routes form essential arteries for the region's economy, enabling the efficient transport of goods across manufacturing, retail and industrial hubs.

Additionally, the North of England serves as a crucial link in the broader UK freight network, with 2.3 billion HGV kilometres accounted for by movements to and from the region, particularly to other areas such as the Midlands and Scotland. Strategic national corridors such as the M6, M1, and A1(M) are vital for these cross-region flows, as are the east-west corridors of the M62 and A66. The investment in upgrading these routes is key to ensuring capacity, safety, and efficiency, particularly with increased freight traffic from southern England and the growing importance of port connectivity for businesses in the north.

Furthermore, the graphic shows 0.3 billion HGV kilometres attributed to through-traffic, demonstrating the role of the North as a transit region for freight moving to other parts of the UK.

7 UK logistics network: North of England road freight



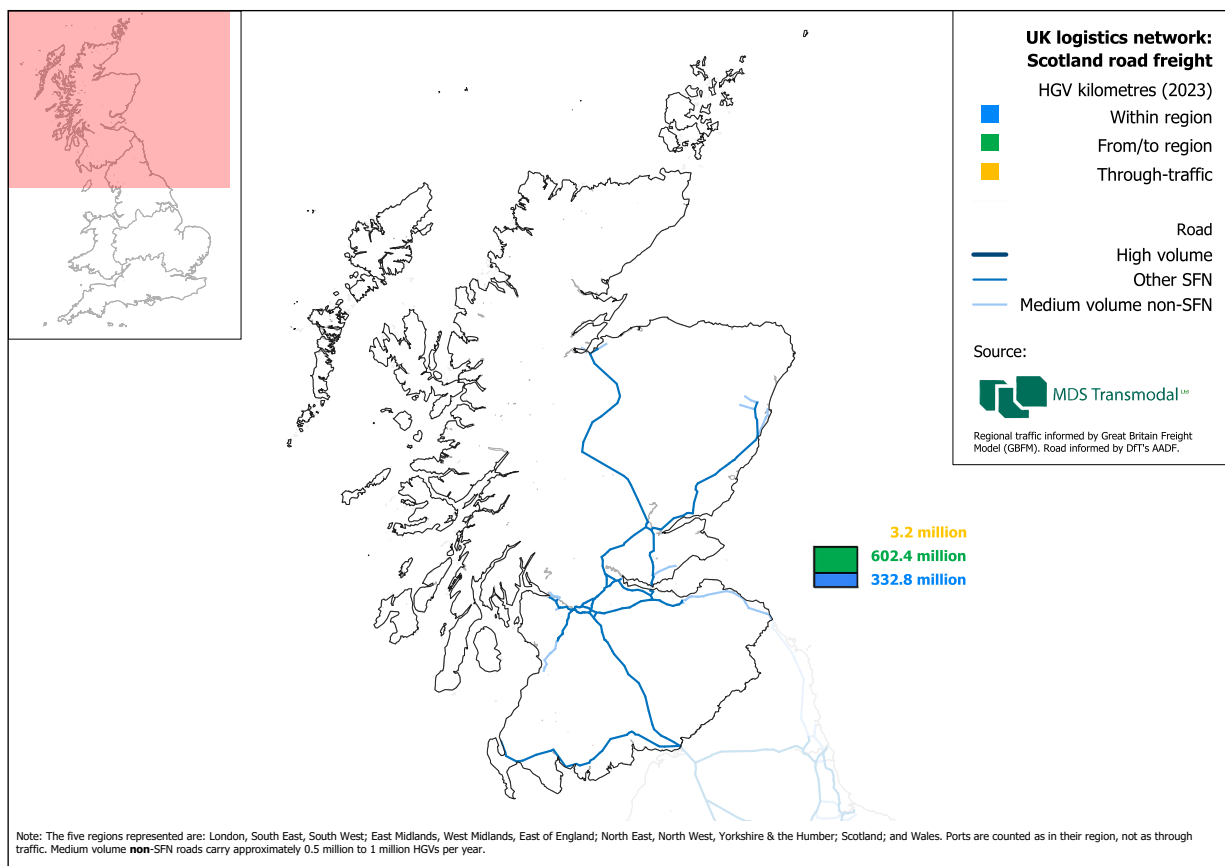
UK logistics network: Scotland road freight

Scotland's road freight traffic is highly concentrated along key corridors that connect major cities and industrial regions. The central belt, which includes the cities of Glasgow and Edinburgh, is a crucial hub for freight movement, with significant volumes continuing northwards to other important economic centres such as Dundee, Perth, Aberdeen and Inverness. These routes form the backbone of Scotland's logistics infrastructure, ensuring goods are efficiently transported across the country. The map highlights the critical importance of the A9 corridor, where dualling efforts are underway to improve safety and reliability, a necessary step given the substantial volume of traffic that uses this route.

Scotland's economy also depends heavily on cross-border freight flows with England, particularly along the M6/A74(M) corridor, which serves as the primary route for goods moving between the two countries. Enhancing infrastructure along this route is essential to support growing demand. Additionally, improvements to the A1 in Northumberland and the Scottish Borders could provide a more reliable and viable alternative route for freight, easing pressure on the main corridor. With HGV traffic volumes reaching significant levels, strategic investments in these routes are vital to support Scotland's logistics and economic growth, ensuring resilience and efficiency in the supply chain network.

The A75 connects Scotland with Northern Ireland via the Cairnryan Port. The A75 needs significant improvements to support freight movements to and from the port.

8 UK logistics network: Scotland road freight



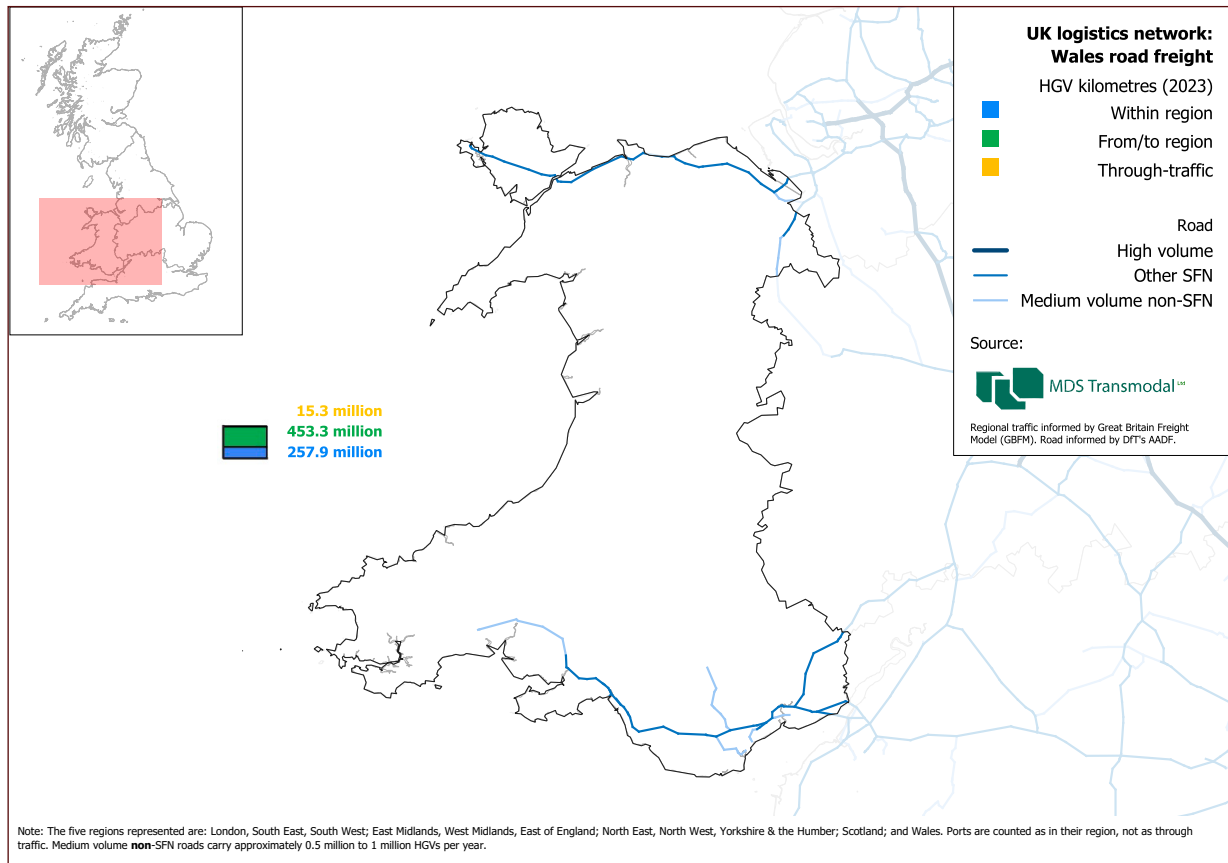
UK logistics network: Wales road freight

Logistics flows in Wales are characterised by relatively lower HGV traffic compared to other regions of the UK, with a significant emphasis on east-west corridors. As shown by the map, the total within-region HGV traffic in Wales was 257.9 million kilometres in 2023, with much of this concentrated on the southern M4 corridor, linking urban areas such as Cardiff, Swansea and Newport. This route is essential for connecting the south of Wales to the broader UK network, as well as facilitating internal trade across the region.

Cross-border flows are also vital for Wales, particularly into and from England, highlighting the importance of corridors like the A55 in the north and the M4 in the south, which link Wales to major economic centres in the Midlands and the North West of England.

Through-traffic is relatively low at 15.3 million kilometres, indicating that Wales is less of a transit region for freight moving elsewhere, however, the route to Holyhead does serve as an important corridor for goods moving to Ireland. Priorities for infrastructure investment should focus on improving the M4 and A55, addressing capacity and safety issues to support economic growth. Upgrading these key routes, alongside targeted improvements to other roads, will enhance Wales' connectivity, ensuring more efficient and resilient freight flows across the region.

9 UK logistics network: Wales road freight



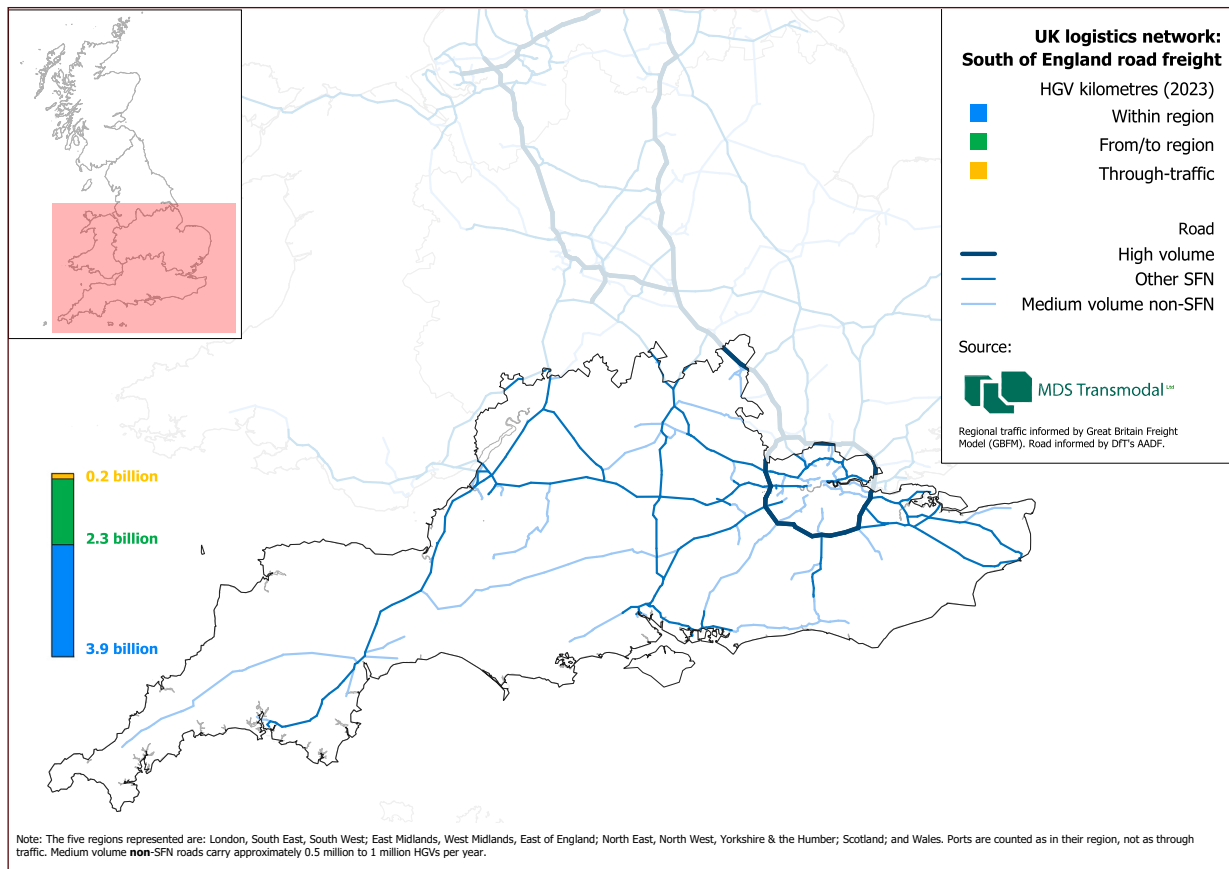
UK logistics network: South of England road freight

Logistics flows in the south of England are dense and complex, as shown by the significant concentration of freight traffic across the region. In 2023, 3.9 billion HGV kilometres were recorded in 2023, reflecting the high volume of internal freight movements in the region. This is driven by major urban and industrial centres, such as London, Southampton, Portsmouth, and Bristol, as well as the extensive network of ports and distribution hubs.

Key infrastructure corridors, including the M25, M3, M4, M27, and A34, handle a high volume of this freight traffic, which is vital for both local deliveries and broader national distribution. In addition to the within-region flows, the south of England also sees substantial cross-region freight traffic, amounting to 2.3 billion HGV kilometres, linking it with the Midlands, East of England and beyond. The region is home to principal ports such as Southampton, London, Dover as well as Eurotunnel and is the UK's primary gateway for international trade.

Priorities for infrastructure investment include addressing capacity constraints on key motorways, particularly around London and improving connections to principal ports. Enhancing the resilience of these transport corridors is essential, especially in light of increased demand due to port traffic. There must also be an emphasis on ensuring non-SRN roads support smaller freight flows and provide alternative routes for congested areas.

10 UK logistics network: South of England road freight



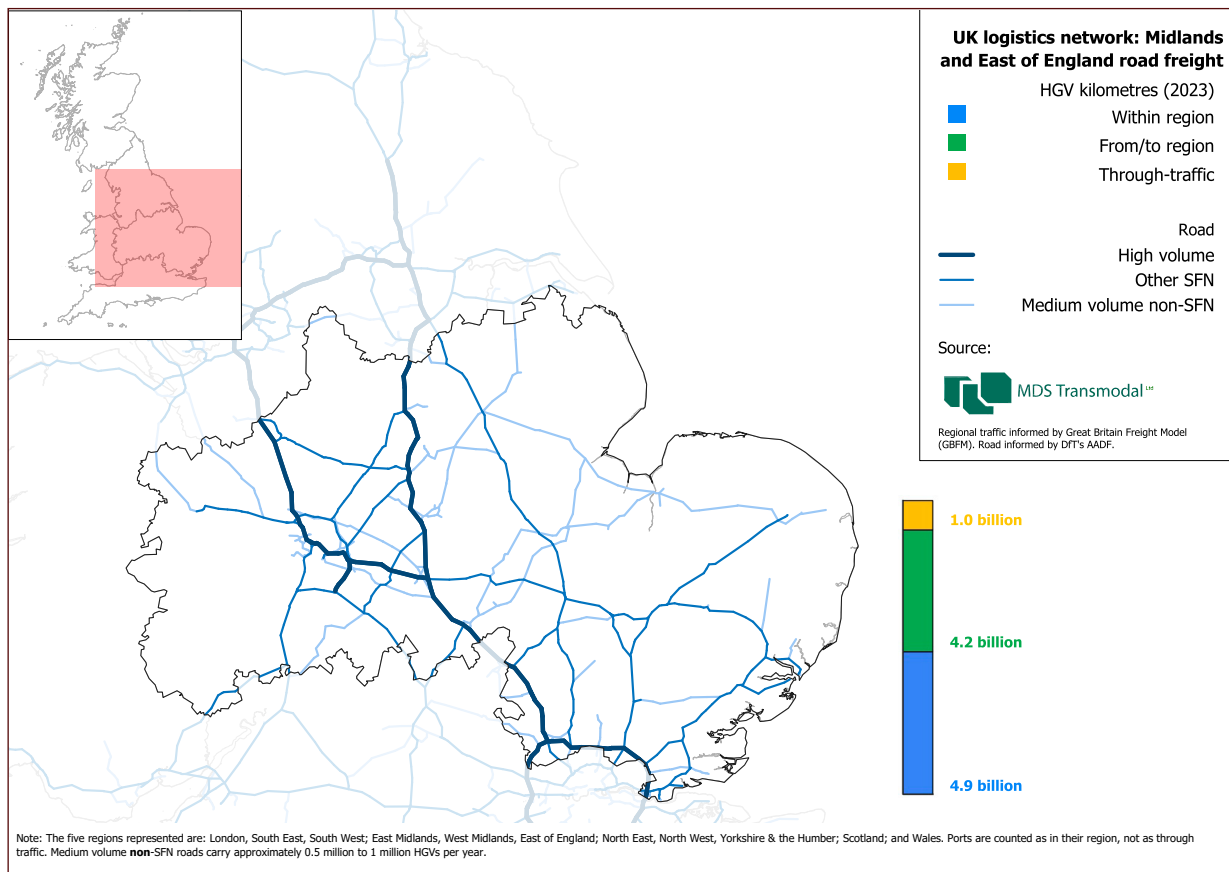
UK logistics network: Midlands and East of England road freight

The Midlands and East of England form a critical logistics hub for the UK. The map indicates the importance of the central road corridors such as the M1, M6, A14, and A1, which connect the Midlands to other regions, including London, the north, and east coast ports. The significant volume of internal freight traffic highlights the role of the Midlands as a distribution and manufacturing powerhouse, where goods are frequently transported from ports and manufacturing centres and then redistributed nationally.

Cross-region traffic is also substantial, with 4.2 billion HGV kilometres moving between the Midlands, East of England, and other regions. These flows are facilitated by the major motorways and trunk roads that intersect in the region, serving as vital arteries for long-distance freight distribution across the UK. The A14, for instance, is particularly crucial for linking the Midlands to principal ports in the east, such as Felixstowe.

Infrastructure investment priorities in the Midlands and East of England should focus on enhancing the capacity and resilience of these key freight corridors. Upgrading the A14 and A1, alleviating congestion on the M1 and M6, and improving connectivity to ports will be essential to support both regional and national logistics flows and to accommodate future growth in freight demand.

11 UK logistics network: Midlands and East of England road freight



Recommendations

Logistics underpins our entire economy, delivering for its households, businesses and public services, every day. However, a lack of long-term investment in the UK's logistics corridors is holding back efforts to achieve economic growth, technological advancement and decarbonisation.

There is no quick fix to address this, with too much emphasis placed on identifying individual projects risking storing up problems for the future. Instead, Logistics UK believes we need a conversation to collectively build a long-term vision for improving the infrastructure that the logistics sector relies upon. This must start with the identification of the UK Logistics Network. Government appraisal of schemes should recognise the wider direct and non direct economic value of enabling efficient supply chains. Where funding is available it should be directed towards well-identified interventions where there is a strong and clear benefit for logistics flows.

The recommendations below recognise the need for better long-term thinking and the need to urgently progress solutions for obvious pinch-points:

- 1 The Department for Transport to identify the UK Logistics Network and to commit to a long-term set of strategic transport objectives, to be delivered via a 30-year investment strategy, with the aim of making that network more efficient and integrated. This must include working with the Department for Business and Trade to strengthen transport links with our international gateways.
- 2 The Department for Transport and Department for Energy Security and Net Zero to develop a strategy to align energy infrastructure and low carbon/zero-emission fuels provision to support the decarbonisation of freight.
- 3 The Department for Transport, National Highways and Network Rail to produce infrastructure recommendations at a corridors and system-level, rather than by transport mode.
- 4 The transformation of the National Infrastructure Commission (NIC) into the National Infrastructure and Service Transformation Authority (Nista) to see the organisation playing a key role in the identification of the National Logistics Network and the projects that would support it, as the NIC does now, but with a greater focus on delivering integrated rather than modal outcomes.
- 5 The Ministry of Housing, Communities and Local Government to reform the planning system to better allocate and protect land suitable for logistics alongside priority transport corridors.
- 6 Improve partnership working between the UK and devolved governments, as well as with elected mayors, local authorities and sub-national transport bodies, to put logistics at the heart of transport decision making.
- 7 The Department for Transport to ensure swift approval and delivery of major road improvement schemes already in the pipeline, including Lower Thames Crossing and A1 North dualling.
- 8 HM Treasury and the Department for Transport to fund and deliver targeted investment in the rail network to enable the electrification of key routes such as Felixstowe to Nuneaton, load gauge improvements across the Pennines and network capacity upgrades to deliver growth targets, for example at Ely Junction and Shugborough Tunnel.
- 9 HM Treasury and the Department for Transport to rapidly develop and fund a rail capacity programme in the Midlands and the North of England to address the consequences of the decision by the previous government to cancel HS2 north of Birmingham.
- 10 The government to continue and develop the work begun by the NIC to consider the infrastructure enhancements needed to support the deployment of more connected and autonomous vehicles.

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