national highways

Economic Role of National Highways

Role 2: Strategic Connectivity

Contents

1. Introduction

The Strategic Road Network ('SRN') plays a vital role in connecting the country through providing strategic links between the regions and nations of the UK. Forming a core element of a wider, integrated transport system, the SRN joins with rail, inland water and coastal shipping networks to:

1. Enable international trade by facilitating direct access to the national network of maritime ports, airports, and the Channel Tunnel.
2. Ensure seamless connectivity within the Union across England, Wales, Scotland and onwards to Northern Ireland.
3. Provide linkages between major settlements, international gateways, and multimodal transport hubs.
4. Protect and enhance the productivity of the UK economy, enabling business investment through cost-effective, safe and reliable connections.

Working in close partnership with industry groups, Network Rail, the Government, and other infrastructure owners, providers and users, National Highways is committed to developing an integrated, net zero transport system in the UK. To enable this, National Highways will collaboratively explore opportunities to enable and trigger modal shift away from road towards alternative modes and support the development of new multimodal hubs and railheads in strategic locations. Meanwhile, the SRN will continue to perform a critical, yet evolving, role in providing safe and reliable connectivity for businesses and people.

2. Connectivity and the SRN

The SRN is a critical component of national infrastructure binding together the nations of the UK. All sectors of the economy depend, to varying extents, on the SRN. The freight and logistics sector is particularly reliant on the SRN and is itself integral to the competitiveness of other sectors of the economy at a national, regional and local scale. It is estimated that the freight and logistics sector in the UK supports 1.8 million jobs, in addition to a further 800,000 jobs in industries directly dependent on freight and logistics infrastructure and services[1] – this implies a total of 2.6 million freight and logistics jobs are reliant on the SRN.

The role of the SRN in the UK economy broadly relates to its role in facilitating international and Union connectivity, linking to other modes of transport and multimodal hubs, and enabling productivity growth through cost-effective, safe and reliable journeys.

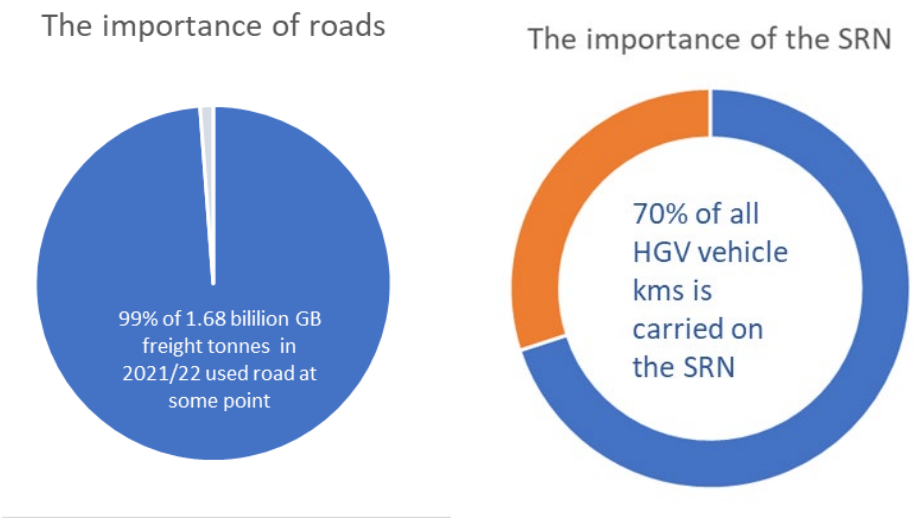
International connectivity

As an island nation, the UK relies heavily on international trade, not just to import essential production inputs and final goods but also to reach the widest possible market for our exports. Three quarters of imports and exports are moved by road through the UK's network of international gateways[2].

The role of the SRN in providing business-critical connectivity is fundamental to the sustainability of the 'road-reliant sectors'[3], which extends far beyond freight and logistics, into manufacturing, hospitality, tourism and professional services[4]. All require access to customers and suppliers both within the UK and internationally.

In 2021, 99% of all freight in Great Britain made some part of its journey by road, with 70% of all HGV movements carried on the SRN[5]. In providing connectivity to international gateways – including ports, airports and the Channel Tunnel – the SRN is a core element in facilitating the inward and outward movement of goods in a reliable and cost-effective manner. This, in turn, is vital to driving economic growth and maintaining and improving the UK's competitiveness on the international stage.

[1] Lichfields, MDS Transmodal and Cushman & Wakefield, *Freight and Logistics Study*, 2023
[2] International gateways and the SRN, Atkins for National Highways (2016).
[3] See Role 1: SRN-Reliant Sectors
[4] The National Highways *SRN Business User Survey* (2023) ranked sectors by their Road Reliance Index (RRI) based on a range of criteria. Transport and distribution had the highest RRI of any sector at 68. The RRI of manufacturing was 58, as was accommodation and food services, while the RRI of professional services was 48.
[5] Lichfields, MDS Transmodal and Cushman & Wakefield, *Freight and Logistics Study*, 2023



Source: Freight & Logistics Study, for National Highways (August 2023)

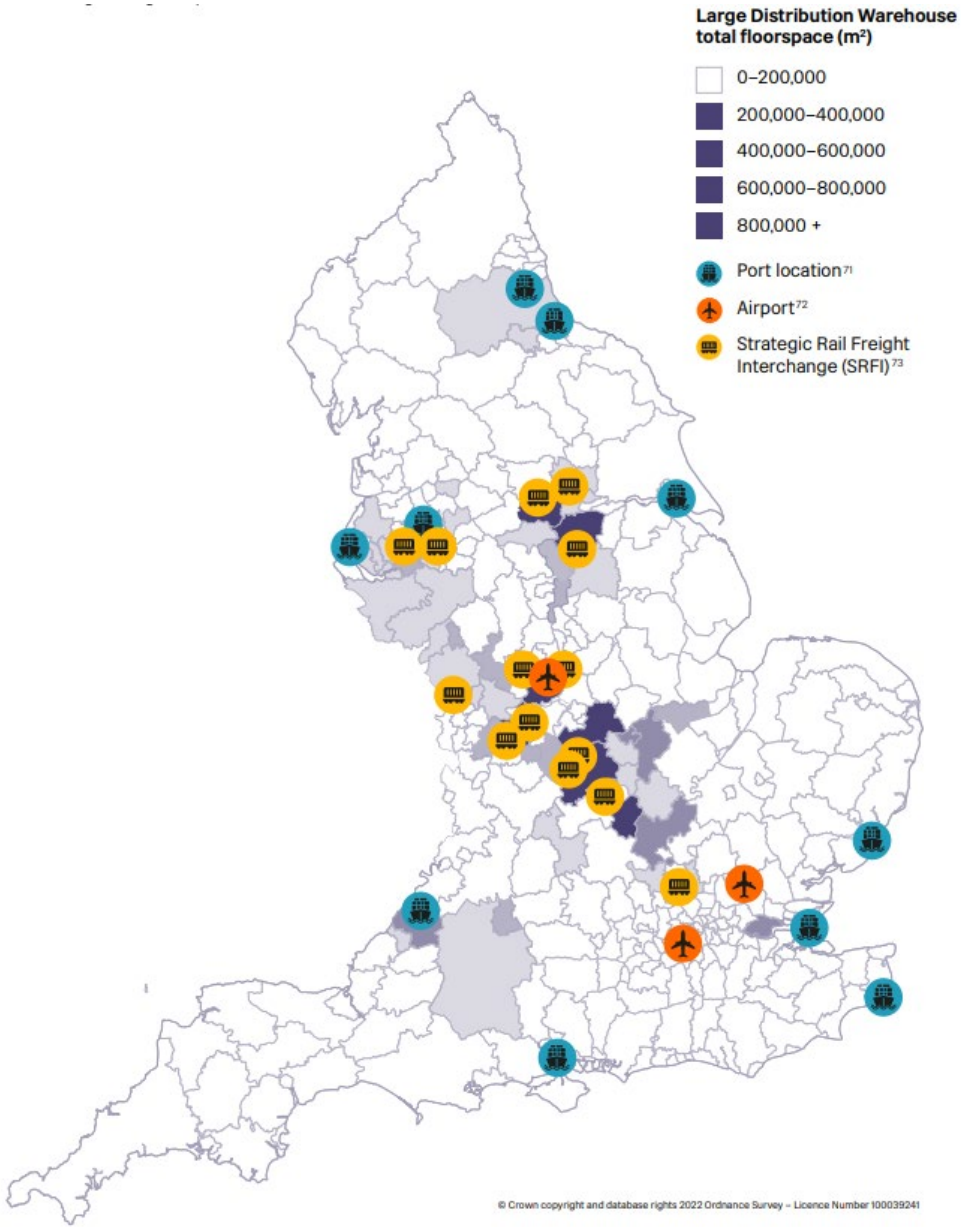
The UK has experienced a period of deindustrialisation over the past 50 years, owing in part to increased globalisation of production. This has increased the UK's reliance on unitised imports, and as a result longer distance freight volumes have increased. Consequently, shorter distance traffic from traditional industrial heartlands such as south Wales and the North East has reduced. Key routes for today's trade are between the major seaports in the South East and East of England to distribution centres in the Midlands 'Golden Triangle', and onwards to regional distribution hubs.

Since the UK's exit from the European Union in 2020, trading routes and demands on the SRN have changed significantly. English Channel and North Sea ports have experienced declines in traffic from the EU, while ports in the East of England have seen increased traffic over the same period[6]. Brexit has also resulted in the reduced use of the UK as a 'land bridge' for EU trade flows with Ireland. These changing patterns in freight flows can be attributed to firms attempting to avoid customs delays at ports on the English Channel.

This has led to an increased concentration of warehousing and distribution facilities in the Golden Triangle, South Yorkshire and along the M62 corridor to accommodate the higher freight volumes at East Coast ports (see map below). These hubs will also provide warehousing and storage space to support the development of intermodal rail freight, which depends on such warehouse clusters to justify new terminals. As such, there is anticipated to be an increase in HGV volumes along the M1 and M6 corridors, in addition to the M62 corridor as freight volumes increase at the Humber and Tees gateways[7].

Location of major ports, airports and strategic rail interchange hubs relative to concentrations of warehousing and distribution facilities.

[6] Ibid.
[7] Ibid.



Source: Department for Transport (2022) Future of Freight: a long-term plan

Case Study: Imports of Dutch fruit and vegetables

Approximately 7% of the UK's total value of imports of fruit and vegetables was from the Netherlands in 2022, equivalent to a total value of £490 million[8]. Supply chains in this market often involve fixed 48-hour routes from the Netherlands to the UK; lorries arrive overnight at the Port of Hull or Harwich and rely on the SRN to access UK markets, before returning to the Netherlands on the overnight ferry.

The SRN is of fundamental importance to ensure that onward journeys of imported perishable goods from ports are reliable, time-efficient and cost-effective, maintaining food security and triggering knock-on beneficial impacts to the wider economy.

Union connectivity

Connectivity needs within the Union are constantly evolving. As a result, National Highways needs to understand and respond to changing travel and trade patterns and routes in a timely and effective manner. This will enable National Highways to ensure the future sustainability of the Network and its role in supporting the UK economy.

When it comes to inter-regional connections, the SRN plays a vital role in binding the nations of the Union together. It serves all English regions, Scotland and Wales and provides the basis for onward connections to Northern Ireland. There are 50,000 crossings per day between Scotland and England, 30% of which are HGVs and 50% are business related, demonstrating in particular the importance of the M6 in enabling trade between the two nations[9]. The M4 provides a similar role in the trade connections between Wales and England.

Furthermore, providing reliable and efficient SRN connections between the North West and North Wales is vital. According to the 2011 Census, 25% of employees in these two regions crossed the border between England and Wales for work. Connectivity between England and Wales also enables onward connectivity to Northern Ireland and the Republic of Ireland; in 2022, 1.5 million people[10] and 4.1 million tonnes of goods[11] were transported from the port of Holyhead to the Republic of Ireland.

Conducted as part of the Union Connectivity Review[12], a UK-wide survey, found that eight in ten people in Scotland, Wales and Northern Ireland said they felt it was important to improve transport links with England, while two in three felt that improved transport links would positively impact access to work outcomes.

The connectivity provided by the SRN is of particular importance when transporting goods internally from the deep-water ports in the South East (namely Felixstowe, London Gateway and Southampton) and the rest of the UK. Key motorways used for roll-on/roll-off ('ro-ro') and lift-on/lift-off ('lo-lo') haulage of imported cargo to national distribution centres include

[8] Department for Environment Food & Rural Affairs, *Horticulture Statistics - 2022*, 2023. *[Available at: <https://www.gov.uk/government/statistics/latest-horticulture-statistics/horticulture-statistics-2022>]*
[9] Department for Transport, *Union Connectivity Review*, 2021
[10] Department for Transport, *Sea passenger statistics: SPAS0102*, 2023
[11] Department for Transport, *Port and domestic waterborne freight statistics: PORT0499*, 2023
[12] Ipsos MORI, *Research on UK Union Connectivity*, 2021

the M1, M25, M6 and M62[13]. The A14 and A34 act as supplementary corridors for Felixstowe and Southampton, respectively.

It should be highlighted that the vast majority of vehicle miles on the SRN are made by passengers mainly in cars. In England, cars and taxis accounted for 65.4 billion vehicle miles (bvm) on the SRN in 2022[14] - 70% of all vehicle miles on the Network. In comparison, HGVs accounted for 10.5bvm (11%). This partly reflects the fact that many service-based businesses import or export goods. For example, our business user survey indicated that 62% of businesses in finance and insurance, 49% of those in the arts, entertainment and recreation sector and 46% in healthcare and medical services import or export goods (compared to 70% of manufacturing and 74% of retail/wholesale)[15]. This demonstrates that while the efficient, reliable and safe functioning of the SRN is critical to the freight and logistics sector, it plays an equally important role in other sectors of the economy reliant on the movement of people on the SRN.

Enabling passenger connectivity is paramount to achieving levelling up aims in the UK. Levelling up priority areas are often more car-reliant, for example 79% of commuters in the North East travel to work by car[16]. Rural areas in particular are more reliant on road travel to access employment. The SRN provides connections between these areas and opportunities for growth, development, and economic success.

Multimodal connectivity

Freight operators require reliable connections from airports and seaports to the UK's major settlements and national distribution centres. People need fast and convenient access to rail stations, airports and seaports. These connections rely not just on the SRN, but also the wider road and rail network.

Road is the primary mode of transport for freight in the UK and is anticipated to remain so. In 2015, up to 1,900 million tonnes of freight was transported by HGVs, compared to just 91 million tonnes by rail[17]. Rail freight is becoming increasingly important as the freight and logistics sector works towards reaching net zero. Railheads and freight interchanges require efficient and reliable connections to the SRN to effectively link with both producers and final consumers.

[13] Ibid.
[14] Department for Transport, *Road Traffic Statistics*, 2023
[15] Jacobs and BMG Research for National Highways, Strategic Road Network Business User Survey, 2023.
[16] National Highways, *Connecting the Country: Our long-term strategic plan to 2050*, 2023
[17] National Highways, *Connecting the Country: Our long-term strategic plan to 2050*, 2023

Case Study: The Golden Triangle

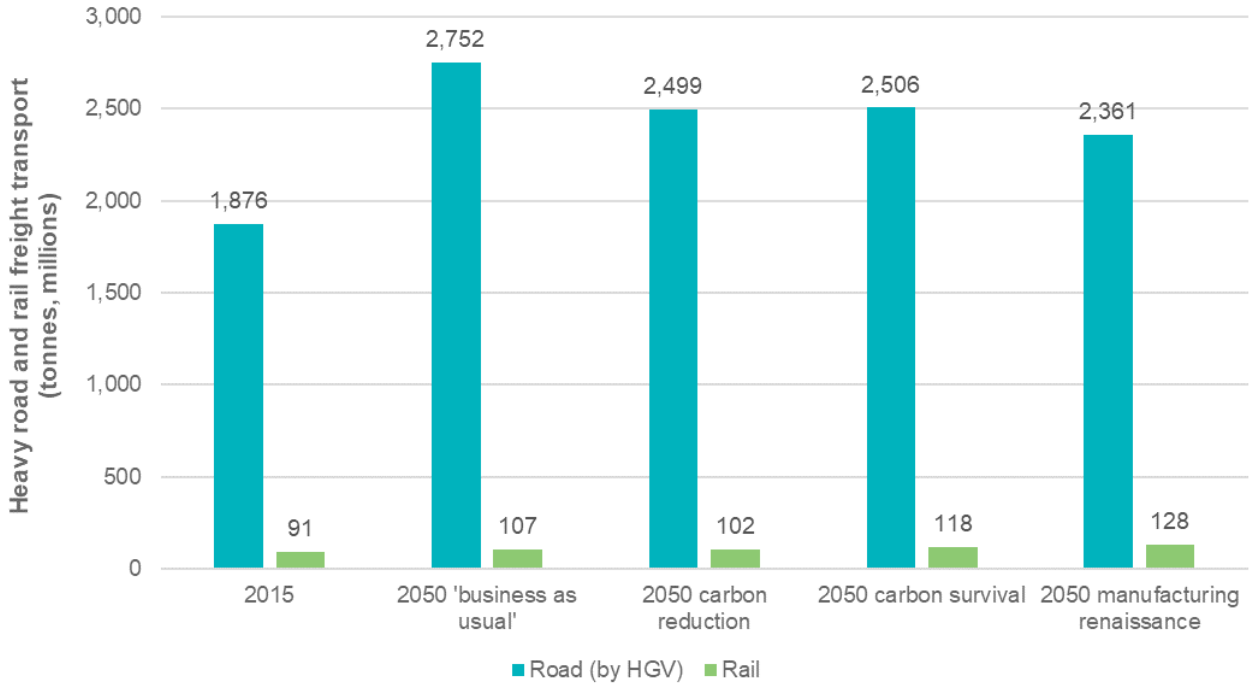
The area of the Midlands broadly defined as the 'Golden Triangle' has been at the centre of the UK logistics sector for more than three decades. An estimated 90% of the UK population is accessible within four hours of the Golden Triangle – this presents a significant advantage to distributors to locate in the area, in addition to easy access to a range of motorway routes, ports, railways and airports[18].

As a result of the area's connectivity to the SRN, it has become a particular focus for national and regional distribution centres with the highest levels of logistics space take-up nationally. The Golden Triangle hosts some of the largest multimodal logistics developments in the country, including the Daventry International Rail Freight Terminal (DRIFT) and Magna Park at Lutterworth.

National Highways has produced a series of route strategies that cover the Golden Triangle area, in addition to spearheading multiple highway improvements to the SRN in the area, including upgrade works to the M1 and M6 and announced future upgrades to the M5, A1, A5, and A45 by 2025.

However, projections from the National Infrastructure Commission suggest that even in the most optimistic scenario for rail, by 2050 128 million tonnes of freight will be transported by rail while over 2,300 million tonnes will be transported by road, as shown below[19]. Any expansion in rail freight would need to be supported by enhanced intra-regional road freight capacity to transport goods from rail terminals to final users within that region.

Freight demand scenarios by mode



Source: National Infrastructure Commission

[18] National Highways, *Connecting the Country: Our long-term strategic plan to 2050*, 2023
[19] National Infrastructure Commission, *Future of Freight Demand*, 2019

It is not just freight and logistics operators who require seamless connectivity with other modes of transport. National Highways' *Connecting the Country: our long-term strategic plan to 2050* highlights that the people-driven service sector is drawn to major population centres and industry agglomerations; as such, these areas place significant demand on the SRN for connections to other modes, including rail services. These connections are particularly important for the growing population within urban conurbations and sub-urban fringes, where residents are reliant on the SRN to reach urban centres and connect to other modes of travel.

Productivity

A central determinant of the productivity of industry in the UK is the efficiency of the transport of intermediate and final goods, and of workers. This fundamentally relies on the international, inter- and intra-regional connectivity provided by the SRN, in addition to multimodal connections.

The 2016 Economic growth and the strategic road network report[20] highlights three pathways in which the SRN, and any improvements or upgrades to the SRN, can influence productivity in the UK: reducing business costs, competition, and agglomeration.

The SRN can reduce both time costs and pecuniary costs for businesses, through reducing congestion and travel times, improving reliability, and providing efficient intermodal connections. These factors can lower transport costs for firms, and hence improve factor and labour productivity.

Strong levels of competition are vital to a thriving economy. The SRN can facilitate competition through reducing travel times and transport costs, and therefore exposing businesses to larger markets. This, in turn, increases their exposure to competitors. The report highlights that this pathway is the weakest of the three identified, as the SRN is already well-established and improvements to the Network would likely only have a marginal impact on overall levels of competition in the economy.

Finally, agglomeration economies can be encouraged and supported by a reliable and efficient SRN. The reduction in transport costs generated by the SRN can form a competitive advantage for businesses located in proximity to the SRN, and therefore lead to agglomeration in these locations. As mentioned previously, increased clustering has been observed in the freight and logistics sector in recent years, particularly in the East Midlands. Further, improvements to the SRN can reduce congestion, which itself is a diseconomy of agglomeration.

[20] Atkins, *Economic growth and the strategic road network*, 2016

3. The role of National Highways supporting strategic connectivity

Current activities

Working collaboratively with Network Rail, Government, and other stakeholders, National Highways continues to provide a service of national importance, while working to enhance strategic connectivity in response to the needs of national, regional, and local economies. This includes working with other strategic corridor operators and providing connections to other strategic transport nodes, through actions including:

1. Improving capacity and addressing constraints around international gateways and along key freight corridors connecting ports, airports, multimodal hubs and other gateways.
2. Undertaking strategic, multimodal planning with Network Rail to develop an understanding of, and identify joint investment priorities for, strategic freight corridors. This has included the Solent to Midlands multimodal freight strategy.
3. Collaborating with sub-national transport bodies and local authorities to identify place-specific SRN requirements, including where the SRN can enable regionally and locally important development.
4. Supporting freight operations with real time, personalised information tailored to their route requirements, while also investing in gateways to evolve or expand their operations.
5. Continuing trials and research to assess the costs and benefits of alternative fuels for HGVs, such as electric vehicles and hydrogen-powered fleets. This includes consideration of the most appropriate fuels for different corridors and commodities.
6. Refining and developing our understanding and communication of how SRN routes are used, including the types of commodities transported, the range of different sectors served, and the time requirements of individual supply chains.

Future priorities

As the custodian of the SRN, National Highways will prioritise:

Evidencing - National Highways will further develop its evidence base to understand opportunities to improve strategic connectivity to inform future RIS'.

Collaborating - National Highways will work collaboratively with public and private sector organisations to support connectivity and trade internationally and within the union.

Operating - National Highways will explore opportunities to improve seamless journeys and integration with the union and at key international gateways.

Investing - National Highways, using route strategies, will identify and invest in key strategic locations to support connectivity and economic growth.

Catalysing - National Highways will encourage and support joint planning at key strategic locations.

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National Highways creative job number CRE24_0188

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Registered office Bridge House, 1 Walnut Tree Close, Guildford GU1 4LZ

National Highways Limited registered in England and Wales number 09346363