



Department
for Transport

Transport Infrastructure for our global future

A Study of England's Port Connectivity



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Department for Transport
Great Minster House
33 Horseferry Road
London SW1P 4DR
Telephone 0300 330 3000
Website www.gov.uk/dft
General enquiries: <https://forms.dft.gov.uk>



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Ministerial Foreword by Maritime Minister Nusrat Ghani MP



Throughout this country's history, our ports have been essential to our economic prosperity. Today the situation is no different. We rely on ports to handle 95% of goods which cross our borders. Our ports are fundamental to our success as a trading nation, providing vital links for the best UK companies to global export markets. Similarly many of the things we rely on in our daily lives - the food we eat, the clothes we wear and the energy we use - are all supplied by our ports. Our ports are not just vital to our national

infrastructure but also drive our regional and local economies supporting jobs, development and growth.

This country's ports are a modern day success story which have supported the economic health of the UK by investing billions of pounds in new infrastructure to facilitate trade and exports. These investments are being made to accommodate and adapt to freight growth and changes. This is good for the ports, but it is also good for the economy, as this growth is driven by the strength of demands of businesses and consumers. However with ports located at the edges of the country and operating seamlessly in secure environments, their contribution to our prosperity often goes unnoticed by the public, the business community, and even perhaps by the wider political spectrum.

Recognising the fundamental role ports will play in our future as an island nation, this Study was commissioned to better understand the current position on port surface access (inland transport); take stock of what developments ports are making; and what investments the UK Government is making in our national transport networks. The Study only touched upon digital connectivity but it is clear that this will be of huge significance in the future and will be an important issue for our Maritime 2050 strategy.

This Study is a first step in ensuring the government at a national and local level, the port industry, transport delivery bodies, the wider freight industry and their customers work ever closer together to ensure we make the right decisions for our future trading success. A renewed focus on trade, exports, productivity and competitiveness has never been more important to allow the UK to go from strength to strength as we plan for our exit from the European Union.

The Study makes a series of recommendations across a number of priority areas – building an enhanced evidence base for freight and ports; ensuring ports' needs are fully factored into cross-government decision-making; enriching communications on the vital role of the port and freight sector; and positioning ports as a vital aspect in

the long term vision for the maritime sector – designed to develop a thriving port and freight sector which is at the heart of driving economic growth and future trade.

Recommendations are addressed at both government and the industry. Our ports, their trade bodies, the regions they serve and the global companies that rely on them, need to deliver a step change in communicating the critical importance of our Ports to our future success.

The delivery of the recommendations in this Study will take place alongside and support wider government activity, such as the Industrial Strategy and the National Infrastructure Commission's Freight Study, to boost productivity, enhance competitiveness, drive economic growth and rebalance the economy.

I would like to thank all in the port and freight sector who have contributed enthusiastically to this work, as well as the Rt. Hon. Sir John Randall who was instrumental in leading the early work and setting the direction for this final report.

The challenge now, for the sector and government, is to build on the momentum this Study has created. We must take forward the recommendations and, through our work on Maritime 2050, ensure our ports stand up to the very best international comparisons long into the future. As an industry your input, drive and willingness to adapt and innovate will be key to achieving this – I look forward to working with you and driving our success.

A handwritten signature in black ink, appearing to read 'Nigel', is positioned on a light grey dotted background.

Foreword by Rt. Hon Sir John Randall



It was a privilege to have spent time acting as the independent lead for this Study. When I assumed the role, I had little prior knowledge of the port industry and had not fully realised how vital a role our ports have in contributing to the UK economy, or of their importance as international gateways to the rest of the world.

However, as the Study progressed, and as I met people in the port industry, it became apparent the industry is very much at the heart of this country's operations to ensure the goods we want and use every day get to where they are needed, when they are needed. It is for this reason the connectivity of our ports to local, regional and national transport infrastructure networks is of vital importance.

The lack of awareness about the role of ports, and by extension the wider freight industries that serve them, is a condition the country cannot afford to have. This is particularly acute with regard to port connectivity which has a fundamental role in enabling and supporting a productive economy.

One of the key findings from my engagement with industry was the need for more consistent cross-modal, cross-government and cross-industry engagement to raise the profile of our ports. This should ensure there is an appreciation of the economic importance of having a well-connected freight network which facilitates the efficient movements of goods, to and from our international gateways.

Feedback from my engagement with the port industry suggested there would be merit in an overarching approach to freight from government. This is not to criticise the current work being undertaken: I was particularly struck by the positive, considered approach of Highways England and Network Rail on freight connectivity, in conjunction with the Department for Transport. I was equally impressed by the Sub-national Transport Bodies, Local Authorities and Local Enterprise Partnerships who are responding to port issues in their areas.

I commend the dedication, passion and adaptability demonstrated by the port industry but together we can do more to engage and raise the profile of this vital sector.

This Study is intended to build on the positives which already exist and deliver actionable steps to ensure connectivity to and from ports, and the vital economic role it plays, is fully recognised and contributes to building a thriving freight supply chain.

I would like to thank the port and freight industry who so readily and eagerly engaged with me and the study team to understand, develop and ultimately inform the recommendations in this Study. This was a truly collaborative effort between industry and government, and one which I hope will be continued through its implementation.

John Randall

Executive Summary

Our ports are a national success story

- 1 Our ports are a success story. At present around 95% of all goods entering and leaving the UK are moved by sea¹ and the UK port sector directly contributes £1.7 billion to the UK economy². Once factors such as supply chains are considered, the port sector's economic contribution to the UK is estimated to be £5.4 billion per annum³.
- 2 Ports have always been a great facilitator of trade and travel. In 2016, this equated to 337.0 million tonnes of freight being handled by ports in England. Many of our great cities have grown up next to riverbanks, navigable waterways and coastal sites thanks to the commercial opportunities linked to waterborne trade. This legacy has led to the English port sector becoming one of the largest and most dynamic port sectors in Europe which, as well as handling freight, also facilitates 17 million international passenger journeys each year, with Dover alone accounting for 12 million of these journeys.
- 3 This contribution to facilitating trade and passengers as well as driving economic growth is only likely to increase. As an outward facing island nation, our ports are fundamental to our global success. If our ports are to continue thriving then the national, regional and local infrastructure supporting them has to be effective and efficient.
- 4 Connectivity is about the movement of everything to and from our ports which is vital to our everyday lives; from providing fuel to our power stations to generate electricity in our homes, to transporting the produce to our supermarkets so we have food to eat, or delivering the new cars that allow us to travel for work and pleasure.
- 5 However, port and freight markets are changing and so our national, regional and local transport networks need to have the ability to respond. New commodities, replacing core bulk freight markets like coal, do not necessarily travel on the same road or rail routes or to the same destinations.
- 6 The freight and logistics sector, of which ports are a vital link, is one which must be able to facilitate and respond to these changing markets, adapt to shifting business models, and providing a service which meets the needs of ever-evolving consumer habits such as next-day delivery.
- 7 These changes, coupled with predicted growth in the port sector and the markets it serves, present profound opportunity but also a considerable challenge to ensuring the national transport network which serves our ports is capable of

¹ UK Port Freight Statistics: 2016 (Revised), Department for Transport, 2017, page 3:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/646188/port-freight-statistics-2016-revised.pdf

² The economic contribution of the UK Maritime sector: A report for Maritime UK, Centre for Economics and Business Research, 2017:

https://www.maritimeuk.org/documents/183/Cebr_Maritime_Sector_Report_2017.pdf

³ Ibid

dealing with new demands and facilitating the economic growth they will bring.

- 8 Previous forecasts for government predict container traffic will grow by 178% (in terms of twenty foot equivalent units (TEU)) and bulk traffic will increase by 8% over the same time period from 2004 – 2030, with total port tonnage for the UK forecast to grow by 37%⁴.
- 9 Ports are investing many billions in their own infrastructure to ensure larger ships and volumes can be accommodated to maintain the UK, as a key destination for maritime services despite strong global competition. It is therefore vital there is appropriate capacity on our road and rail networks, to and from our international gateway ports, to meet this demand.

Why is a review of port connectivity needed?

- 10 In order to bring about the full economic and growth benefits delivered by ports, a greater understanding was required of their current and future access needs. This Study was commissioned to examine the current level of access to ports, how port connectivity issues are managed and what development plans and ambitions ports have for the future.
- 11 The Study has also sought to gain a greater understanding of the key transport and economic corridors which serve our ports to highlight the benefits of port connectivity for UK PLC and to raise the profile of the vital underpinning role the port industry plays.
- 12 To achieve these objectives, the Study was designed in a two-pronged approach:
 - a. **Industry and Stakeholder Engagement:** Included detailed interviews with ports, the wider freight sector and major UK businesses, to understand industry's views on port and freight connectivity. This included discussion on specific issues, such as bottlenecks, and wider principles of connectivity, such as ports' understanding and involvement in transport investment processes.
 - b. **Evidence and Data Gathering:** Focused on gathering a detailed evidence base on port development plans, as well as transport connectivity to and from ports and on the key corridors they serve. This included: a Port Connectivity Survey for ports, local authorities and Local Enterprise Partnerships (LEPs); a detailed literature review of freight and connectivity documents, past and present; and collaborative data gathering on transport connectivity from English ports, working with Highways England (HE) and Network Rail (NR).

Delivering early successes

- 13 In the production of this Study a number of successes have already been achieved. There is also new momentum around port connectivity issues which will help to create further success in the short and medium term.

An enhanced evidence base

- 14 The Study has developed an evidence base which has been previously unparalleled in the Department for Transport (DfT). This evidence has been used to develop a series of 9 regional case studies on connectivity to English ports, which is published as a supporting document to this Study. This document provides the most up-to-date and informative evidence on ports' needs, as well as identifying specific connectivity issues. The evidence is presented in an open format to engage policy makers, and has already been utilised to inform policy and

⁴UK Port Demand Forecasts to 2030, Final Report, MDS Transmodal Limited, 2007:

<http://webarchive.nationalarchives.gov.uk/+http://www.dft.gov.uk/consultations/archive/2006/ppr/ukportdemandforecaststo2030.pdf>

investment decisions within the wider transport investment sphere.

Increased coverage in major infrastructure investment decisions

- 15 The first Road Investment process (RIS1) has delivered key port schemes such as A160/A180 Port of Immingham improvement, work beginning on the A14 Cambridge to Huntingdon bypass, and the development of the A5036 project to improve access to the Port of Liverpool.
- 16 The second RIS (RIS 2), which has recently been consulted on⁵, will prioritise the need for efficient routes to global markets through international gateways. Considerable engagement has taken place between the study team and road investment colleagues in DfT and Highways England to ensure the needs identified by this Study are fed into the development of future roads infrastructure.
- 17 On our rail network, £235 million has been invested directly over Control Period 5 (2014-2019) (CP5) through the Strategic Freight Network (SFN) Fund⁶ to deliver greater capacity and capability, creating opportunity for more freight to be transported by rail. This will include the delivery of increased capacity on the Felixstowe branch line, increased capability in the form of longer freight trains running from the port of Southampton and improved rail connections to the port of Liverpool.
- 18 Network Rail and DfT are also planning future rail investments with port connectivity as a critical factor. The evidence base on port development plans and ambitions are being factored into this development.
- 19 Investment to support the rail freight network will continue, recognising its important contribution to the economy and environment. This will build on the current investment that is so crucial to creating the capacity on the network needed to grow rail freight in a competitive market.
- 20 Further information will be provided in due course on the way improvements will be delivered to support the rail freight network, together with further information on the new process for enhancements. This will include looking at ways of introducing more private financing and funding opportunities.

Embedding Trade in Transport Investment Priorities and Decision-making

- 21 As part of this Study, great strides have also been made in raising not only awareness of port connectivity, but more generally the vital role freight plays in our economy and increasing trade. The Department recognises the strategic importance of our ports as international gateways. In particular, the Transport Investment Strategy (TIS), set out enhancing our global competitiveness as one of the Department's key priorities for transport investment. The strategy highlights that economic success is closely tied to our ports and investing in the infrastructure around ports is vital to delivering economic growth. The Department is working to root these priorities into decision-making, and recently published updates to its strategic case guidance to help ensure these priorities are embedded in investment decisions⁷.

⁵ Shaping the future of England's strategic roads, <https://www.gov.uk/government/consultations/shaping-the-future-of-englands-strategic-roads-ris2>

⁶ Rail Freight Strategy, Department for Transport, 2016, p8: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/552492/rail-freight-strategy.pdf

⁷ Strategic Case Supplementary Guidance: Transport Investment Strategy, Department for Transport, 2017: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/669041/strategic-case-supplementary-guidance.pdf

Promoting Port Connectivity across Government

- 22 Engagement with wider government has also borne fruit in raising the profile of freight in a number of areas. In the 2017 Autumn budget, the Chancellor asked the National Infrastructure Commission (NIC) to undertake a freight study. This Study will make recommendations on the future of freight infrastructure to reduce the effects of congestion on productivity and ensure wider freight connectivity supports economic growth. The study team have already engaged with, and will continue to engage, NIC colleagues as they develop the body of work which will constitute the NIC's Freight Study.
- 23 Success can also be seen through the Study's engagement with colleagues across government, and the recognition in the Department for Business, Energy and Industrial Strategy's (BEIS) Industrial Strategy of the importance of international gateways, including our ports. The Strategy recognised the role of ports in connecting people and markets as well as attracting inward investment and keeping the UK globally competitive. It also committed to supporting businesses in their efforts to access international markets, drive up exports and improve productivity.

Recommendations: Delivering Future Success

- 24 These successes should be celebrated but there is recognition in government that further work is required to ensure port and freight connectivity gains the attention it rightly deserves, and to ensure its critical role in our national trading infrastructure is preserved and enhanced.
- 25 This Study has taken the priority issues highlighted by both ports and the wider supply chain, and distilled them into a series of recommendations. The recommendations seek to ensure freight connectivity to and from our major ports will be a catalyst for economic growth, trade, inward investment and increased productivity.

Ports – Vital enablers of the UK economy and trade

- 26 The Department is committed to building a more coherent approach to strategic thinking for the freight sector. Within the Department, there is an opportunity to build on the enhanced cross-modal cooperation on freight issues - achieved through the delivery of this Study - and put existing relationships across modes onto a more regular footing, enabling them to take a more holistic approach and share experiences in the future.
- 27 There is also an excellent opportunity to engage with the NIC's Freight Study to build on the progress already made in ensuring our ports, their vital role in our trading future and other cross-modal interests are all captured within it.

Recommendation 1:

The Maritime Modal Connectivity and DfT modal freight teams to form a holistic “virtual” freight team in order to:

- *Cohesively engage with the National Infrastructure Commission to ensure ports, and cross-modal freight interests, are recognised in their Freight Study; and,*
- *Better understand cross-modal freight issues in order to make the case for freight matters in cross-government processes and initiatives.*

Building an Evidence Base for Freight and Ports

- 28 Data gathered to inform this Study have provided an unprecedented evidence base for government in understanding the challenges, issues, opportunities and aspirations of ports in relation to wider freight connectivity but we can, in collaboration with industry, go further.
- 29 Improving cross-modal freight data, delivering robust modelling of improved connectivity and detailed trade corridor analysis will all contribute to building the evidence base for freight. This, in conjunction with studying the future of the maritime sector and the macro-economic landscape, will assist in the development of an evidence base which government can use to make investment and policy decisions about the needs, trade-offs and economic benefits of freight.
- 30 Our key economic corridors - namely the routes from ports to industrial heartlands and major conurbations - are vital to our national infrastructure, economy, and international trade. However, we need to evaluate these further to build a more detailed understanding of economic connectivity and trade corridors.

Recommendation 2

DfT will build on the Study findings and take forward further data-focussed analysis of the key economic corridors to ports, seeking to model the commodities moved, by which freight mode, their value to the UK economy, and the benefits of increased connectivity, as well as identifying the sum of government spending on port-related projects.

- 31 We want to ensure all options are evaluated when considering future port and freight connectivity. Waterborne freight is a potentially underused domestic freight mode. While this Study focussed on inland transport, where government has a more direct influence on use of infrastructure it also sought to understand opportunities and challenges for more domestic freight movement by water.

- 32 We are committed to continually reviewing policy positions and will seek to consider the wider issues, challenges and opportunities related to waterborne freight:

Recommendation 3

The DfT Maritime Modal Connectivity Team, working with industry, will seek to better understand the barriers, challenges and market opportunities of coastal shipping and inland waterways within the current freight landscape.

Ports by Default – ensuring ports are a key factor in decision making.

- 33 Physical infrastructure has, and will remain, a key consideration in achieving efficient and effective connectivity to our ports.
- 34 Infrastructure investment, both public and private, is a long-term process. Therefore, it is important we invest effectively so our ports and national transport networks can handle future demand. DfT wants to better capture the needs of ports and their customers in future investment decisions by default. This will create an infrastructure investment and transport planning process which accounts for the economic benefits of ports and freight as well as equitably assessing their needs.
- 35 There is an increasing awareness of the importance of road and rail connectivity to ports, but we need to ensure this is consistently and fully factored into investment, infrastructure and planning processes:

Recommendation 4

The DfT Maritime Modal Connectivity Team will seek to ensure the needs of our ports are captured, and included, in future investment decisions by default through representing the sector in all departmental modal and cross-modal infrastructure investment processes, including:

- *Building on the momentum of this Study to engage further with DfT Rail/Network Rail and DfT Strategic Roads/ Highways England, and other transport delivery/investment bodies, to ensure appropriate consideration is given to port freight priorities in business case development.*
- *Seeking to establish consistent, regular, and informed engagement between these bodies and ports to increase transparency, understanding and participation in transport investment processes.*

Enhanced engagement and understanding - A higher profile for ports and freight

- 36 The port and freight industries operate in highly competitive markets. These markets concentrate communication on business critical messaging and the customer, but this does not always lend itself to the port and wider freight sector coming together to sell their collective advantages and benefits.
- 37 Similarly, the vital role played by the port and freight sectors in driving trade and increasing productivity are not always understood by wider government and the general public.
- 38 Good progress has been made by industry, and particularly the port trade bodies –

UK Major Ports Group (UKMPG) and British Ports Association (BPA) – who have, working closely together, played an important role in enabling the port sector to speak with a central voice and engage effectively with key decision and policy makers.

- 39 But there is more that can be done. It is clear there is greater scope for the port sector, as a singular entity and as part of the wider freight supply chain, to do more to showcase the critical role it plays in the economy and for trade. At the most basic level, there is an opportunity to highlight the vital role ports play in the everyday lives of the general public.
- 40 Equally, there is a role for government in supporting and amplifying key industry messaging, and ensuring its successes and needs are communicated appropriately. The Department is committed to developing a more systemic, strategic dialogue between the ports and freight industry, delivery bodies and government on key issues for port and freight connectivity.
- 41 Consistent, clear and productive communication between all interested parties is a necessary condition for continued growth of UK ports, freight and trade, and will be pivotal to ensuring the connectivity needs of ports are factored, by default, into future investment decisions. Similarly, it will be vital in the successful implementation of this report's other recommendations.
- 42 The Study has identified a lack of awareness of the vital role ports play and there is a need for greater engagement, influencing, and joined-up thinking on port connectivity from the port and freight sectors:

Recommendation 5

In order that port interests have a higher profile in economic and policy discussions we recommend:

- *Raising the bar on awareness by ports working together, through the UKMPG and BPA, to put in place a communication strategy to promote the importance of ports more widely.*
- *The port industry works with cross-modal freight industries and the wider supply chain, including customers, to ensure the wider supply chain message on freight connectivity is cohesive, and ports are given appropriate weight within it.*

- 43 DfT also has a role to play in facilitating greater engagement, wider awareness and information sharing:

Recommendation 6

The DfT Maritime Modal Connectivity Team will:

- *Utilise existing maritime strategy committees and ministerial round tables to ensure port's connectivity and infrastructure needs are given appropriate space for action.*
- *Facilitate regional events and discussions between ports and regional bodies (e.g. LEPs, local authorities and sub-national transport bodies) to raise awareness.*
- *Review and re-publish Port Master Planning Guidance, with the expectation more ports undertake the process.*
- *Investigate mechanisms to encourage more consistent sharing of information by ports.*

The role of ports in the UK's maritime future

- 44 This is an exciting time for Maritime, as government has recently launched 'Maritime 2050', which will set out the long term strategic ambition for the future of the sector. To be developed alongside industry and partners across government, it will provide a policy framework to enable those who rely on the sea for their business or living to contribute to decisions that will ensure the long term future of the UK maritime sector and the economy that relies upon it. Thus, providing greater long term certainty for international partners and investors.
- 45 Port and freight connectivity, as a conduit for imports and exports, will play a vital role shaping a key theme of 'Maritime 2050', particularly in maximising UK trade potential in the face of global commerce changes and technological enhancement. Looking to our long-term future with modern transport systems, globalised supply chains, a fourth digital revolution and the increasing demands of both business and consumers, it is vital the fundamental role of our ports, at the very heart of our trading infrastructure, is recognised:

Recommendation 7

The DfT Maritime Modal Connectivity Team will work across the Maritime Directorate, with the industry and trade associations, to ensure the long-term vision for the sector, including how port connectivity can continue to make the UK an important node in global shipping patterns and technological change is fully captured in 'Maritime 2050'.

Next Steps and Actions

A summary of the initial actions which will support the delivery of these recommendations can be found in Chapter 4 "Vision and Recommendations". We will be working closely with the port sector, wider freight industry, and with the NIC, as

well as stakeholders across national and regional government, and other bodies where appropriate, to take forward these recommendations and their associated actions.

1. Introduction

The following chapter sets out the background to the Study, its scope, why it is being undertaken now, and the structure of this report.

Key Points

- Ports rely on good infrastructure to be successful, particularly as the landscape of global enterprise will continue to change.
- Port connectivity is more than just a port issue; it is about the facilitation of trade, driving productivity, enhancing the economy and making a difference in everyday lives.
- Port connectivity is about how effectively freight moves to and from our ports to meet the wider needs of the economy, businesses and consumers.
- This Study aims to identify physical pinch-points on the network, as well as examine wider themes about how, when and why port connectivity is considered.
- This Study builds on the significant investment Government is already making in the nation's transport network.

- 1.1 As an island nation our ports are fundamental to our everyday lives and our success globally as an outward facing trading nation. If our ports are to be successful then the national, regional and local infrastructure supporting them has to be right. As a focus for trade and travel there has always been demand for easier, more efficient access to these vital parts of our critical national infrastructure.
- 1.2 Such access is important now but as we look to our long-term future with modern transport systems, globalised supply chains, digital revolution and the increasing demands of both business and consumers, this access is only likely to become more crucial. It is therefore vital the fundamental role of our ports, which sits at the very heart of our trading infrastructure, is recognised.
- 1.3 The current and future access needs of ports are a question of national significance and this Study was commissioned to examine the current level of access to ports, and how such port connectivity issues are managed.

What is Port Connectivity?

- 1.4 In basic terms, port connectivity in the context of this Study is the quality of access to and from ports via predominantly land-based transport networks. The Study has therefore focussed on the capability of road and rail links into port hinterlands⁸.
- 1.5 In everyday terms, however, port connectivity is about everything from:
 - The food on the shelves of the supermarket having arrived from the warehouses at Teesport;
 - Homes being powered by the electricity generated using biomass at Drax power station, which has been transported by rail from the ports of Liverpool, Immingham, Hull and Tyne;
 - The construction timber for the building industry, arriving at the Port of Shoreham;
 - The clothing worn everyday which arrived by container at the Port of Felixstowe;
 - The new cars arriving and departing at the ports of Bristol and Southampton before it is purchased on the garage forecourt;
 - The gas in your home which arrived through the Port of Milford Haven;
 - And much more.
- 1.6 These are examples of how the port industry plays a role in underpinning the daily lives of the public and the operations of our companies. Goods have arrived at their final destination through a port and the first/last leg of their journeys will have been by road or rail. These legs are therefore a significant factor on the overall efficacy of the supply chain.
- 1.7 The inland movement of goods to and from a port needs to be efficient, reliable, cost-effective and competitive. If not, it could have a potentially negative impact on the products, the companies which buy and make them, as well as the businesses and people who consume them.
- 1.8 To view the issues set out in this Study simply as a port matter would be short-sighted as port connectivity is not just a port issue - it is about how effectively freight moves to and from our ports to meet the wider needs of the economy, businesses and consumers.
- 1.9 As such port connectivity should be considered as “economic connectivity” and the facilitation of trade. The points raised in this Study are not just applicable to supporting the port industry, but also to their wider impact on the country’s economic health.

Study objectives

- 1.10 A study on port connectivity, considering these wider freight and transport policy matters from a port perspective, has not been comparably undertaken in recent years. It is therefore a valuable opportunity to take stock of both the physical specifics of port connectivity (i.e. where pinch-points exist) but also to examine some wider themes about how, when and why port connectivity is considered.
- 1.11 The objectives of this Study are as follows:

⁸ “The area around or beyond a major town or port”, <https://en.oxforddictionaries.com/definition/hinterland>. In this study we use the term hinterland to describe the key economic areas and markets served by a port, and therefore port connectivity refers to the transport routes which provide access between port and hinterland.

- To benchmark the current position on port connectivity and show where issues such as bottlenecks on the inland transport networks lie.
- To understand what current transport infrastructure plans are in deployment or development, and how they factor in port connectivity.
- To provide greater clarity on how the transport investment processes work at a national and regional level to enable ports to better engage in those programmes.
- To better understand the development and growth plans of ports and its implications for wider transport investment.
- To begin to establish the extent to which the activity of the port industry as a conduit for UK freight underpins wider economic activity.
- To highlight the nature of the port industry and its role to a wider audience – with the aim of according it a higher profile in wider business and industry considerations.
- To set out next steps and a vision to ensure port connectivity is a default factor for consideration in government decision making.

1.12 In geographical terms, as a result of the devolution of port policy, the specific ports and relevant road and rail infrastructure considered in this Study is restricted to England⁹. Within this remit, the study is mindful of devolution within the transport sector, particularly the significant work of sub-national transport bodies (STBs) such as Transport for the North (TfN) and Midland Connect (MC). Similarly, this Study also recognises the good relationship with the Welsh and Scottish administrations on maritime issues and the vital importance of cross-border traffic for the freight sector.

1.13 Where this Study considers the wider economic benefits and impacts of port connectivity, this is largely referred to in terms of the UK for convenience, and the principles are equally applicable to the devolved nations. However, the Study recommendations are only intended for implementation in England.

1.14 Given connectivity issues are largely connected with the movement of freight, the Study has focused on all ports in England which reported freight tonnage in 2015. This measure also captures the majority of connectivity issues associated with passengers seeking access to ports. While this Study has taken a freight focus in the development of key themes and recommendations, issues with passenger transit have been considered, where appropriate, in the regional case study document which supports this report.

1.15 Members of both port associations - UKMPG¹⁰ and BPA¹¹ - were invited to participate in the port connectivity survey, a stakeholder workshop, and a programme of visits used for evidence gathering.

1.16 The Study has considered connectivity issues in relation to both larger and smaller ports where key themes apply, and with the intention that the subsequent recommendations can be implemented by all English ports. The specific connectivity

⁹ Ports policy is fully devolved to the Scottish and Northern Ireland governments. In Wales, responsibility for fishing ports only was devolved to the Welsh Government but from 1 April 2018, powers in the Wales Act 2017 saw further devolution to include all ports wholly in Wales, other than reserved trust ports (Milford Haven is the only one of these) for which the UK government retains responsibility. An overview of Milford Haven's connectivity is included in the South West case study.

¹⁰ The British Ports Association represents members across a very broad cross section of the UK port industry encompassing the trust, private and municipal sectors. Its members cover every kind of activity ranging from large cargo handling ports and terminal operators to small leisure ports.

¹¹ The United Kingdom Major Ports Group Ltd is the trade association representing most of the larger commercial ports in the United Kingdom. It has nine members who, between them, own and operate over 40 ports, accounting for more than 70% of the total tonnage handled in UK ports. Current members are Associated British Ports, Belfast Harbour Commissioners, the Bristol Port Company, DP World London Gateway, Forth Ports, Hutchison Ports UK, PD Ports, Peel Ports and the Port of London Authority.

issues, identified in the regional case study document, have been considered by geography rather than by size of the port due to the regional differences in connectivity challenges across England.

- 1.17 While the scale of connectivity issues will vary, the same type of issues affect large and small ports - for instance connectivity issues at smaller port can have a significant local and regional impact which can constrain the economic benefits for the area. The Study focusses on the larger scale issues and the activity of national delivery bodies such as Highways England and Network Rail. The principles discussed however are equally relevant to smaller ports and local/regional bodies such as local authorities, combined authorities, councils, and Local Enterprise Partnerships (LEPs).

Why is a review of port connectivity needed?

- 1.18 Britain has always been a highly successful, outward facing nation. As we look to our future, outside the European Union, the Government is acting to ensure we continue to thrive globally, our industries remain world-leading, and the UK is in a position to seize the opportunities, stemming from new trading relationships and technologies.
- 1.19 To achieve these aims the country needs to ensure its businesses can operate at high levels of productivity, efficiency and competitiveness, and prepare to be at the forefront of a new digital industrial revolution. Appropriate infrastructure is needed so as not to constrain those businesses, and Government will have to consider how best to balance passenger and freight transport needs in order to achieve its economic and trade objectives.
- 1.20 The Government has now set out its Industrial Strategy¹² to support those objectives, as well as a Transport Investment Strategy¹³ which lays out the Department's priorities and approach for future transport investment decisions. Our ports are a vital element in ensuring our country's economic heartlands are well connected to national and international trading gateways.
- 1.21 Alongside this, the Government is making unprecedented investments in infrastructure across the road and rail networks. The strategic road and rail programmes are funded through structured five year investment plans, whilst it is placing increased levels of decision making and spending at a regional and local level through continued devolution.
- 1.22 There are currently a number of infrastructure planning initiatives underway at local and national levels. Control Period 6 (CP6) and Road Investment Strategy 2 (RIS2) aim to provide significant investment in rail and strategic roads. The level of rail funding has been set at £47.9 billion¹⁴ and the Government has committed to the introduction of a National Roads Fund from 2020, which will see all proceeds from Vehicle Excise Duty raised in England directed to investment in the Strategic Road Network (SRN) and Major Road Network (MRN). Transport for the North and Midlands Connect both have their own regional strategies, while LEPs play a key role in bidding for funding on local issues.

¹² Industrial Strategy: Building a Britain Fit for the Future, Department for Business, Energy and Industrial Strategy, 2017.
https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf

¹³ Transport Investment Strategy, Department for Transport, 2017.
https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/624990/transport-investment-strategy-web.pdf

¹⁴ Railways Act 2005, Statement of Funds Available, Department for Transport, 2017
https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/650998/railways-act-2005-statement-of-funds-available-2017-web.pdf

- 1.23 Ports too are making unprecedented investments, putting billions of pounds into infrastructure and operational enhancements to increase capacity and freight handling capabilities. The increased amount of freight being handled is not generated by the ports themselves, but by the demands of the wider economy.
- 1.24 Freight does not stay at the port but flows into the wider transport networks, heading for factories, shops, homes and businesses nationwide, or from businesses and factories to ports for export. As an important function of our economy, this freight needs to be transported effectively and efficiently, and enhancements or constraints on the inland networks will impact on the fluidity of its movement.
- 1.25 Infrastructure investment, both public and private, is a long term process. Therefore, it is important we get it right now so the country and our ports can benefit in the future. This Study comes at a timely juncture to examine the current position of port connectivity and to highlight the role ports play for the economy and trade, so this issue can be factored into Government investment and policy processes at all levels.

Report Structure

- 1.26 The main body of this Study is divided into 3 chapters:

The economic benefits of a successful ports industry

- This section examines the linkages between a thriving competitive port industry and the wider economy, and considers why improving links to ports is also important for the whole economic picture.

Port Connectivity - the current position and activity

- This section sets out the current position on port connectivity from the view of industry stakeholders, as well as considering the current government approach to activity on port connectivity.

Vision and Recommendations

- This section establishes the Government's ambition for the future of port connectivity and the benefits it can bring. It also sets out the initial plan for implementation and how we will continue to work with wider Departmental and Government stakeholders on other freight initiatives which relate to port connectivity.

2. Economic benefits of a successful port industry

The following chapter summarises the economic role of ports in terms of the direct and aggregate benefits, how this supports wider economic activity vital to national prosperity, and Government's Industrial Strategy ambitions. It also highlights how investment in hinterland links can facilitate a successful port industry, which potentially enables wider economic benefits to be realised.

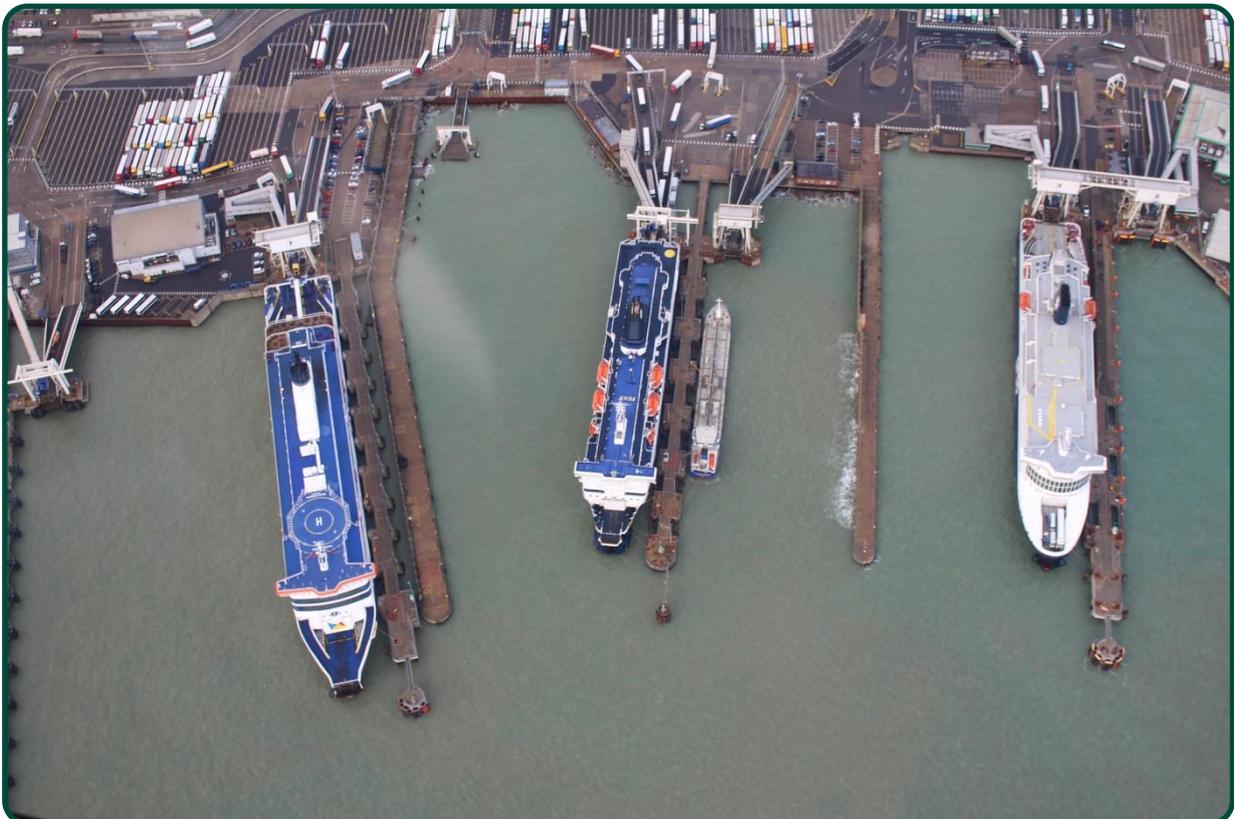
Key Points:

- Ports are a key facilitator of trade and economic activity.
- As an island nation the UK will continue to rely heavily on ports for imports and exports of goods.
- The direct economic impact of the ports industry on the UK economy in 2015 was £1.7 billion. The aggregate economic contribution of the port industry was £5.4 billion per annum.
- Global trade and logistics methods are changing – but English ports are investing significantly to adapt and remain at the forefront of economic activity. Investing in port connectivity projects will help release the overall economic benefits of wider supply chain investments.
- Connecting ports to their hinterland networks effectively is a key part of what allows the sector to deliver these economic benefits.
- The BEIS Industrial Strategy (IS) sets out the government's aim of rebalancing the economy, boosting productivity and enhancing the earning power of people throughout the UK – enhanced port connectivity which brings people and markets together, attracts inward investment, drives local and regional economies, and keeps the UK globally competitive, has a clear linkage with the delivery of the fundamental principles of the IS.

Portals for the nation's trade

- 2.1 As an island nation, the UK has always relied on shipping for domestic and international business. Ports have long-been a great facilitator of trade and travel, and many of our great cities have grown up next to riverbanks, waterways and coastal sites thanks to the commerce opportunities linked to waterborne trade, with ports developing to take advantage of the available enterprise.

- 2.2 The role of ports as facilitator of trade and travel continues to this day, but on an ever increasing scale. For example, the equivalent of 4 million containers (TEU¹⁵) move via Felixstowe and 12 million passengers transit Dover per year. Shipping provides important global and domestic links for goods and passengers, and shipping companies in turn rely on ports to load and unload their cargo or travellers and provide an efficient gateway into other markets.
- 2.3 Shipping's role in global trade means ports are a vital component in the international supply chain, and even more so for the nation's economy.
- 2.4 Around 95% of all goods by volume entering and leaving the UK are moved by sea¹⁶, whereas air freight carries less than 1% and rail freight carries just less than 5% under the Channel. There is only one rail connection linking the UK with the continent, which has limited current traffic and is less well suited to shipping goods to markets outside Europe. Whereas air freight might be used for high value or time critical items, the overwhelming volume of our imports and exports of goods are carried, at much lower cost, by ships into and through our ports.



- 2.5 As such the UK port sector has become one of the largest in Europe, handling some 0.5 billion tonnes of freight¹⁷ and 22 million international sea passenger journeys¹⁸ in 2016.

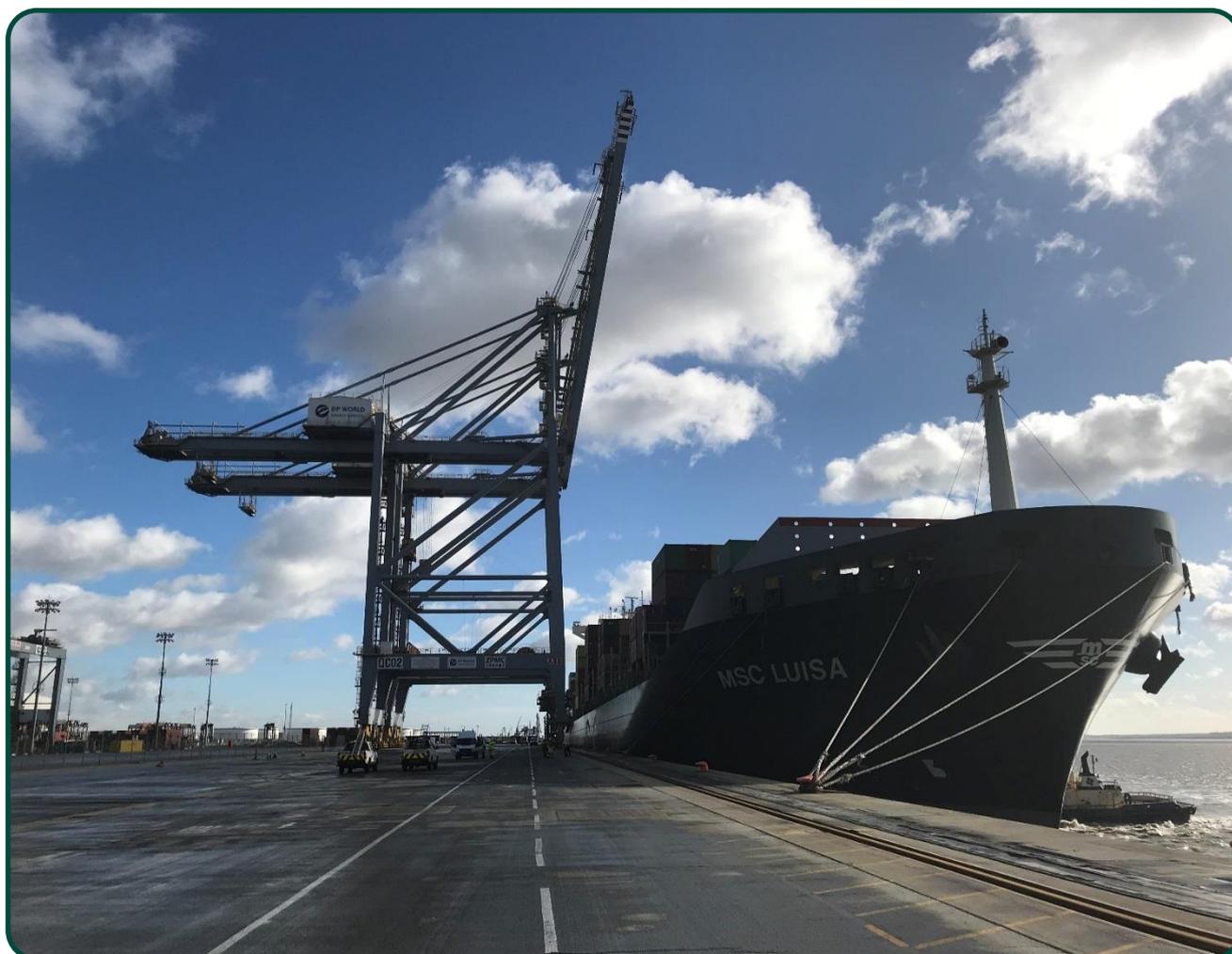
¹⁵ TEU stands for twenty-foot equivalent units, a standardised measure of different sizes of container boxes, e.g. a forty-foot container counts as 2 TEU

¹⁶ (Figure excludes pipeline trade in oil and gas) Maritime Growth Study, Department for Transport, 2015 <https://www.gov.uk/Government/publications/maritime-growth-study-report>

¹⁷ Port Freight Statistics: 2016 (revised), Department for Transport, 2017 <https://www.gov.uk/Government/statistics/port-freight-statistics-2016-final-figures>

¹⁸ Final Sea Passenger Statistics, Department for Transport, 2016 https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/661355/final-sea-passenger-statistics-2016.pdf

- 2.6 There is a degree of uncertainty around the outlook for global trade. However, rapid economic growth in India and China has increased the focus of global trade patterns on Asia, and it is estimated global seaborne trade will double by 2030¹⁹.
- 2.7 Government figures for UK exports and imports²⁰ show that in 2016 the top three commodities, in both export and imports categories, were variously electrical machinery, mechanical machinery and cars - products which are almost exclusively transported by sea.
- 2.8 The remainder of the top 30 commodities listed, including oils, chemicals, beverages, metals, minerals, textiles and clothing are also highly likely to be dependent on maritime transport for their movement.
- 2.9 The port industry is the exit point for the majority of UK exports, as well as the entry point for the majority of our imports such as finished goods destined for retail shelves, or raw materials and parts necessary to supply our manufacturing businesses, which can in turn produce goods for export.
- 2.10 This means the role of ports is an important factor in the overall operation of the economy, and will continue to be a vital function of successful international trade for the foreseeable future.



¹⁹ Maritime Growth Study: Keeping the UK competitive in a global market, 2015
https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/460861/maritime-growth-study-keeping-UK-competitive.pdf

²⁰ UK Trade Data, Top 30 Commodities, tab 15, Office for National Statistics, 2018
<https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/datasets/publicationtablestrade>

Port Connectivity - An Industry Perspective

UKMPG: The Importance of Port Connectivity²¹



The UK Major Ports Group represents most of the larger commercial ports in the UK. Members own and operate over 40 ports, enabling 75% of the UK's physical trade with the world.

UKMPG member's ports are integral links in supply chains for a vast array of UK businesses and make a fundamental impact on our daily lives through the provision of products and food. These ports are also cornerstones of jobs, investment and growth in their regions.

Getting the most for the UK from the £550m annual investment made in its ports by UKMPG members depends greatly on the connectivity of those ports to the rest of the economy. Major ports are true multimodal hubs, bringing together road, rail and waterborne logistics. Therefore, an integrated approach that enables trade is vital not just for major ports but for the UK as a whole.

BPA: The Importance of Port Connectivity²²



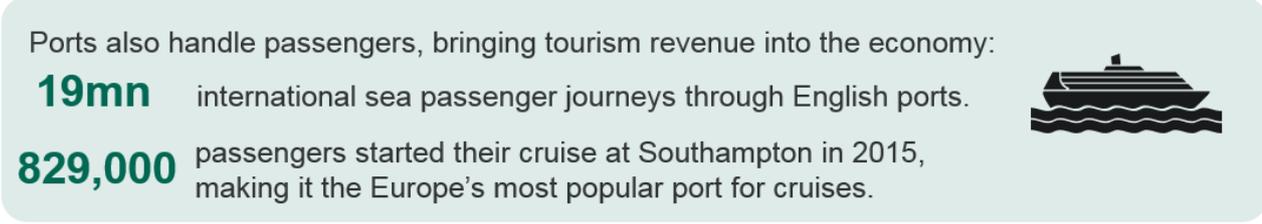
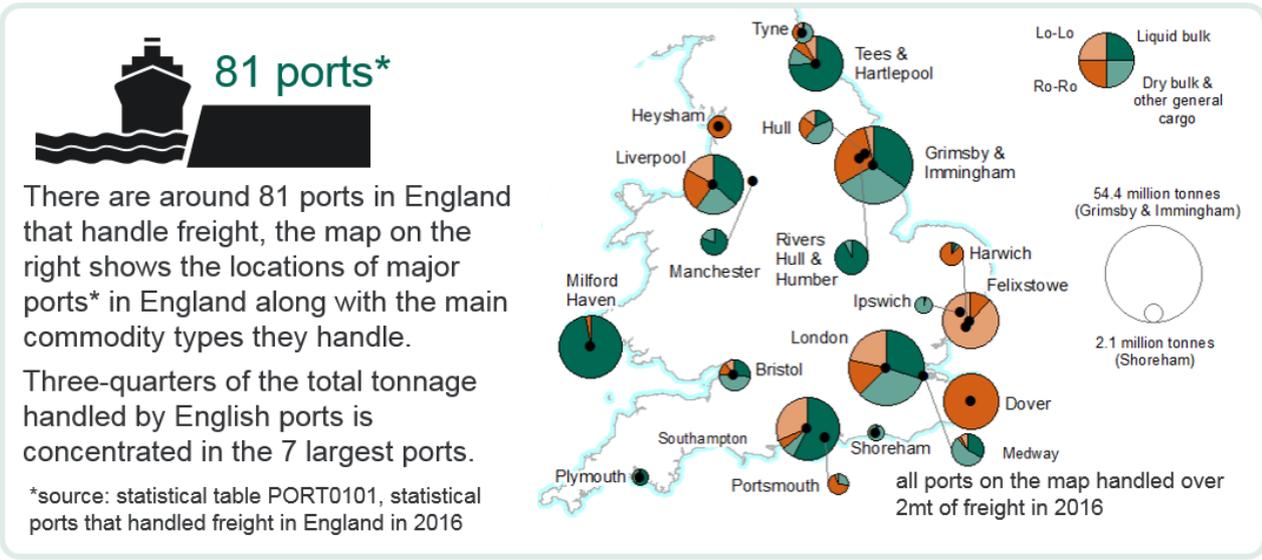
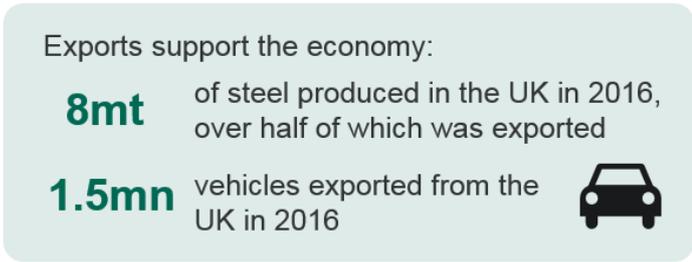
The BPA continues to lobby for increased investment in road and rail infrastructure to better connect ports to their hinterlands. A good transport network and links can keep the ports and logistics sectors competitive and reduce costs for the freight industry. In turn, this lowers costs for traders, hauliers, manufacturers and consumers, who are all reliant on ports for to provide efficient gateways. 95% of UK trade is facilitated through our ports and an efficient supply chain enables the country's businesses to remain competitive.

It is important that the underpinning role the ports industry plays in respect of UK trade is recognised at all levels of decision making, including locally, regionally and nationally. Connectivity is a key factor for all ports and improvements to freight flows can benefit wider business and communities, their regions, as well as the ports themselves. The overwhelming majority of hinterland port traffic is transported on roads and this is particularly important for Ro-Ro ports and terminals and also for smaller ports who are not typically rail connected.

²¹ The views expressed within this 'connectivity snapshot' are that of the identified industry body or business and is not necessarily the view of Government.

²² The views expressed within this 'connectivity snapshot' are that of the identified industry body or business and is not necessarily the view of Government.

Figure 1: Why are ports important?



Changing supply chains

2.11 Ports undertake an important interface role for international trade in bridging the gap between land and sea-based transport legs. This makes our ports a crucial element of wider supply chains and it means they share issues common to the entire logistics chain.

- 2.12 The wider logistics sector as a whole is facing up to the challenge of global supply chains where customers - businesses and the general public - seek more, lower cost, faster, and often more environmentally friendly deliveries.
- 2.13 This expectation applies across the sector, from the public who are increasingly expecting 24 to 48 hours deliveries as the norm, to companies who rely on deliveries arriving at a specific time on a specific day. For example, for reasons of efficiency many major manufacturing businesses only keep enough materials on site to operate for several hours, relying on accurate and regular “Just in Time” deliveries. Many of these deliveries will pass through ports on their journey.



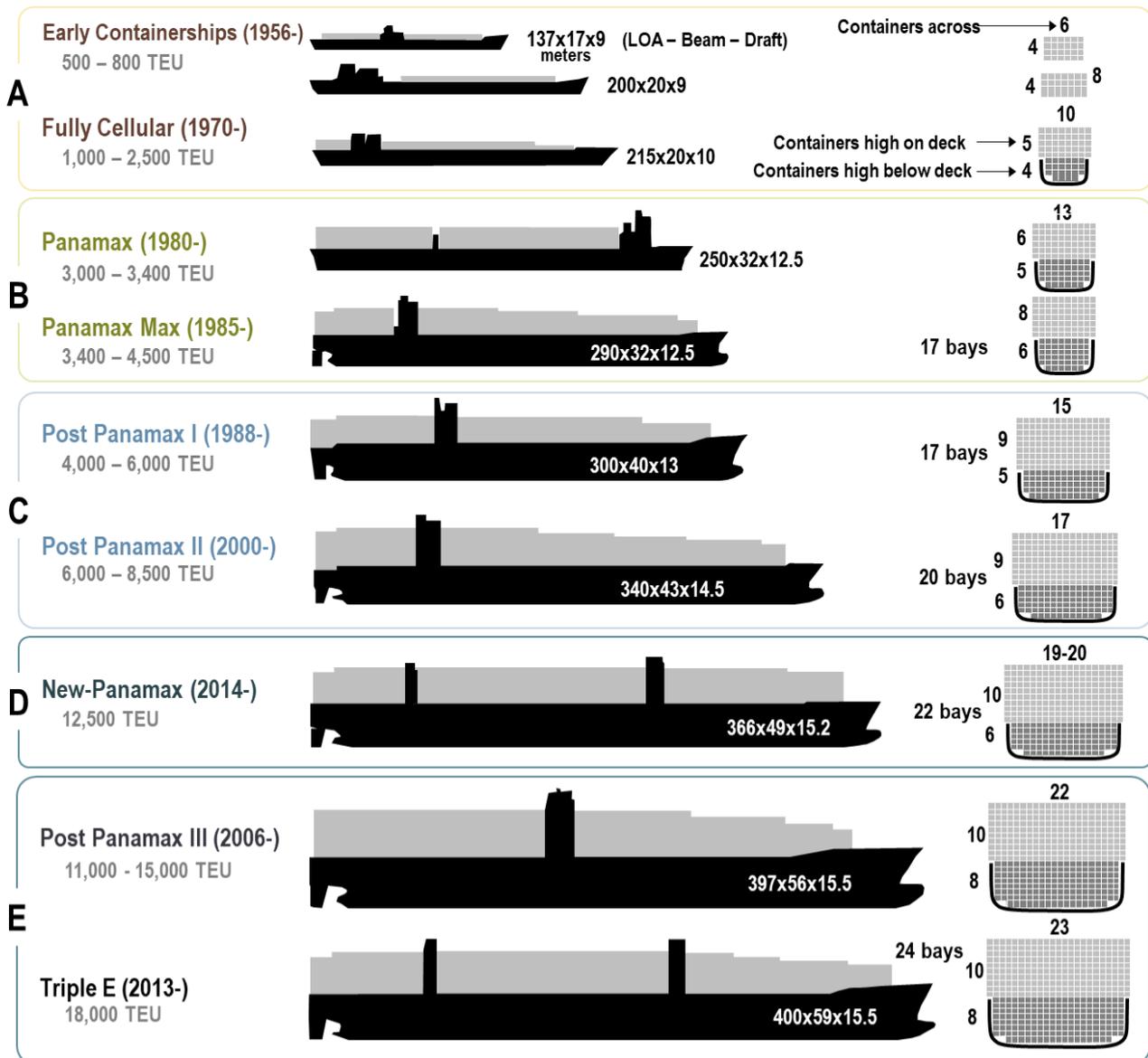
- 2.14 Disruptions and delays are difficult for businesses reliant on ever tighter logistics operations. The entire supply chain ports operate in should be smooth and reliable to meet the demands of a competitive market. If not, the wider industries dependent on ports, and freight, will see impacts such as increased costs, a reduction in competitiveness and decreased productivity compared to global competition. In turn, where inefficiency exists in the supply chain there is a negative impact on the wider economy.
- 2.15 There are also wider changes on the horizon driven by technological advancements and digitalisation. Similarly, shifting international trade patterns could make a fundamental difference to the way people and goods move domestically and globally. The work which the Department is taking forward to identify the long term shape of the maritime sector - Maritime 2050 - will help drive a better understanding of what this means for our ports, how freight is transported by all modes and how a fourth digital industrial revolution might shape the connectivity picture.

The importance of the supply chain - port investments

- 2.16 As consumer and business expectations have changed in recent years, the maritime sector has been quick to adapt and meet their needs. This adaptation can be seen in the increasing size of container ships with vastly improved capacity in recent

decades. The largest container ships now have potential to carry over 21,000 TEU²³ whereas this figure was around 9,000 TEU at the beginning of the millennium. Larger ships create economies of scale, reducing the unit cost of transporting goods.

Figure 2: Evolution container ships (1956 - to present day²⁴)



2.17 With more cargo arriving at the port at any one time, ports have invested to enhance the efficiency of their processes to match the new flow of goods. For example, sophisticated IT systems and vehicles at ports allow for smart container management and movements, integrated with vehicle booking systems to reduce dwell time for trucks. Similarly, and for example at London Gateway, ship to shore cranes can undertake double or quadruple container lifts from vessels, increasing the speed of loading and unloading.

²³ TEU stands for twenty-foot equivalent units, a standardised measure of different sizes of container boxes, e.g. a forty-foot container counts as 2 TEU

²⁴ Evolution of Containerships, Ashar and Rodrigue, 2012, the Geography of Transport Systems. Published with permission from Prof. Jean-Paul Rodrigue. https://transportgeography.org/?page_id=2232.

- 2.18 With support from Network Rail, the Port of Felixstowe has developed its £37 million North Rail Terminal to double its rail capacity, as well as investing in the UK's most sophisticated locomotive traverser²⁵.
- 2.19 The most costly investments being made by ports relate to upgrading quay and berth infrastructure, and providing deep water access in order to accommodate the new physical space requirements of modern megaships.
- 2.20 Changes in distribution methods, both in terms of customer expectations and physical and technological advancements, will have impacts across the logistics chain. The effects will be most evident where the supply chain is most concentrated. For a significant proportion of freight the supply chain is most concentrated in port hinterlands, which have to accommodate the additional demand peaks, volumes, and shorter timescales for distribution across international supply chains.
- 2.21 Those port investments should ensure England and the UK continues to be a key destination for maritime services, despite strong competition. The weak link in the supply chain may therefore arise from hinterland links, so there is a need for continued investment and exploration of alternative funding models to ensure there is appropriate capacity on road and rail networks. Investing in such port connectivity projects can help leverage the overall economic benefits of wider supply chain investments.



²⁵ "Locomotive Traverser at the Port of Felixstowe ." Railway Gazette, 27 July 2013, www.railwaygazette.com/news/single-view/view/locomotive-traverser-at-the-port-of-felixstowe.html.

Figure 3: Examples of English Port's Investment

Port Investments

Examples of investments which have been completed, are underway, or are planned by English ports include:

- **Port of Dover:** Dover Western Docks Revival project - £250 million
- **Port of Tyne:** £30 million on berth enhancements and handling facilities in addition to £21 million spent on infrastructure in 2015
- **Associated British Ports** are in the midst of a £1 billion five year investment programme including:
 - a. **Port of Southampton:** Multi-storey car handling facilities - £50 million
 - b. **Port of Hull & Port of Immingham** - container terminal expansions - £50 million
- **Teesport:** £140 million on the Northern Gateway container terminal on top of £80 million invested over the last 5 years developing, upgrading and enhancing capacity
- **Port of Tilbury** - the port, its customers and tenants are delivering a £1 billion capital investment programme 2012-19, including the new Tilbury 2 terminal
- **Port of Liverpool** - has invested £400 million in Liverpool 2 container terminal and £100 million in biomass silos
- **London Gateway** – total investments in the country's newest port could total £1.5 billion as phases of development are rolled out according to market demand
- **Port of Felixstowe** announced a £200 million investment in 2015 to upgrade its capacity with improved berthing capabilities
- In 2015, **Milford Haven** re-invested £7.3 million back into improving port operations such as construction of the new dock lock
- **Port of Bristol** - new car handling facilities - £20 million - as well as a consented development for a potential £800 million container terminal

Supporting the Economy

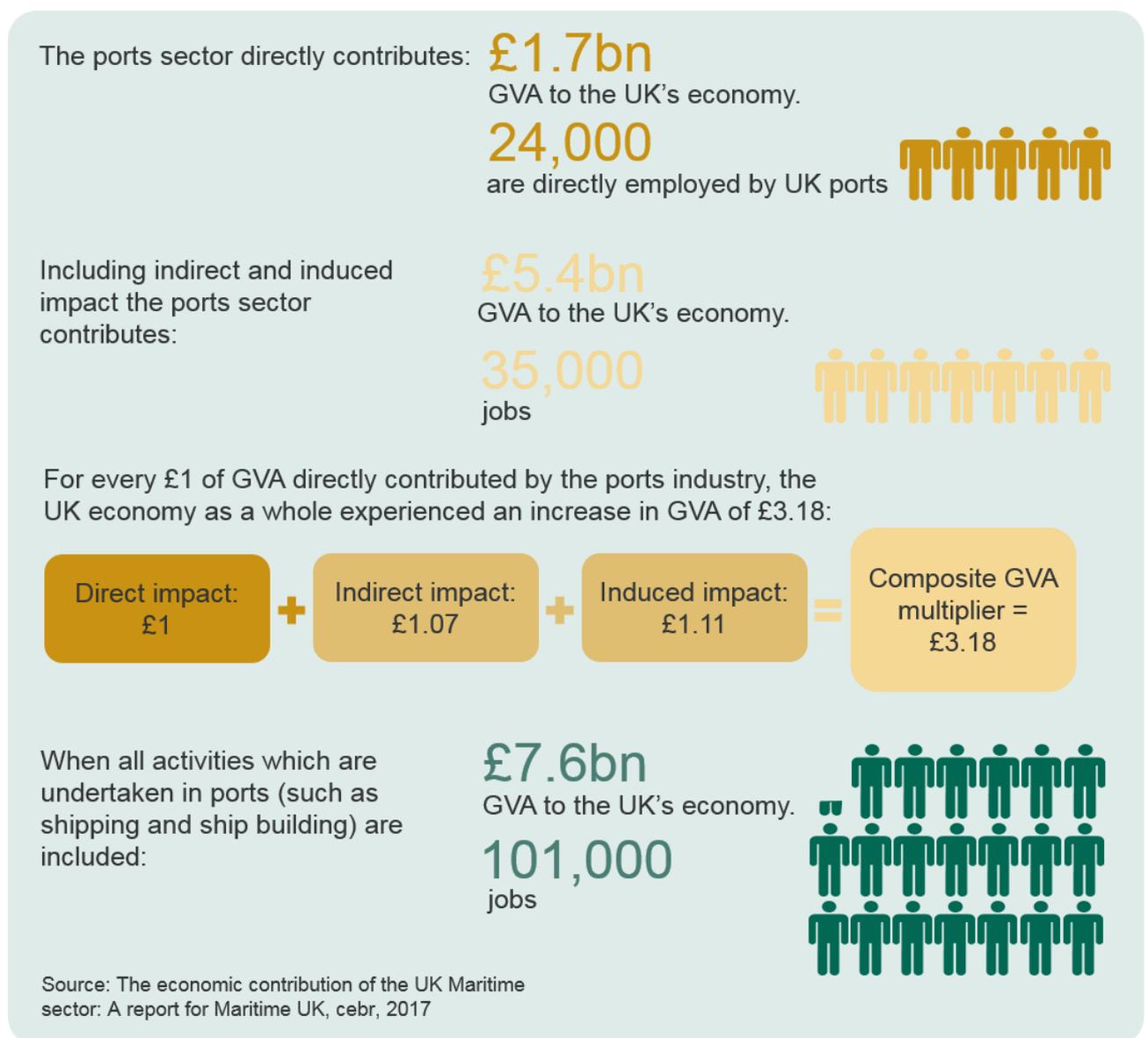
- 2.22 English ports are largely privately owned businesses. Where they are not, they are run on a commercial basis and contribute to the UK economy in their own right²⁶. According to a recent study commissioned by Maritime UK, the direct economic impact of the ports industry on the UK economy in 2015 was £1.7 billion²⁷.
- 2.23 The Maritime UK study also estimated indirect economic impacts, which are the effects of the port industry's spending on its supply chain, which can range from vehicles, to construction, office equipment and business services. These indirect impacts were estimated at £1.8 billion in 2015.

²⁶ Trust Ports and Municipal Ports

²⁷The economic contribution of the UK Maritime sector: A report for Maritime UK, Centre for Economics and Business Research (CEBR), 2017 https://www.maritimeuk.org/documents/183/Cebr_Maritime_Sector_Report_2017.pdf

- 2.24 The other area estimated was induced economic impacts, which is the effect of employees of ports and their suppliers spending their earnings in the wider economy. This was estimated at £1.9 billion.
- 2.25 Once these are all taken into account, the aggregate economic contribution of the port industry is estimated to be £5.4 billion per annum²⁸. When shipping and ship building - activities which rely heavily on ports - are included, this figure rises to £7.6 billion. Many of these economic effects can be expected to be concentrated around coastal areas, which have been found to have higher average levels of deprivation and poorer average health outcomes than non-coastal areas²⁹. Productive private sector activity and employment is key to supporting these communities and the presence of a successful port, with associated business and job opportunities, can be of significant benefit for regional prosperity and growth.

Figure 4: Economic Contribution of the Port Sector



²⁸The economic contribution of the UK Maritime sector: A report for Maritime UK, CEPR, 2017
https://www.maritimeuk.org/documents/183/Cepr_Maritime_Sector_Report_2017.pdf

²⁹ Britain's coastal communities are amongst worst performing areas for earnings, jobs, health and education, Social Market Foundation, 2017 <http://www.smf.co.uk/britains-coastal-communities-amongst-worst-performing-areas-earnings-jobs-health-education/>

Wider economic impacts

- 2.26 Whilst having an important aggregate economic effect in their own right, the catalytic impacts, or wider economic effects of the activities which ports facilitate, are particularly important.
- 2.27 Ports open the UK up to international trade in goods and facilitate domestic business activity. The benefits of these activities are extremely difficult to estimate quantitatively but can be qualitatively described.
- 2.28 By facilitating the movement of goods, ports benefit producers and consumers. Producers who export can access large markets around the world and the efficient movement of their products improves their competitiveness in terms of price and quality of services provided, allowing them to expand their operations.
- 2.29 For consumers, ports allow a greater variety of products to enter the country. This increases consumer choice, and through increased market competition, can lower the price of goods. Ports are therefore a key component in enabling and facilitating global trade. For some business sectors which are largely dependent on ports (see Commodity Corridors below) such access can be a necessity rather than just a benefit.
- 2.30 It has also been recognised that firms who export are more productive than those who do not³⁰. This may be a result of producers being able to work on a larger scale and learn from foreign competitors. Such exposure requires exporting firms to have higher levels of innovation and development to remain competitive.
- 2.31 In addition up to 15% of firms are potential exporters (i.e. firms which do not export but have similar characteristics to firms which do export), and assisting them to export could drive further productivity gains³¹.
- 2.32 Growing exports and UK trade is an important objective of the Government's Industrial Strategy. An efficient port sector assists in providing cost effective and reliable access to global export opportunities, allowing the country's highest performing companies to grow. However, other less efficient elements of the supply chain can potentially negate those benefits.
- 2.33 By facilitating imports, ports provide benefits to firms and consumers who rely on imported goods to do business or consume. This could include anything from cutting edge medical equipment or the latest mobile phones, to bunches of bananas or tonnes of building materials.
- 2.34 This makes us better off overall and also benefits other countries we trade with. Even producers who have entirely UK-based supply chains and customers are exposed to foreign competition, encouraging increased productivity to match their international competitors.
- 2.35 Successful ports also attract other businesses to locate nearby:
- either directly on the port site by having suitable industrial and commercial land available for use and/or development; or,
 - by being attractive to linked industries, who benefit from short journeys between their site and the port, and also from the port's hinterland connections.

³⁰ Unlocking Regional Growth: Understanding the Drivers of Productivity Across the UK's regions and Nations, Confederation of British Industry, p9

<http://www.cbi.org.uk/news/unlocking-regional-growth1/>

³¹ Ibid, p43

Port Connectivity - An Industry Perspective

Road Haulage Association: The Importance of Port Connectivity³²



"Connectivity to ports is vital for many of our members. Major strategic roads such as the M6, M1 and the M25 are fundamental to the ability of businesses to connect to ports – even if they are hundreds of miles from the ports themselves – and, while generally there are good connections on the wider road network, port connectivity is impacted by network congestion.

This congestion leads to delays, meaning our members are less efficient and productive than they would otherwise be. For example, a more resilient road network would mean an increase in the number of journeys and distance which could be travelled within statutory hours. Increased costs as a result of congestion are passed onto customers and consumers, reducing UK PLC's competitiveness. Connectivity means more than just road access to or from the port. It includes the supporting infrastructure en-route, such as access to parking and rest areas at the port, so drivers are able to take statutory rest breaks and wait for scheduled departures."

Drax Power: The Importance of Port Connectivity³³



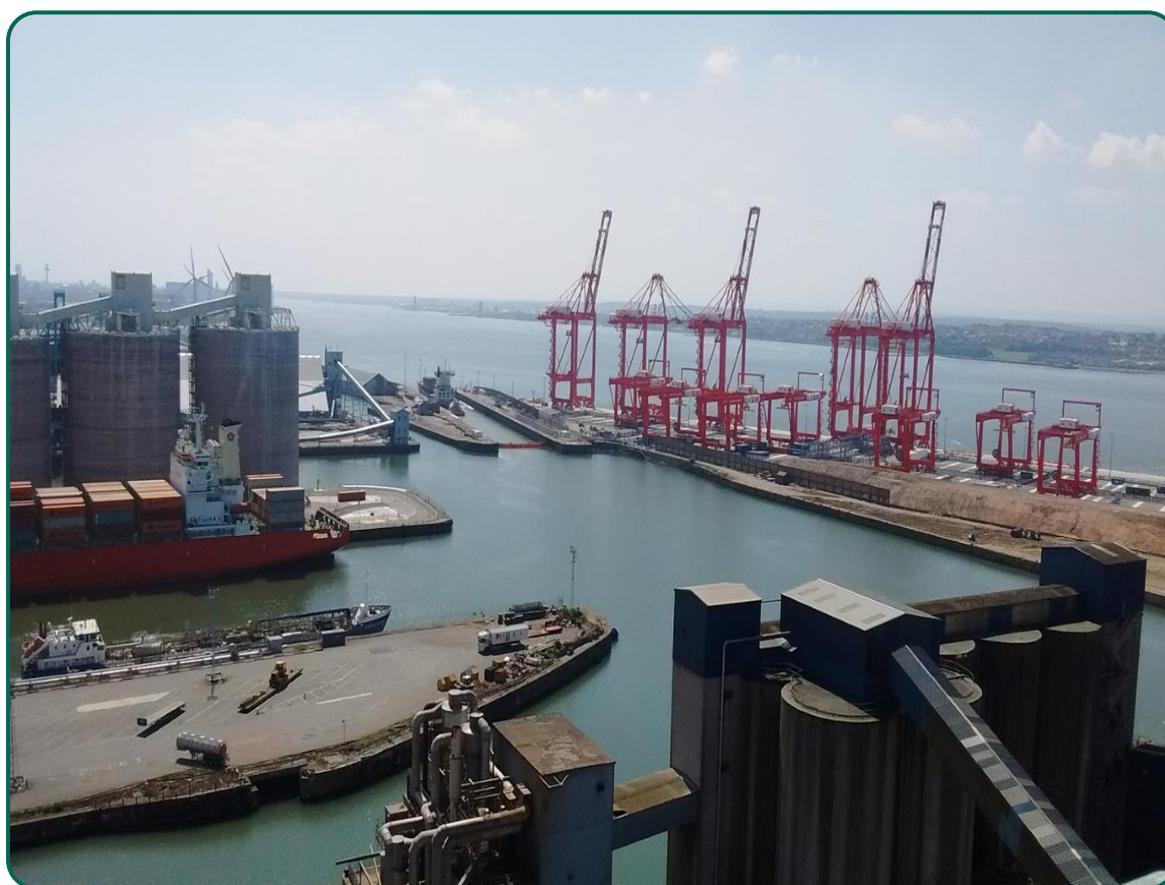
"Businesses need efficient access to ports to maximise international trade and enjoy the benefits of cost-effective supply chains.

Drax has recently made significant upgrades to the power station in Yorkshire – now the UK's largest single renewable power generator – which can produce enough renewable electricity for 4 million households.

However, this energy production relies on being able to develop efficient supply chains able to deliver the fuel on time to the power station. A key part of these supply chains are the ports – Immingham, Hull, Tyne and Liverpool – who have all made significant investment in reception, storage and handling facilities for biomass imported to the UK. But connectivity on inland transport networks, namely by rail, is equally important to ensure costs of energy production are kept low.

While cost is important, environmental impacts and air quality are also a priority for Drax. Efficient connectivity to ports supports cost reductions whilst also driving air quality and carbon emissions improvement through the supply chain."

- 2.36 In particular we see clusters of industries, such as logistics, distribution, warehousing, heavy industry, manufacturing and internationally trading firms, operating on or near ports. For example, in the North of England there is a distinct clustering of advanced manufacturing near northern ports³⁴.
- 2.37 The retail and logistics sectors also benefit by a clustering on or around ports – an activity known as port-centric distribution – where the close location allows for swift processing of cargoes for distribution. Clustering also removes a leg from supply chains where the goods would otherwise have travelled inland for processing. This is better for overall congestion levels and the environment – but not necessarily in the immediate port hinterlands where traffic is initially focussed.
- 2.38 These clusters not only support jobs in the regional economies around ports but can also improve local productivity through what is known as “agglomeration effects”, where firms located close to each other can learn from one another and find it easier to recruit staff with the specific skills required.
- 2.39 A successful port which is innovative and provides value-added functions to wider industries is therefore an important economic asset on a regional and national level. However, effective transport access to these port sites, whether for freight or employees, is also an important part of the attractiveness to wider business.



³² The views expressed within this 'connectivity snapshot' are those of the identified industry body or business and are not necessarily the view of Government.

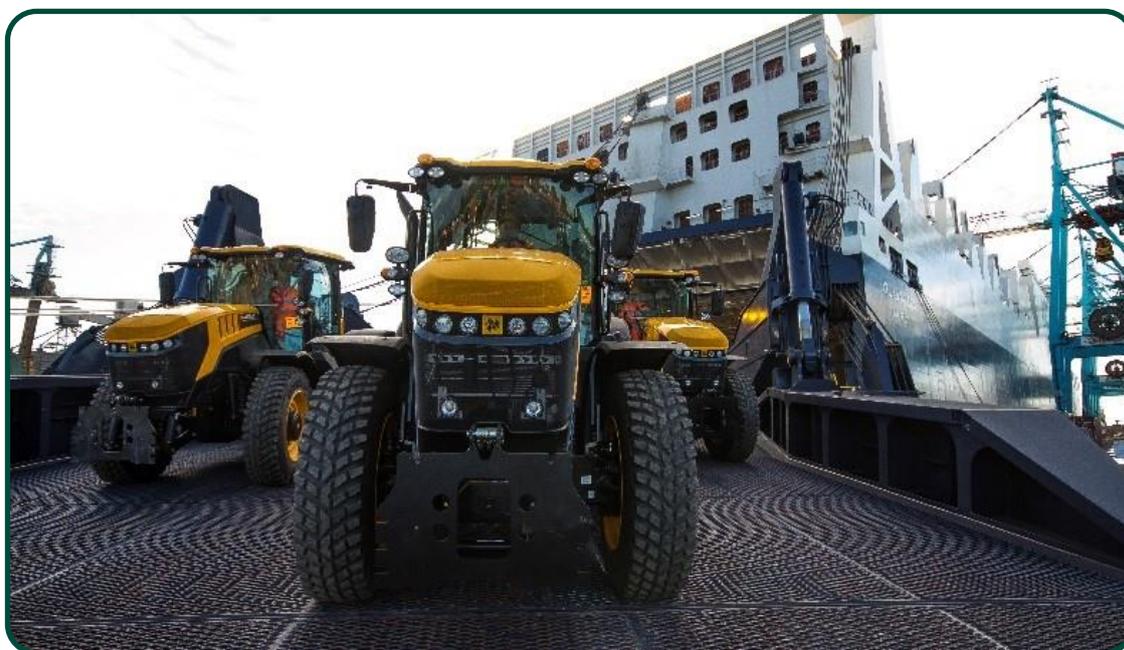
³³ The views expressed within this 'connectivity snapshot' are those of the identified industry body or business and are not necessarily the view of Government.

³⁴ The Northern Powerhouse Independent Economic Review, Final Executive Summary Report, Figure B1, Annex B, 2016 <http://www.transportforthenorth.com/wp-content/uploads/Northern-Powerhouse-Independent-Economic-Review-Executive-Summary.pdf>

- 2.40 Foreign direct investment (FDI) also supports job creation, productivity growth, and allows domestic businesses to learn from high-performing international firms.
- 2.41 A number of the UK's largest port groups are partly or wholly owned by overseas interests and due to the level of inward investment a number of these companies benefit from direct ministerial interaction as part of the Government's Strategic Relationship Programme.
- 2.42 Furthermore a recent survey of investors by EY highlighted the UK would be more attractive to foreign investors if it delivered improved infrastructure, including road and rail³⁵. This highlights an important link about the relationship between the attractiveness of investment and the quality of transport and logistics infrastructure³⁶.

Opportunities for growth – the Industrial Strategy

- 2.43 The Industrial Strategy sets a new policy direction for critical parts of the economy under five key themes: business environment, ideas, infrastructure, people and place. It sets ambitions for improving productivity, making the most of export potential, and putting the UK at the forefront of the global high-tech revolution.
- 2.44 In doing so it has highlighted core industries as driving trade and investment, cultivating world-leading sectors, and delivering affordable energy and clean growth. These include the automotive, food and drink, farming, steel, construction, and advanced manufacturing sectors.
- 2.45 A number of these sectors are linked closely to the ports industry. Therefore a successful port industry, and improved freight connectivity to ports, are potentially important enablers in delivering the Industrial Strategy objectives for these sectors. We consider this support for various commodity corridors in the next section.



Commodity Corridors

- 2.46 As well as identifying these key industrial sectors linked to ports, we have also sought to illustrate the key corridors to and from our ports for the various

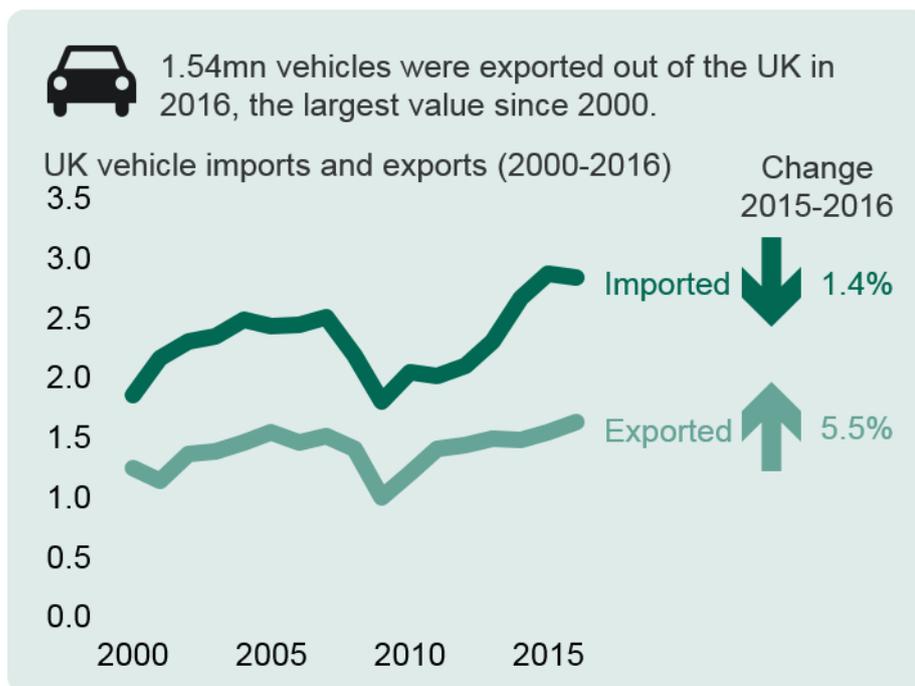
³⁵ UK Attractiveness Survey, EY, 2017 [http://www.ey.com/Publication/vwLUAssets/2017-UK-Attractiveness-Survey/\\$FILE/EY-UK-Attractiveness-Survey-2017.pdf](http://www.ey.com/Publication/vwLUAssets/2017-UK-Attractiveness-Survey/$FILE/EY-UK-Attractiveness-Survey-2017.pdf)

³⁶ European Attractiveness Survey, EY, 2015 [http://www.ey.com/Publication/vwLUAssets/EY-european-attractiveness-survey-2015/\\$FILE/EY-european-attractiveness-survey-2015.pdf](http://www.ey.com/Publication/vwLUAssets/EY-european-attractiveness-survey-2015/$FILE/EY-european-attractiveness-survey-2015.pdf)

commodities associated with these industries. Developing more detailed corridor analysis (economic and trade corridors), based on improved data, will be taken forward as part of the implementation of this Study's recommendation.

2.47 **Automotive:** 1.54 million motor vehicles were exported from the UK by sea in 2016³⁷, and ports such as Southampton and Tyne have expertise in handling vehicles for import and export using specialised car carrier ships.

Figure 5: UK vehicle imports and exports (2000 - 2016)



2.48 In addition to moving finished vehicles to customers, the automotive sector has huge international supply chains. For example:

- The crankshaft used in the BMW Mini crosses the Channel three to four times before the finished car rolls off the production line in Oxford and is sold.
- Toyota has component parts arriving daily from the EU, Turkey and Japan, vehicle imports via the port of Bristol and exports departing from the port of Grimsby;
- The Honda factory in Swindon relies on two million components every day, carried on 350 trucks using both the Eurotunnel and the port of Dover³⁸.
- Jaguar Land Rover's three UK vehicle plants produced 544,401 cars in 2016, 80% of which were exported to 136 markets. 435,520 of these needed to be transported to ports for export, equivalent to 1193 vehicles per day.

2.49 These manufacturing operations operate on a 'Just in Time' basis, only holding minimum amounts of materials in the factory (even as little as a few hours' stock) which helps these type of manufacturers to reduce cost and waste to be more

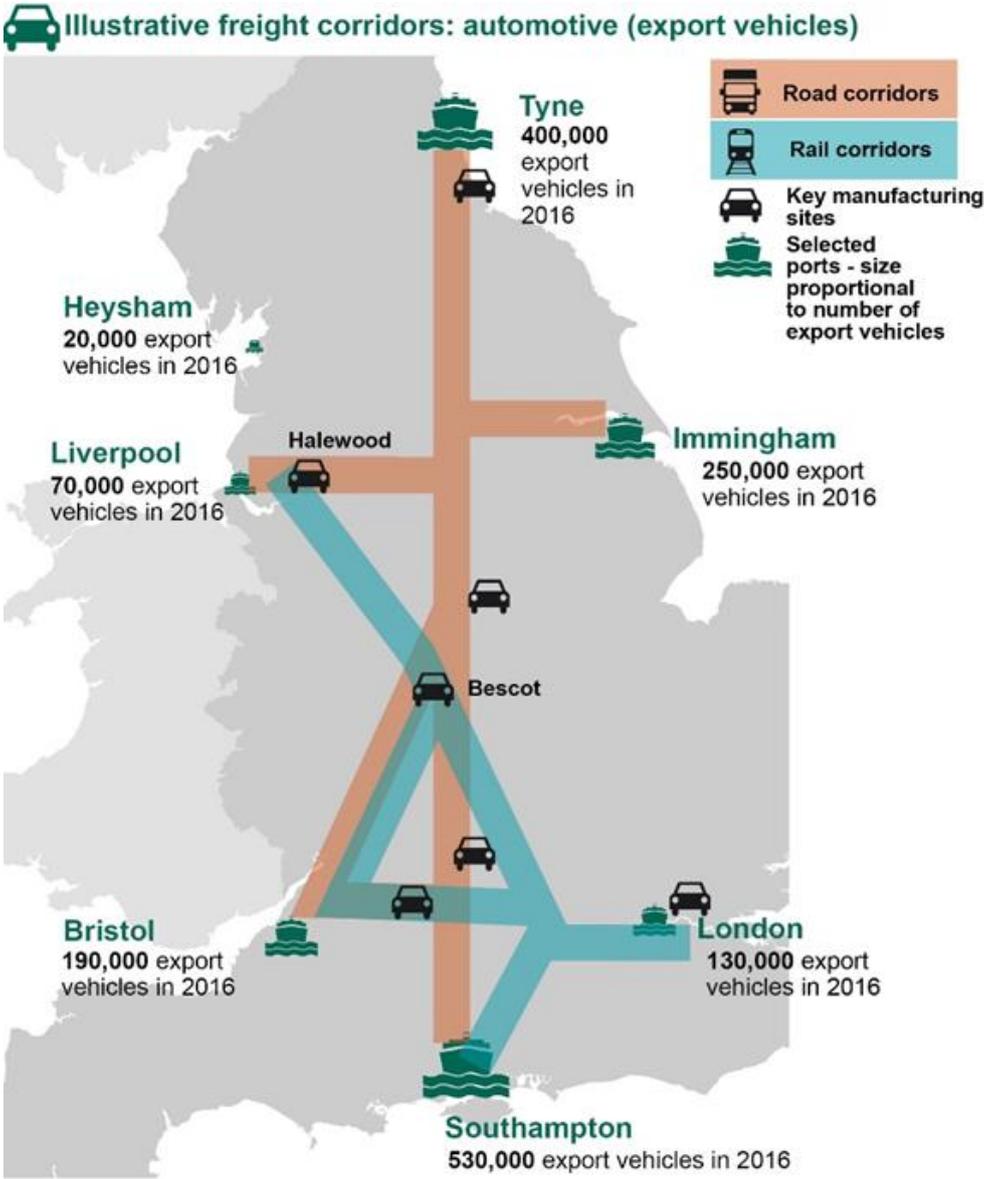
³⁷ Port Freight Statistics: 2016 (revised), table PORT0212, Department for Transport <https://www.gov.uk/government/statistics/port-freight-statistics-2016-final-figures>

³⁸ Business, Energy and Industrial Strategy Committee, 14 November 2017, HC 379, Question 61 http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/business-energy-and-industrial-strategy-committee/leaving-the-eu-implications-for-the-automotive-industry/oral/73855.html?sm_byp=iVVRDFHZ5H1NvQFr

productive and more competitive. Any delay or disruption to these supply chains can severely impact the factory operations.

2.50 This industry, responsible for over £35bn in UK exports³⁹, moves finished vehicles around the country by road and rail in order to meet the ships taking them to their end destinations around the world. These ships may not be calling at the port most closely located for the factory, so the vehicles might be moved significant distances around the UK. Efficient hinterland links, for example the A34 from the Midlands to Southampton, allows for cost effective transport of these vehicles to the point of export and are a vital part of providing a competitive product.

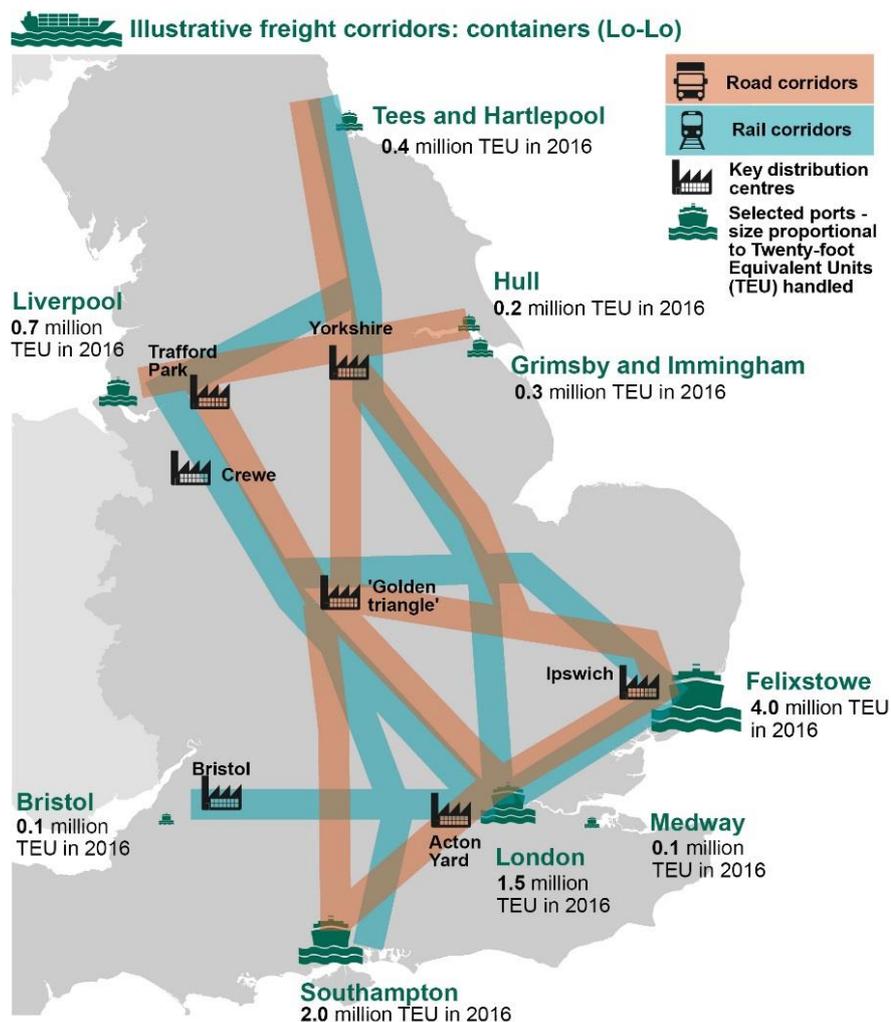
Figure 6: Connectivity Corridors - Automotive (Road and Rail)



³⁹ Trade in Goods (SITC 78, 2016), MRETS, Office for National Statistics, 2016
<https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/datasets/tradingoodsmretsallbopeu2013timeseriesspreadsheet>

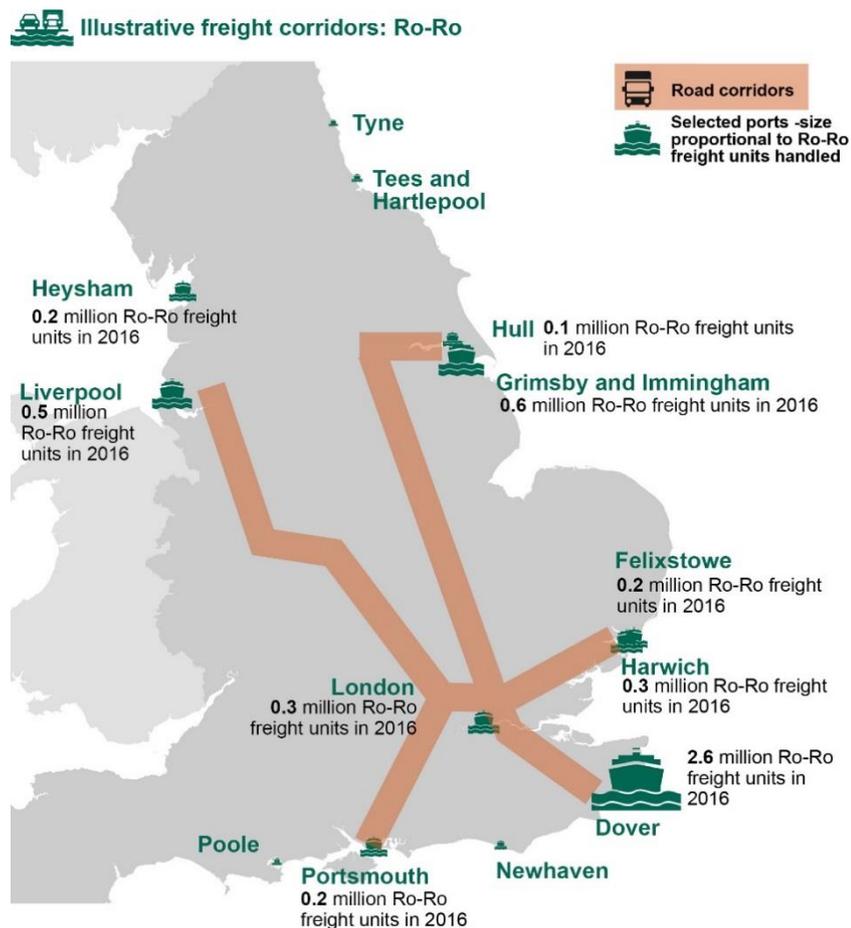
- 2.51 **Food and Drink:** 48% of food in the UK was imported in 2015⁴⁰ whilst UK food and drink exports were around £20.1 billion in 2016. Ports support the sector in a number of ways. For example, roll-on roll-off (Ro-Ro) ferry services provide swift links to continental Europe for imports of fresh fruit and vegetables; our deep-sea ports export containers of whisky and other food products all over the world; and cereals move in both directions depending on harvest and usage.
- 2.52 Ports also add value to the agri-food supply chain by providing storage and distribution facilities for fertiliser, such as in Immingham, or investments in a temperature-controlled handling like the £25 million investment at the Port of Tilbury to support chilled food logistics. The recent development at Tilbury allows refrigerated (reefer) containers entering the port to be immediately unloaded, sorted, and re-packed before onward distribution, thus cutting “food miles” to inland distribution centres.
- 2.53 Food and drink will generally be moved in containers or by an HGV crossing the sea in a Ro-Ro ferry, linking up with distribution centres around the country. Dependent on the product being moved, particularly perishable goods, the ability to move to and from a port in a cost-effective (to maintain low unit cost) and timely (to preserve usability) manner are key factors of the supply chain.

Figure 7: Connectivity Corridors - containers (Road and Rail)



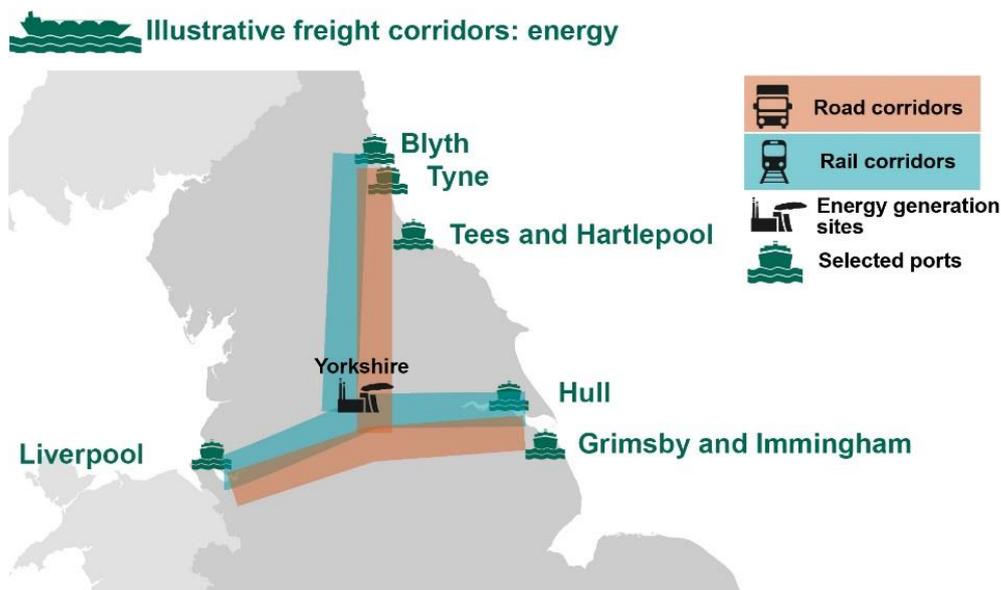
⁴⁰Food Statistics Pocketbook, Department for Environment, Food & Rural Affairs, 2016, p22
https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/608426/foodpocketbook-2016report-rev-12apr17.pdf

Figure 8: Connectivity Corridors - Ro-Ro (Road Only)



- 2.54 **Energy and Renewables:** Ports play a key role in the energy sector transporting renewable energy and traditional fossil fuels. Oil and gas products make up much of the 191 million tonnes of liquid bulks handled by UK ports in 2016. Much of this has a destination or origin of a refinery or processing plant - a number of which are located near ports.
- 2.55 A significant amount of liquid bulk is transported inland via pipelines, but there are often regional distribution networks near to bulk liquid storage sites which can be used by road tankers to transport the product. Hinterland connectivity is often an issue for these tankers.
- 2.56 Renewable energy sectors, such as offshore wind, are also linked closely to the port industry. The port industry offers support functions, or even manufacturing capability, such as the £310 million Siemens factory at the Port of Hull. Port access will be an issue for their supply chains and their employees.
- 2.57 However, the main interaction between ports, the energy sector, and connectivity is in the transportation of biomass which is increasingly replacing coal in electricity production. Key biomass supply chains link northern ports - Immingham, Hull, Liverpool and Tyne - to Drax and Lynemouth power stations by rail.

Figure 9: Connectivity Corridors - Rail and Road



2.58 **Steel:** The UK produced some 8 million tonnes of steel in 2016. Over half of this was exported. The raw materials required for operations, and the need to export heavy finished products has attracted steel producers such as British Steel’s Teesside Sections Mill to locate near ports in order to benefit from easy connections to both ports and their hinterland transport networks. Rail freight is key for domestic distribution of steel. Ports such as Liverpool and Hull have invested in state of the art steel handling facilities.

2.59 **Chemicals and Pharmaceuticals:** The wider chemical and pharmaceutical sector (manufacturing plus distribution) is the UK’s largest exporter of manufactured goods with annual exports of close to £50 billion and 63% of companies in the sector are exporters⁴¹.

2.60 Ports play a key role in importing and storing the raw materials necessary for chemical production, with a number of chemical plants siting on or adjacent to port facilities. Of course, wherever the producer is sited, bulk exports of chemical or pharmaceutical products are most likely to take place by sea, with ports acting as the key gateway to these global markets and thus requiring effective, efficient hinterland access.

2.61 **Construction:** Ports play a key role in both the import and export of construction materials including timber and aggregates. Ports act as a conduit for the movement of construction goods and are an important part of the value-added process, as is the case for sea dredged aggregates. Over £15 billion worth of construction materials were imported in 2016, of which over £240 million were raw materials such as stone and sand⁴².

⁴¹ 'Chemical industry supports Government's approach on goods availability', Chemical Industries Association, 21 August 2017 <https://www.cia.org.uk/news/details/Chemical-industry-supports-Governments-approach-on-goods-availability>

⁴² Monthly Statistics of Building Materials and Components, Department for Business, Energy & Industrial Strategy, November 2017 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/664628/17-cs12-Construction_Building_Materials_-_Bulletin_November_2017.pdf

2.62 **The services sector** is now the largest part of the UK economy, accounting for 79% of the UK's GDP⁴³. Key inputs into delivering these services, such as IT equipment, foodstuffs, vehicles, and tools will generally have come through a port.

Successful ports – leveraging the benefits of competitive ports through hinterland connectivity

2.63 Successful ports have both direct and wider catalytic economic benefits. To access those benefits fully, there are broadly three main factors⁴⁴ which need to exist to enable competitive and successful ports:

- Good maritime connectivity;
- Efficient port operations; and
- Effective hinterland connections.

2.64 These three conditions are also vital components of a cost-effective wider supply chain.

2.65 Maritime connectivity is largely decided between shipping companies and ports, who make commercial decisions based on where to operate shipping services.

2.66 Port operations and decisions relating to effectiveness are the responsibility of the port operators and are run on a commercial basis, without funding and systematic government intervention. Their recent investments (See figure 3) serve to decrease international transport costs⁴⁵, which impacts on the competitiveness of goods for export and decreases the costs of imports.

2.67 However, of the various factors influencing the competitiveness of a port, the quality of its hinterland links is one of the most critical⁴⁶. Connectivity is therefore a vital component of a port's success and the level of economic benefits a port's activity can confer.



⁴³ Economic output and productivity, Index of Services, Office for National Statistics, 2017
<https://www.ons.gov.uk/economy/economicoutputandproductivity/output/bulletins/indexofservices/september2017>

⁴⁴ Merk, Olaf: The Competitiveness of Global Port-Cities: Synthesis Report, The Organisation for Economic Co-operation and Development OECD the competitiveness of Global Port Cities
<https://www.oecd.org/cfe/regional-policy/Competitiveness-of-Global-Port-Cities-Synthesis-Report.pdf>

⁴⁵ Wilmsmeier, Gordan; Hoffman, Jan; Sanchez, Ricardo J.: The Impact of Port Characteristics on International Maritime Transport Costs; *Research in Transport Economics*, 2006, vol 16, issue 1, 117-140

⁴⁶ ITF (2015), Port Investment and Container Shipping Markets, OECD Publishing, Paris, 2015
<http://dx.doi.org/10.1787/9789282107850-en>

- 2.68 Hinterland connectivity has traditionally been the role of government at national, regional and local levels but there may be changes to this approach in future. There is opportunity and ambition, to explore alternative funding models and to be more innovative in leveraging private investment in our transport network. Infrastructure can provide an attractive and stable return for private sector investors and government will seek to unlock opportunities for private finance where doing so can make projects more affordable, better value for money, or easier to deliver.
- 2.69 The responsibility for ensuring ports are connected to the existing national networks, and that those networks are able to handle the road and rail traffic generated⁴⁷ requires input from government and industry in design, development and funding. Public sector responsibility also extends to managing those networks, through its delivery bodies, and maintaining the infrastructure as necessary.
- 2.70 Whilst access to ports has always been an important issue, it is clear within modern logistics practices even more emphasis is being placed on the effectiveness of hinterland connectivity for the following reasons⁴⁸:
- The tightening of logistical schedules due to compressed stock levels and order times, making supply chains more vulnerable to delays;
 - The rapid growth in container traffic;
 - The increase in size of the container vessels causes peaks and congestion in hinterland networks;
 - The consolidation of production and storage in few locations/routes for economies of scale;
 - Longer duration maritime legs due to “slow-steaming” means a focus on the speed and reliability of hinterland transport to maintain production and distribution schedules;
 - The changing proportion of costs between sea and inland transport – with the latter increasing due to the improved economies of scale on the maritime leg.
- 2.71 On this basis hinterland links of a supply chain now form a disproportionate part of their vulnerability to disruption and cost, due to compressed timescales of modern logistics. It is also estimated inland transport costs are between 40 - 80% of total container shipping costs⁴⁹ and up to a factor of 30 times more per unit/distance than the nautical leg. This is in addition to the cost of any delays on the hinterland link. However the fluidity of hinterland journeys can assist the supply chain, and avoid negative effects on productivity for freight operators and their customers.
- 2.72 It is clear efficient hinterland links and fluid movement of freight from port is an important factor in the success of ports themselves and essential in releasing the catalytic benefits ports provide more widely for the economy.
- 2.73 In particular, the impacts on productivity and competitiveness will be most pronounced for businesses and commodity types reliant on hinterland links to facilitate their imports and exports⁵⁰.

⁴⁷ Transport Investment Strategy, Department for Transport, 2017

https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/624990/transport-investment-strategy-web.pdf

⁴⁸ ITF (2015), Port Investment and Container Shipping Markets, OECD Publishing, Paris, 2015

<http://dx.doi.org/10.1787/9789282107850-en>

⁴⁹ ITF (2015), Port Investment and Container Shipping Markets, OECD Publishing, Paris, 2015

<http://dx.doi.org/10.1787/9789282107850-en>

⁵⁰ The Road To Growth: Our Strategic Economic Growth Plan, Highways England, 2016, p19

<https://www.gov.uk/guidance/highways-england-supporting-growth>

- 2.74 Highways England economic forecasts for sectors which are reliant on the road network show concentrations of growth will potentially continue to be clustered around the Strategic Road Network (SRN) and international gateways⁵¹. This demonstrates a likely reliance on the SRN to provide high-quality transport connectivity along hinterland links, to and from centres of economic activity.
- 2.75 The Freight Transport Association, which represent logistics companies and other road-reliant businesses, estimates the costs of congestion to operators of heavy goods vehicles is £1 per minute, costs which could be difficult to absorb given logistics firms' relatively low profit margins⁵².
- 2.76 Furthermore, there is evidence the wider business community also agrees with the assessment of port connectivity being an important factor in facilitating trade. The Confederation of British Industry's (CBI) survey (2017) highlighted 96% of businesses think improving road and rail access to ports to increase the UK's capacity and capability to trade internationally is either critical (45%) or important (49%)⁵³.
- 2.77 The economic benefits of competitive ports are clear:
- They provide employment at a local and regional level, but also support employment in other sectors nationwide.
 - They act as conduits to global markets, providing trade and manufacturing opportunities for UK businesses.
 - Efficient, well-run ports with appropriate capacity lower the cost of trade, enhance the speed of distribution, and provide value added services with environmental benefits such as port-centric distribution.
 - They provide clustering effects for maritime and traditional heavy industry, but also advanced manufacturing, clean energy and logistics. Such clustering offers potential for innovation and skills growth.
 - Ports have significant direct and aggregate impacts on the economy as well as providing clear catalytic and enabling effects on wider industry. Many of the resultant impacts are closely aligned with objectives, and the sectors, highlighted in the Government's Industrial Strategy.
 - Ports and other parts of the supply chain have invested heavily in the efficiency of their operations and infrastructure.
 - Hinterland connections have the potential to be a weak link in the supply chain, which can constrain the success of ports and the wider economic benefits they can enable.

Beyond the economic benefits - amenity and the environment

- 2.78 Other road and rail users can also benefit from improved hinterland connectivity through reduced congestion and shorter journey times, particularly if it addresses or alleviates congestion at major pinch points and bottlenecks. Shorter journey times free up road and rail users' time to do more productive or enjoyable activities than travelling.

⁵¹ Ibid, p20 <https://www.gov.uk/guidance/highways-england-supporting-growth>

⁵² Logistics Report 2017, Freight Transport Association, p64 http://www.fta.co.uk/export/sites/fta/_t/2017/logistics-report-2017.pdf

⁵³ Foundations for Growth, CBI/AECOME Infrastructure Survey 2017, 2017, p25

<http://www.cbi.org.uk/index.cfm/?api/render/file/?method=inline&fileID=69D441DD-8751-4BDE-863F3606CA132E6E>

- 2.79 As such there may be benefits from taking an overarching cross-modal approach to consider the strengths of different transport modes in a given location. In doing so this can identify how they can complement, or substitute for each other, or avoid duplication of resources. For example, investing in rail freight capacity might reduce road congestion in an area.
- 2.80 Reducing congestion on key routes to and from ports would also reduce harmful emissions from vehicles. On the roads, stop-start traffic produces several times more harmful emissions than free-flowing traffic travelling the same distance⁵⁴. Reducing emissions, particularly in city and urban locations, is becoming a priority issue and many local authorities are undertaking air quality initiatives to tackle this.
- 2.81 Where such urban areas intersect with high volumes of freight traffic - for example on approaches to ports co-located with a city, then HGV emissions can be a key contributor to air quality issues.
- 2.82 Ports are and should continue to constructively engage with any air quality initiatives in their area and, where they potentially have an ability to influence external emissions - for example influencing traffic patterns at peak times via vehicle booking systems - these can be used to complement other air quality initiatives.
- 2.83 Ports are also considering shipping emissions in the context of air quality, both in terms of the emissions produced by ships that operate within the port and those from vessels calling at the port.
- 2.84 A number of ports are already actively pursuing infrastructure improvements or green conversancy schemes - for example the Port of London Authority's draft Air Quality Strategy⁵⁵ to address air quality on the tidal Thames - to support or incentivise greener ships. Ships often rely on port facilities to provide alternative fuels but ports rely on ships installing the technology to make provision of such fuels commercially viable.
- 2.85 Some of these technologies are well established (liquid natural gas, cold ironing and synthetic fuels) while others (hydrogen, electric batteries and hybrid solutions) are currently being trialled, although only in small scale projects.
- 2.86 Ports and port authorities are being encouraged to work in tandem with customers, central government and local authorities to explore what abatement measures are the most appropriate and viable.
- 2.87 In this context it should be noted ports are not the direct cause of emissions, nor do they generate the wider freight demand being served by the freight industry. They are, however, a conduit for the derived demand of the wider economy, and the needs of businesses and consumers. Ports do therefore have a role to play in reducing transport emissions, by actively engaging with emission reduction initiatives and committing to the development of effective plans to improve air quality.
- 2.88 Some of the options open to authorities are conducive to both lessening emissions and benefitting port access. Investment in infrastructure enhancements to reduce congestion and improve traffic fluidity, can mitigate the impacts of stop-start freight movements on both emissions and connectivity.
- 2.89 An option being considered by some authorities is emissions charging zones to encourage the use of more environmentally friendly vehicles on these routes. While this is directly tackling the source of the air quality issue - "the polluter pays" principle

⁵⁴ Logistics Report 2017, Freight Transport Association, 2017 <http://www.fta.co.uk/export/sites/fta/t/2017/logistics-report-2017.pdf>

⁵⁵ Port of London Authority - Draft Air Quality Strategy for the Tidal Thames - <https://www.pla.co.uk/assets/airqualitymaindoc051217.pdf>

- there are secondary effects, potentially detrimental to port interests which could follow such an intervention.

- 2.90 Ports operate in a highly competitive market and interventions to reduce emissions may feasibly impact on their business, placing the port at a disadvantage. Government is mindful of this possible economic effect and the need to achieve balance between commercial viability and wider environmental commitments to emission reduction and air quality improvements at a national level.
- 2.91 Another option for tackling freight emissions on routes to ports is to shift the traffic to rail. The DfT Rail Freight Strategy highlights rail freight has real potential to contribute to reducing UK emissions by reducing lorry miles and this modal shift could benefit areas seeking to improve air quality - for each tonne of freight transported by rail reduces carbon emissions by 76 per cent compared to road and each freight train removes 43 to 76 lorries from the roads⁵⁶.
- 2.92 A research paper published alongside the Strategy sets out a number of options available - both infrastructure and non-infrastructure based - to improve the rail network's capacity and capability to carry greater volumes, as well as identifying factors which impact the ability of rail to compete against road. These limitations cover the physical capacity of the network, but also extend to the operational environment. For instance many freight train paths are suboptimal, which reduces average speeds, impacts on asset utilisation and increases fuel consumption - and thus emissions⁵⁷.
- 2.93 It is clear rail freight can provide an emissions friendly alternative transport mode for port freight, but to move greater volumes by rail would require investment in capacity and operations. The department is mindful of this and continues to consider the needs for rail freight as part of the next investment planning cycle, Control Period 6 (CP6).
- 2.94 Similarly, the Campaign for Better Transport recently undertook research for DfT to consider the feasibility of modal shift from HGVs to rail, to reduce road congestion, on key strategic corridors⁵⁸. The research considered a number of routes, including the Felixstowe and Southampton corridors to understand the possibility of removing 2,000 lorries a day from the related road infrastructure – roughly 10-20% of HGV traffic and 2-4% of total traffic on the routes considered.
- 2.95 The study highlighted there were capacity issues on rail, even allowing for existing enhancement plans, and with some schemes not yet approved for funding. As such there is no ready reserve of unused rail capacity, onto which HGVs can immediately be transferred. Moving 2,000 lorries a day to rail required a doubling of current rail traffic from the examined ports, and this could not be achieved without substantial additional investment in track and terminals. Whilst this did not prove to be a viable option within RIS2 planning, the department continues to carry out cross-modal investment planning as part of RIS2.

⁵⁶ Rail Freight Strategy - Moving Britain Ahead, Department for Transport, p10

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/552492/rail-freight-strategy.pdf

⁵⁷ Future potential for modal shift in the UK rail freight market, Arup, 2016

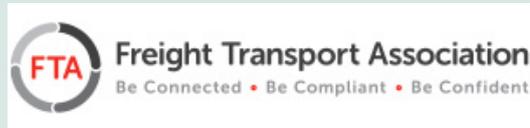
<https://www.arup.com/publications/research/section/future-potential-for-modal-shift-in-the-uk-rail-freight-market>

⁵⁸ Impact on congestion of transfer of freight from road to rail on key strategic corridors, MTRU, 2017

<http://www.bettertransport.org.uk/sites/default/files/research-files/cross-modal-freight-study.pdf>

Port Connectivity - An Industry Perspective

Freight Transport Association (FTA): The Importance of Port Connectivity⁵⁹



"The FTA believes high quality road, rail and coastal feeder shipping links from ports are critical for the UK economy.

Changing international trade patterns, such as more concentrated and higher volume port calls in Northern Europe, and fewer shipping lines stopping at ports in the north of the UK, are creating new demands on ports and inland connectivity, by road and rail.

The FTA is supportive of Government's work on the Strategic Rail Freight Network and Road Investment Strategies, and would welcome a simplification of the process by which private sector investment is leveraged in order to continue building further capacity and capability of the network."

Chartered Institute of Logistics and Transport (CILT): The Importance of Port Connectivity⁶⁰



"Delivering high quality transport links to and from ports is necessary to keep the UK globally competitive.

Rail freight access is a critical part of port connectivity, as rail freight reduces congestion and provides environmental benefits. There is a need to protect rail freight paths and increase them in some areas, which will involve evidence-based cost-benefit analysis against rail passenger paths. This can help to ensure there is the right capacity, resilience and fluidity of transport infrastructure to assist the freight and logistics industries in delivering national economic success.

Similarly, public investment in the strategic road network to complement the investments being delivered by ports is important, and there is potential for coastal and inland shipping to provide a key connectivity link to ports."

⁵⁹ The views expressed within this 'connectivity snapshot' are that of the identified industry body or business and is not necessarily the view of Government.

⁶⁰ The views expressed within this 'connectivity snapshot' are that of the identified industry body or business and is not necessarily the view of Government.

3. Port Connectivity: The Picture Today

The following chapter summarises the role each transport mode – road, rail, inland waterways and coastal shipping – plays in the connectivity from English ports. It reviews the past, present and future picture on connectivity to ports, transport infrastructure investment and other support, which will impact and influence the supply chain in the UK. It also identifies the recognised challenges and issues.

Key points

- Road freight transport accounts for 76% of all domestic freight movements in the UK, with 9% of movements were by rail and 15% by water.
- All English ports are either connected to the Strategic Road Network (SRN) directly, or are connected to the local road networks with onward links to the SRN, while a number of ports in England have a direct and active rail connection to the national network.
- Investment priorities for hinterland networks need to adapt to market changes.
- The Government already has a significant number of policies, schemes and investment plans in place which either directly consider port connectivity, or will have an indirect benefit.
- Among wider Government, the National Infrastructure Commission has been asked by the Chancellor to undertake a freight study, and Sub-national Transport Bodies (such as Transport for the North and Midlands Connect) have considered the role of freight and ports in their regional analysis.

- 3.1 The first chapter of this Study set out the economic significance of our ports to local and national economies, showed why sufficient connectivity is crucial to our future as a trading nation, and explained how improvements in port connectivity can drive competitiveness and productivity.
- 3.2 The next chapter of this Study will explore the current state of port connectivity, as well as detailing some of the significant infrastructure investment and activity currently underway across the country which will improve port connectivity. Furthermore, this section takes account of the findings from the stakeholder engagement phase of this Study.

The priority port connectivity issues - the industry perspective

3.3 The Study engaged with a wide range of stakeholders – the port industry, freight sector and parts of the wider supply chain, including customers (See Annex A), to identify key issues on port connectivity. The following issues and themes were highlighted by these stakeholders as barriers to effective port access, economic growth, trade and productivity and include both infrastructure and non-infrastructure considerations, such as:

- **Physical Infrastructure.** Feedback concentrated on delivering the right infrastructure, at the right time, to the right specification, to bring about an efficient freight transport network on rail and road. This included addressing limitations and pinch points on the network which impact port connectivity, such as appropriate gauge clearance on rail, and removing congestion on key road corridors.
- **Non–infrastructure enhancement.** The emphasis was on increasing the capacity, capability, and appropriate use of the transport network without undertaking expensive and time-consuming infrastructure projects. Points raised included maintenance of freight grant schemes, increased transit speeds on roads and rail; and a renewed approach to ancillary factors affecting connectivity, such as timetabling on rail and driver shortages on road.
- **Communication.** Two separate issues were identified. Firstly, government’s articulation of transport investment processes and decisions, at a national and regional level, could be improved to secure better engagement and understanding from industry. This included views government could do more to assist the industry to engage in the right way, for example a better explanation of what is useful to the decision process. The second issue was port communication with local, regional and central government and the need for this to be enhanced.
- **Attitudes and Awareness.** It was highlighted there was a need for greater articulation, and recognition of the successes in the ports and freight industry, and their needs by the sector itself. There was also a complimentary role for government in recognising these benefits and amplifying this message in and outside of government. This was seen as necessary to establish port issues as a default part of the dialogue on government ambitions on trade, productivity and economic growth, and therefore as an embedded factor of government decision making.
- **Data and Forecasting.** This focused on greater collection of freight data, specifically on end to end journeys recognising key economic and trade corridors. Similarly greater quantitative freight data to inform decision-making and policy trade-offs so freight matters were appropriately represented was also recognised as requiring improvement. In particular, it was suggested freight and trade could be better recognised and considered in transport appraisal processes.
- **Resilience, Reliability and Flexibility.** There was a need for greater recognition of the cost of congestion and delay to the supply chain, and the knock-on effect on the economy. As such, the need for suitable and resilient diversionary routes, and a network which is better able to respond to challenges in the supply chain, was a high priority.
- **Technology and Innovation.** It was noted there was a need to consider how new technology, for instance big data and smart technology, would be utilised within the supply chain. This could have an effect not only on port operations but also

the wider transport network, both in terms of innovative approaches to existing business models or new demands.

- **Regional devolution.** Views expressed represented devolution as a positive; examples provided were of a resulting local/regional focus on freight bearing fruit for port connectivity. Counter views were given on the need to balance regional decision-making and national needs. This was suggested as being particularly relevant to freight transport which transverses geographical and political boundaries to deliver its goods. Devolution was also seen as adding a layer of complexity to engagement.
- **Maritime and Macro-Economic Factors.** Against a background of potential changes in global trade, shipping patterns and technology, it was thought there was a need to build a greater understanding of what makes England, and the UK as a whole, an important maritime destination, and what this means for the transport networks which serve ports.
- **Environment and Mode Choice.** This included the impact of legislation and Government's commitments on climate change and air quality, as well as de-carbonisation of the supply chain, and the factors which determine the mode of delivery.

3.4 These factors are further considered throughout this section in terms of their impact as well as what could and should be done to explore and take forward thinking on these priority issues.

3.5 There are a number of different areas where government can have an influence and impact on ports, the wider freight sector, its customers, and subsequently the economy. A consistent, cohesive and joined-up approach across government will be important in identifying and tackling these priority issues.

Current position of Port Connectivity

3.6 In 2016, 337 million tonnes of freight was handled by English ports. Almost all of this tonnage across all categories is moved to its final destination by the one form of freight transportation or another; whether by HGV or van, freight train, pipeline, feeder vessel, barge or a combination thereof.

3.7 The goods carried originated from all corners of the globe as well as across the UK, and are as varied as they are distinct; from clothing and foodstuffs through to automotive parts, electronic equipment, and bulk materials.

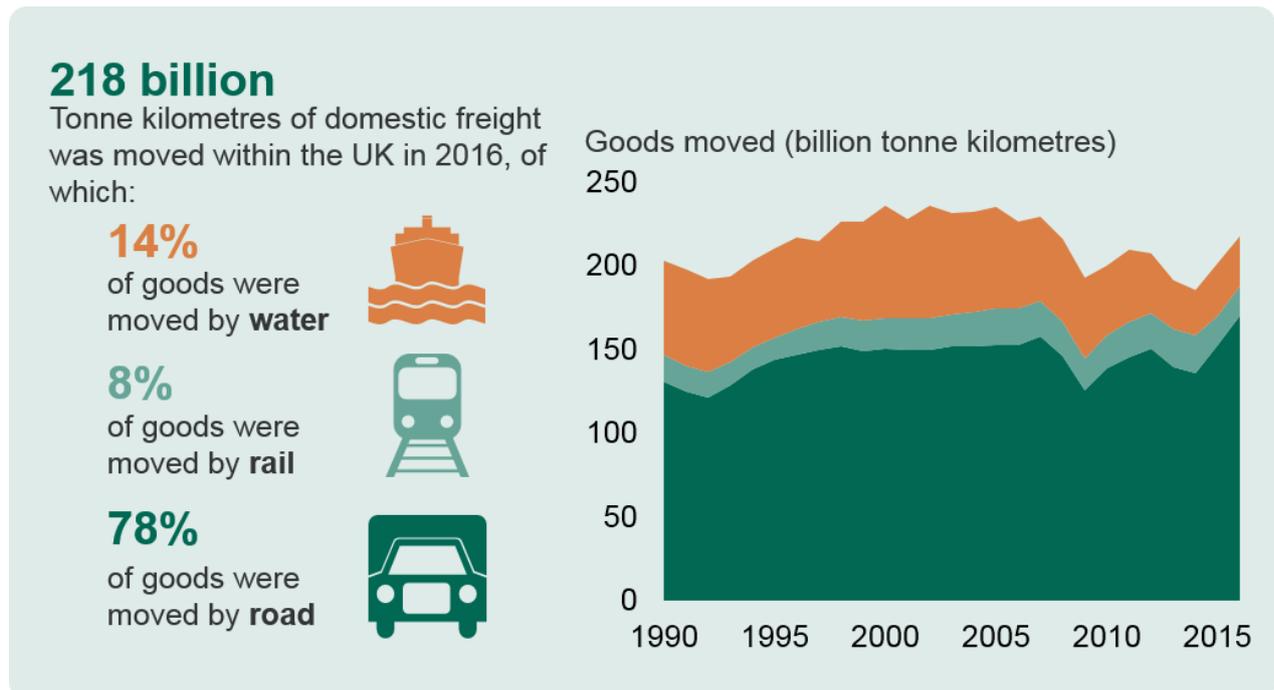
3.8 Road is the most dominant mode of freight transport accounting for 76% of all domestic freight movements in the UK. Rail, coastal shipping and inland waterways do however have a key role to play in the current transport connectivity to our ports. (See Figure 10).

3.9 There is overlap in the type of freight carried by each mode. For example containers are a viable cargo for each mode and the final choice will be dependent on other factors such as timing, reliability, volume and cost. In general terms:

- Road serves high frequency, food, consumer and manufactured goods markets, serving retail, logistics and industrial markets as well as construction and primary materials. The average HGV journey has a length of 90 kilometres, from which we can assume a large percentage of port hinterland journeys fall within this range. Road freight is certainly viable for longer trips, particularly where they may be an additional handling/road leg for other modes.

- Rail traditionally serves heavy and volume markets such as dry bulks (e.g. coal and aggregates) and liquid bulks (fuels and chemicals). However, containers are now the predominant rail freight market (39% of goods moved by rail) and are most viable over longer distances for regular high volume routes.
- Coastwise shipping⁶¹ and inland waterways serve other markets including containers and bulks, but are particularly useful for large project cargo and abnormal loads.

Figure 10: Domestic freight movements broken down by transport mode (2015)⁶²



- 3.10 These freight movements should be considered against a backdrop of wider transport movement: 62% of passenger journeys by trip, and 78% by distance, are conducted by road, with rail accounting for 2% & 8% respectively⁶³.
- 3.11 From a port connectivity perspective, all English ports are connected to the local road network which acts as a link to the SRN, or directly to the SRN itself. The SRN represents only 2% of all roads in England by length, but these carry a third of all traffic by mileage and two thirds of all heavy goods traffic.
- 3.12 Both the SRN and local roads are important, although the SRN carries the bulk of the overall burden. Where a port is not joined directly to the SRN, the local road provides an important part of a larger strategic national route. As the “last mile” (or first mile) link to a port, such local roads can host a concentrated amount of hinterland traffic. Figure 11 below illustrates traffic flow across the SRN and shows high level traffic flows on key port hinterland routes.

⁶¹ Coastwise - Traffic carried around the coast from one UK port to another

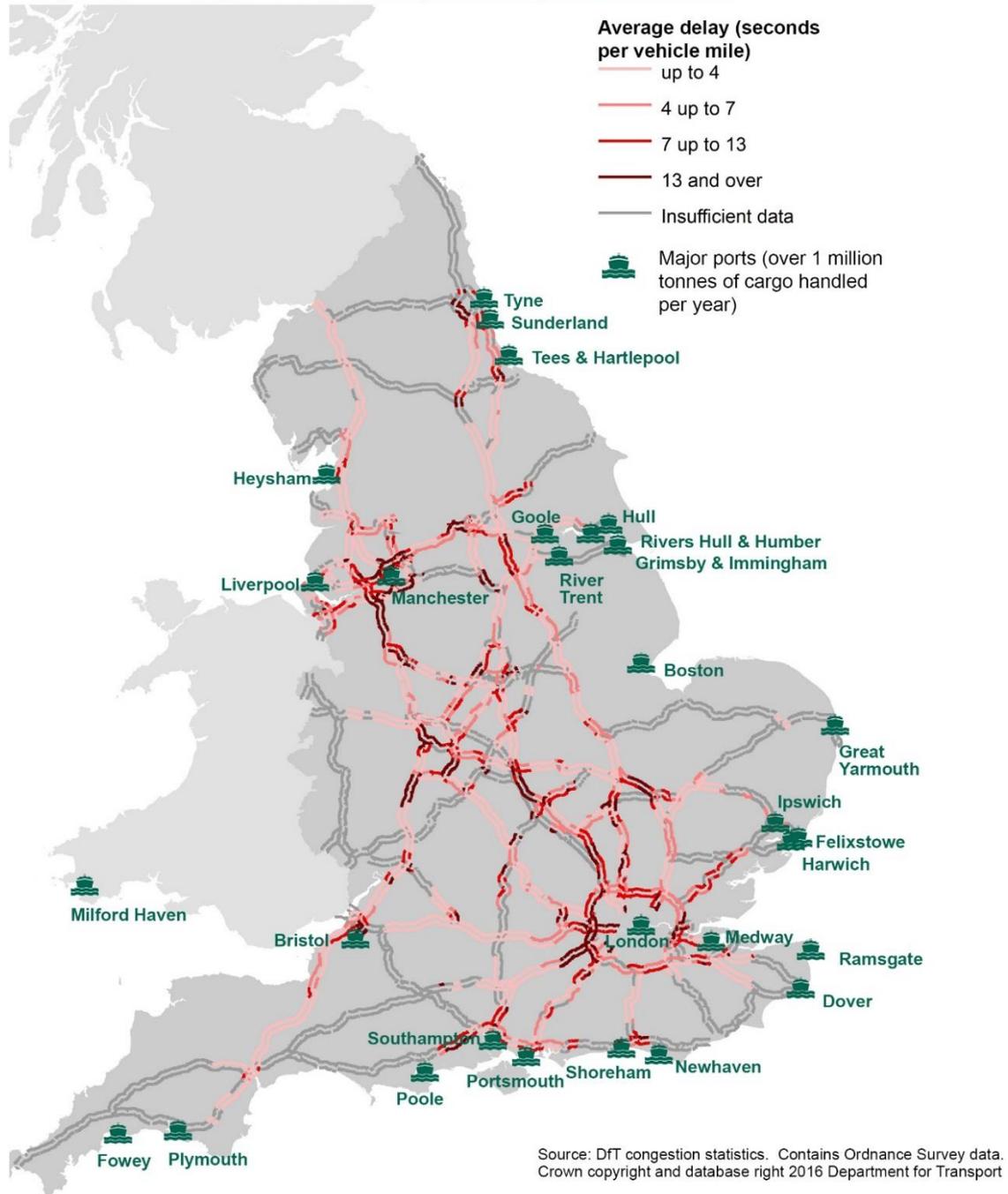
⁶² Transport Statistics Great Britain, Department for Transport, 2017, TSGB 0401

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/664323/tsqb-2017-print-ready-version.pdf

⁶³ Ibid, 2016 Mode share TSGB0103-0105 https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/661933/tsqb-2017-report-summaries.pdf

Figure 11: Delay on the Strategic Road Network: December 2016

Delay on the strategic road network: year ending December 2016



3.13 In 2016, the total amount of freight moved by rail was 4.2 billion net tonne kilometres⁶⁴. Intermodal traffic, which largely emanates from or terminates at our ports is the largest rail freight market; it accounts for approximately 40% (1.7 billion net tonne kilometres) of the overall volume. Other traffics such as automotive (finished automobiles), with a similar connection to ports, are also showing strong growth.

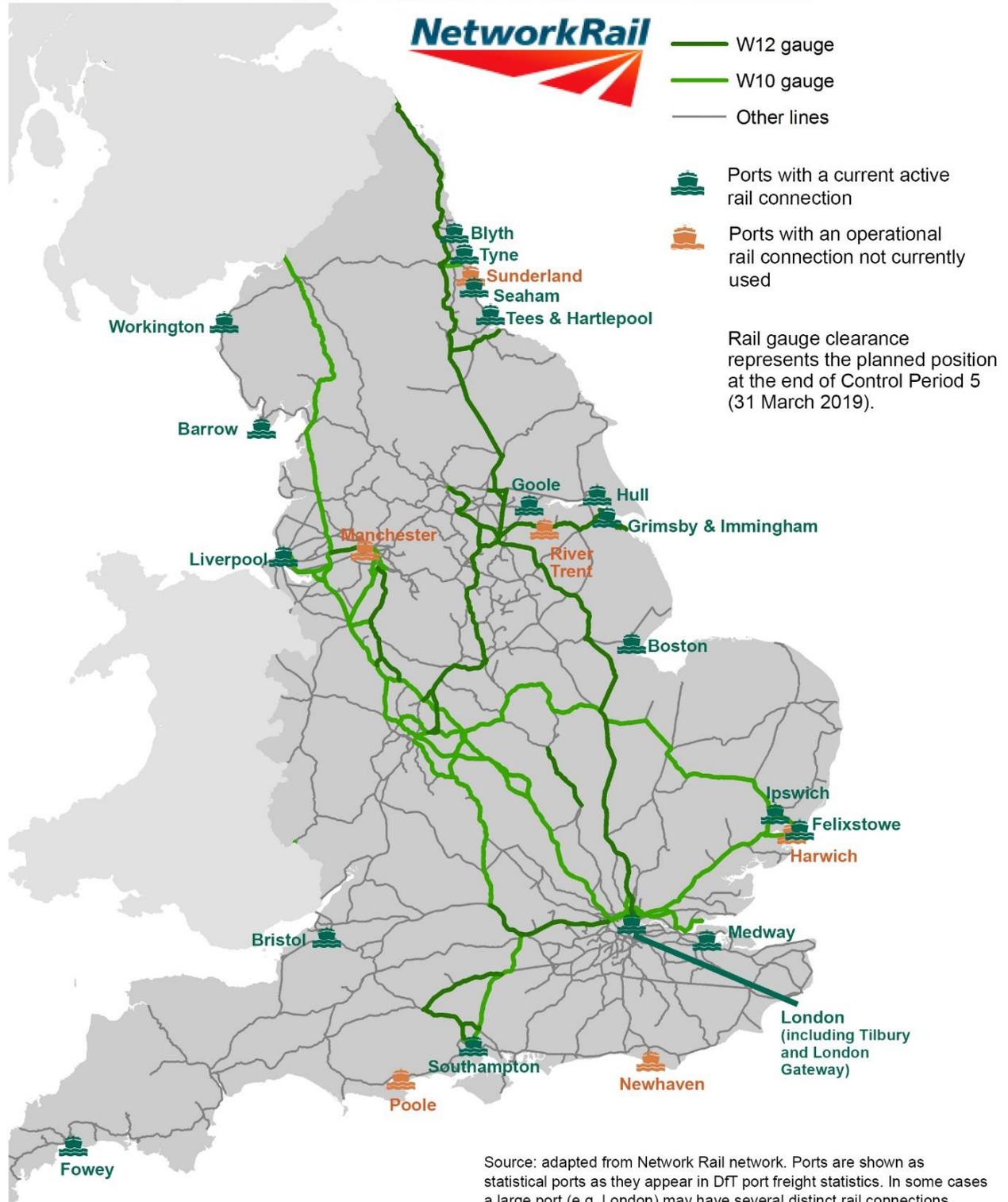
⁶⁴ Freight Rail usage 2017-18, Q1 Statistical release (September 2017) , Office of Rail and Road http://orr.gov.uk/data/assets/pdf_file/0019/25660/freight-rail-usage-2017-18-quarter-1.pdf

3.14 It is important to recognise 18 ports in England have a direct and active rail connection to the national network⁶⁵ and a further 6 ports have operational rail connections but no current timetabled freight trains. These ports of varying sizes, act as a transit point to domestic rail infrastructure. While rail traffic is focussed on larger ports, a number of other ports and businesses who send/receive goods from ports hold ambitions to connect, or reconnect, to the rail network.

⁶⁵ Port which are rail connected with active rail freight paths (includes: any ports where there is a live connection at the port itself, and where there are timetabled freight trains running.

Figure 12: Major Ports in England: Rail connections to the National Rail Network

Rail-connected ports in England: connections to the national rail network

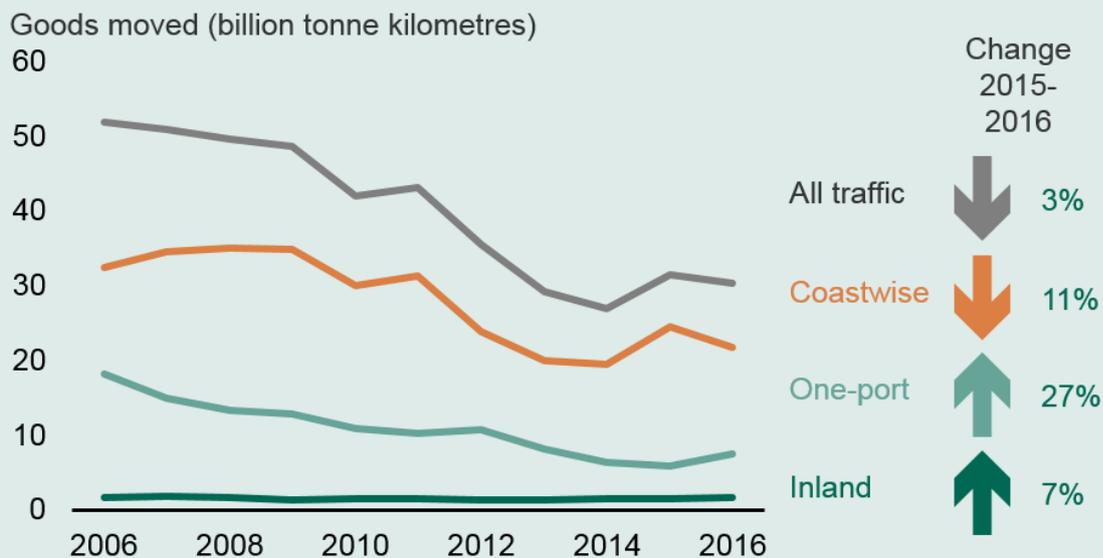


3.15 Coastwise shipping and inland waterways continue to provide a viable alternative to other freight modes, and in fact these two markets are stable, or showing a degree of resurgence, as they become increasingly more attractive for the environmental benefits and reliable congestion-free freight access they offer. For instance, there are currently successful coastwise flows from Felixstowe to Tyne and Southampton to Liverpool.

3.16 In 2015, the total amount of goods moved for all domestic waterborne freight increased by 16% to 31.4 billion tonne kilometres (bt-k), and accounted for 15% of total domestic freight transport in the UK. This dropped in 2016, though overall tonnes lifted stayed broadly consistent.

Figure 13: Domestic Waterborne Freight in the UK (2006 - 2016)

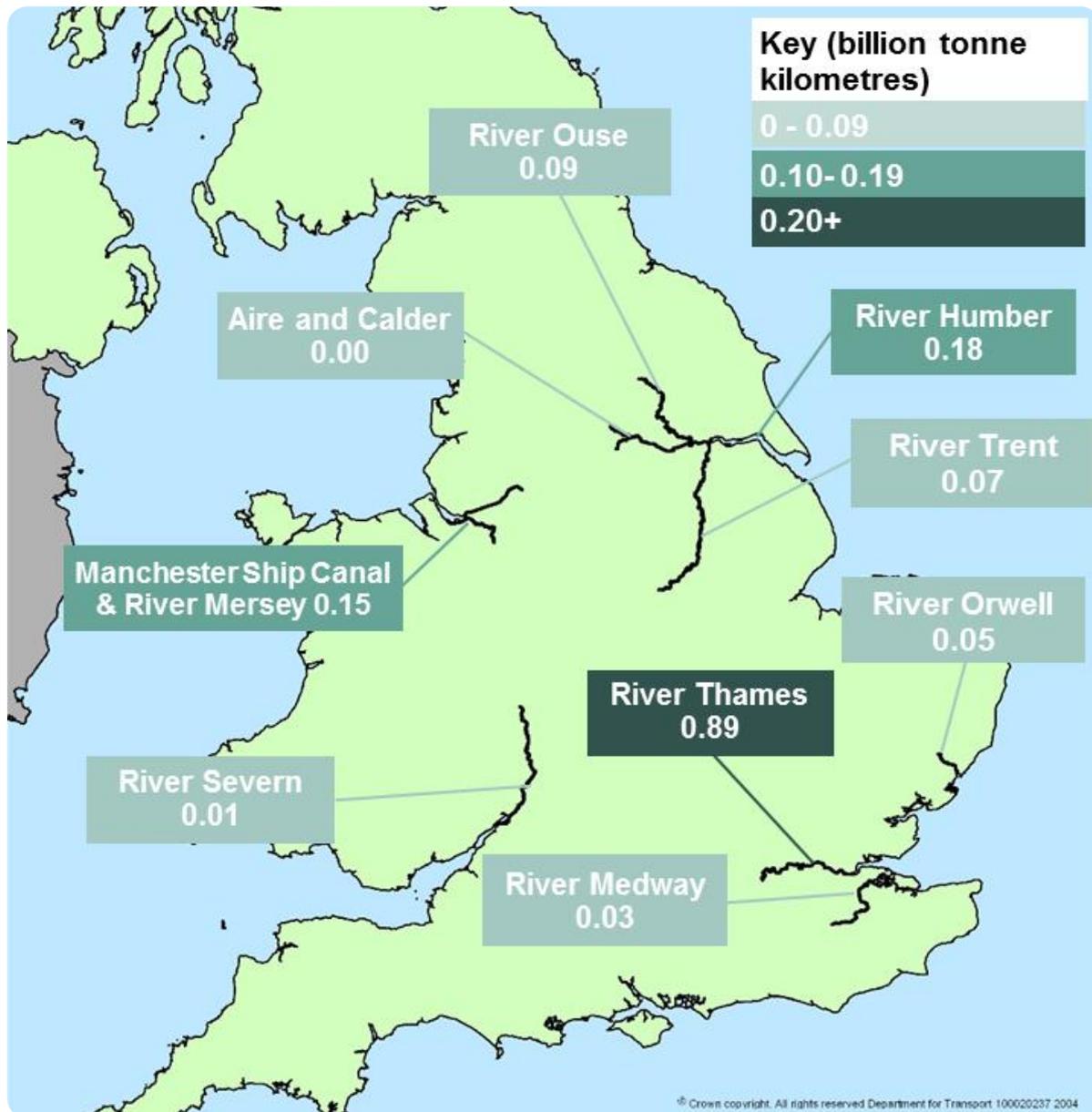
While total goods moved declined 3% to 30.4 billion tonne kilometres in 2016, good lifted continued to increase, by 4% to 102.0 million tonnes.



3.17 Whilst England does not have the level of inland waterway facilities and usage seen on the continent, there are clear opportunities and industry ambition for this to increase. For example, the Manchester Ship Canal allows freight from the Port of Liverpool to be taken to the outskirts of Manchester, and to multimodal sites along the route, with over 7 million tonnes of bulk liquids and dry bulk cargo as well as 22,500 containers passing through.

3.18 The River Thames is the UK’s busiest inland waterway and accounts for 56% of all goods moved on inland waterways in the UK; it is a vital part of the capital and region’s freight infrastructure. The river played an important logistics role in the 2012 Olympics, and large infrastructure projects such as the Thames Tideway Tunnel are using the river to transport construction materials rather than road. The Port of London Authority (PLA) aims to grow the underlying river freight figure to 4 million tonnes per annum.

Figure 14: Major Inland waterways routes - goods moved (2016)

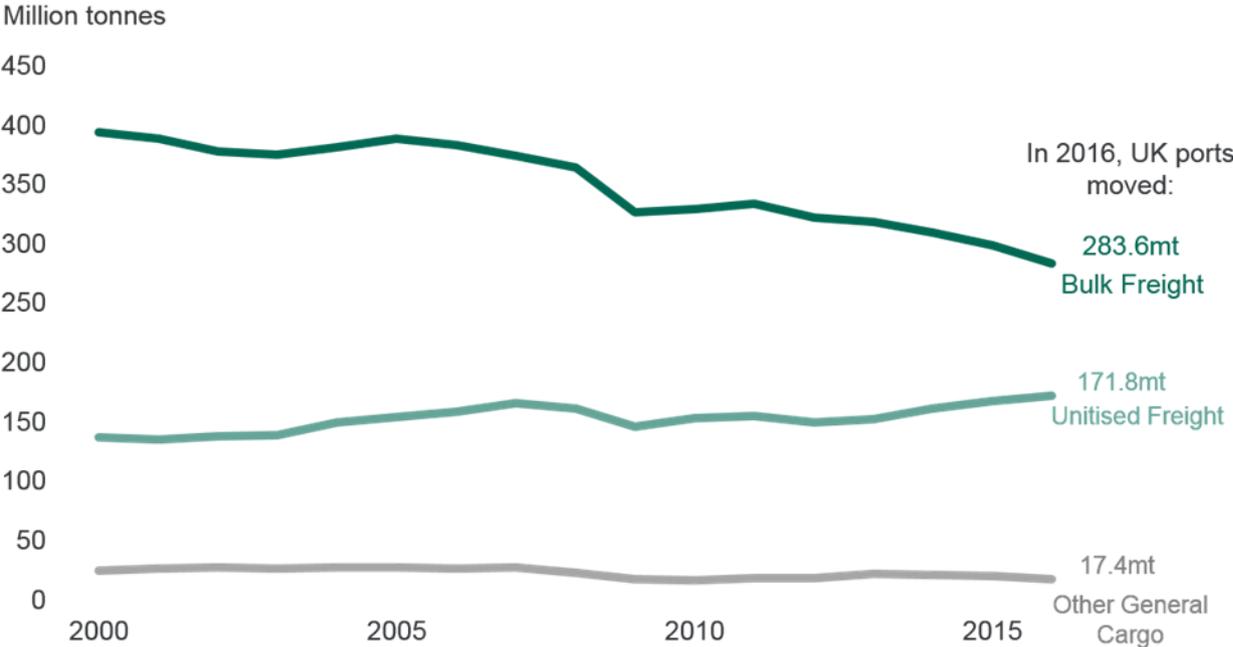


A Changing Market Place

3.19 Recent years have seen a significant decline of coal and ore traffics and this has contributed to the total tonnage of freight handled in 2016 falling slightly to 337 million tonnes. However, unitised traffics increased by 2% from 2015 to 2016, with container traffic reaching a record high. Figure 15 shows the UK major port freight by cargo type. The majority of the freight volumes (84%) arrive at the top 10 ports in England⁶⁶.

⁶⁶ Top 10 English ports carried 84% of all freight going through ports by tonnage in 2016. Port Freight Statistics, 2016 final figures (revised), port0101, 2017 <https://www.gov.uk/Government/statistics/port-freight-statistics-2016-final-figures>

Figure 15: UK Major port freight (million tonnes) by cargo type (2000 - 2016)



- 3.20 This reflects the changing profile of trade and industry, with the services sector now the country’s predominant economic contributor. However, ports will continue to act as the conduit for the majority of freight entering or exiting the country, whether that is fresh ingredients for the restaurant trade or biomass for a furnace. Ports are investing to handle those goods efficiently.
- 3.21 However, changes to the type of freight being moved to and from ports are also likely to impact on hinterland infrastructure. For example, where commodities have replaced coal and steel in terms of overall volume, it does not necessarily mean the same road and rail routes or destinations remain.
- 3.22 Coal’s final destination has tended not to be in major conurbations, whereas intermodal traffics, by virtue of the type of goods carried, are typically delivered to areas in a relatively close proximity to such conurbations (e.g. warehousing).
- 3.23 Investment priorities for hinterland networks therefore also need to adapt to such market changes. For example the main container flows from Felixstowe, Southampton and London ports are now vital to the economy, and significant potential exists for containers from northern ports; illustrated by the success of Teesport rail traffic following construction of their intermodal terminal in 2014. Gauge clearance activity to ensure containers can be efficiently carried across the network, without diversion and delay is therefore a key priority.

Port Connectivity - An Industry Perspective

Rail Freight Group (RFG): The Importance of Port Connectivity⁶⁷



"Rail freight and ports are intrinsically linked, with many ports using rail for onwards distribution. Rail moves 1 in 4 of all imported or exported intermodal shipping containers as well as finished cars, construction materials and a range of bulk products including steel.

Customers like using rail for its ability to transport high volumes cost effectively from port to hinterland. Depending on the commodity carried, each train can keep up to 75 lorries off the roads, making a major contribution to lowering road congestion, improving road safety and providing substantial environmental benefits.

In recent years intermodal rail freight, namely container traffic, has seen significant growth. New services have started from regional ports as well as from the established locations in the south of England.

To continue to realise the economic and environmental benefits of rail freight and to drive growth, rail needs modern terminals and interchanges for the onward distribution of goods. Without these sites, new freight services from the ports cannot operate effectively.

Most importantly, the rail network must be fit for purpose for freight, which requires investment in capacity and capability, and a renewed focus on the efficiency of rail services. Finding space for extra trains on the congested railway can be a challenge in some locations, and consideration needs to be given to ensure freight, and its wider economic benefits, are sufficiently regarded in capacity and investment decisions."

⁶⁷ The views expressed within this 'connectivity snapshot' are that of the identified industry body or business and is not necessarily the view of Government.

Government action and initiatives

- 3.24 It is widely acknowledged that port activities and transport network operations cannot function independently of each other. The inefficiency of either one will negatively impact on the other which indicates how tightly inland networks and seaports are connected⁶⁸.
- 3.25 As such this Study has also considered what current activities are being undertaken within government which either directly consider port connectivity, or will have an indirect benefit. There are a number of existing government policies, for instance, within the Department, Network Rail and Highways England already making progress on many of the issues identified by stakeholders. This section of the report provides an overview of progress.
- 3.26 The current road investment processes are part of a wider commitment by government which sees investment totalling over £60 billion in this Parliament alone to improve our transport networks. As part of this process £15.2 billion is being spent on strategic roads in the first Road Investment Strategy (RIS1) to support a long-term programme of stable funding for our motorways and major roads.
- 3.27 This has delivered key port schemes such as the A160/A180 Port of Immingham improvements, the work beginning on the A14 Cambridge to Huntingdon bypass, and the planning and development of the A5036 in Liverpool.
- 3.28 Planning for the second Road Investment Strategy (RIS2) is now underway and as part of this Highway England (HE) has developed a strategic economic plan which aims to optimise the economic impact of the SRN.
- 3.29 The Road to Growth⁶⁹ sets out this plan and highlights four strategic economic roles for the SRN, two of which are linked to port connectivity and supporting industries:
- Providing efficient routes to global markets through international gateways;
 - Supporting business productivity and competitiveness and enabling the performance of SRN-reliant sectors.
- 3.30 Those SRN-reliant sectors, such as logistics, are closely linked to the port industry, and the report noted that providing a free-flowing, resilient network which improves connectivity can have a more pronounced effect on these sectors due to this closer dependence.
- 3.31 The report also acknowledges the SRN is fundamental in supporting international trade movements through ports, and identifies how the SRN supports port operations is an important factor in understanding how to best maintain, operate and modernise the road network.
- 3.32 On this basis HE have committed to working closely with operators of major international gateways to increase awareness of how the SRN meets their operational requirements. In addition, they also committed to working with other parts of government to understand these issues.
- 3.33 In the development of Road to Growth, HE also undertook research which specifically considered the relationship between international gateways and the

⁶⁸ Notteboom, Theo and Rodrigue, Jean-Paul, (2008), *Containerisation, Box Logistics and Global Supply Chains: The Integration of Ports and Liner Shipping Networks*, *Maritime Economics & Logistics*, **10**, issue 1-2, p. 152-174.

⁶⁹The Road to Growth: Our Strategic Economic Growth Plan, Highways England, 2017
https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/600275/m160503_the_road_to_growth_Our_strategic_economic_growth_plan.pdf

SRN⁷⁰. They also considered related issues such as the benefits of road investment on connectivity, productivity and economic growth in a series of papers⁷¹.



- 3.34 In addition, of the 18 Route Strategies⁷² undertaken by HE to inform RIS development only one, the South Midlands, does not reference port connectivity interests. The other 17 highlight the importance of SRN links to ports, even where they are outside that route area, for example London to Leeds references freight moving from southern ports. It is clear that the HE and the RIS process is giving appropriate consideration to port connectivity issues.
- 3.35 The information gathered from this activity was incorporated into HE's Strategic Road Network Initial report⁷³ and DfT's consultation⁷⁴, the results of which will inform the detail of the second RIS. The themes and priorities identified in 'Road to Growth' and the route strategies continue to feature highly in these documents. Connectivity to international gateways will remain an important factor, alongside a focus on economic growth, and supporting key SRN-dependent sectors such as freight.

⁷⁰ International gateways and the strategic road network, Highways England
[https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/600269/SEGP - Underpinning Report - International gateways and the SRN.pdf](https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/600269/SEGP_-_Underpinning_Report_-_International_gateways_and_the_SRN.pdf);

⁷¹ Economic Growth and the strategic road network, Highways England
[https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/600268/SEGP - Underpinning Report - Economic Growth and the SRN.pdf](https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/600268/SEGP_-_Underpinning_Report_-_Economic_Growth_and_the_SRN.pdf);

Commercial Development and the strategic road network, Highways England
[https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/600267/SEGP - Underpinning Report - Commercial Development and the SRN.pdf](https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/600267/SEGP_-_Underpinning_Report_-_Commercial_Development_and_the_SRN.pdf);

Considering the Economic Significance of the strategic road network, Highways England
[https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/600259/SEGP - Underpinning Report - Considering the economic significance of the SRN.pdf](https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/600259/SEGP_-_Underpinning_Report_-_Considering_the_economic_significance_of_the_SRN.pdf)

⁷² Future Investment in England's motorways and major roads, Route Strategies, Highways England & Department for Transport, 2017
<https://www.gov.uk/guidance/future-investment-in-englands-motorways-and-major-roads#route-strategies-march-2017>

⁷³ Highways England Strategic Road Network Initial Report, Highways England, 2017
<https://www.gov.uk/government/publications/highways-englands-strategic-road-network-initial-report>

⁷⁴ Shaping the Future of England's Strategic Roads: Consultation on Highways England's Initial Report, Department for Transport, 2017
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/666965/shaping-the-future-of-englands-strategic-roads.pdf

Strategic Road Network (SRN)

The SRN comprises nationally significant roads which connect the main centres of population. These roads provide access to major ports, airports and intermodal freight terminals and the main cross-border routes to Scotland and Wales.

It is managed by Highways England, the Government-owned company responsible for managing the network, and is the busiest part of the road network. It consists of 4,400 miles (2% of our road network), but carries a third of traffic and two thirds of HGV traffic.

Local road networks

All other roads in England, known as 'local roads', are managed by local highway authorities and make up 98% of the entire road network. Decisions about investment in these roads are generally made locally and responsibility is split between 153 local authorities.

Local Authorities are funded to maintain their local road networks with sustained grant funding, totalling £6.2 billion between 2015 and 2021. £1.55 billion has also been allocated over the same period for small local roads schemes from the Integrated Transport Block and additional funding streams also supports local roads developments such as the £12 billion Local Growth Fund, and the Large Local Majors Fund.

Major Road Network (MRN)

In July 2017 the government committed to creating a 'Major Road Network' (MRN). This is intended to encompass the most important local authority A-roads. The shape and funding of improvements to this network are currently being consulted on, but proposals are for a network of similar length to the SRN.

It is proposed that local and regional bodies will assess the needs of the MRN in their region and develop packages of interventions to form a Regional Evidence Base. The Regional Evidence Bases would be assessed and prioritised across England by the Department and, in consultation with the regions, developed into an Investment Programme which would be approved by Ministers. There will also be a role for Highways England to support local, regional and national bodies involved in the MRN Programme.

3.36 Highways England have calculated their success in ensuring delays on gateway routes, such as those to ports are shorter than those on the rest of the network⁷⁵. This an achievement which should be recognised. Furthermore HE have indicated their intention to build on and continue to develop new ways of reducing delays on gateway routes in the future.

3.37 HE are also recommending a number of studies, addressing connectivity and resilience issues, are taken forward in the next road investment period. For example:

⁷⁵ Ibid, Highways England Strategic Road Network Initial Report, p43
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/666884/Highways_England_Strategic_Road_Network_Initial_Report_-_WEB.pdf

- **Last mile improvements** – Assessment of priorities for investment and ownership options in order to create improved end-to-end journeys between key economic destinations, especially international gateways.
- **Integration hubs** – Investigation of potential to improve multi-modal integration by creating opportunities for better multimodal journeys.

3.38 Alongside the consultation on the SRN initial report, DfT has also consulted on the development of a Major Road Network (MRN)⁷⁶. This proposes to establish a network formed of the busiest and most strategically important local authority A-roads. This new MRN would form a middle tier of roads sitting between the national SRN and the rest of the local road network.

3.39 Qualitative criteria proposed to help define the MRN includes connecting all major ports, airports and key transport hubs not already linked by the SRN. Proposed MRN investment criteria also include considering the potential impact on trade links and of improving international connectivity, such as access to ports and airports. The consultation highlights an existing project, the £79 million A13 corridor which links the nationally significant port infrastructure of Tilbury and the new London Gateway Port with the M25 and London, as an example of the type of scheme the MRN may support.

3.40 The MRN is a potential opportunity to tackle a connectivity issue often highlighted by the port industry of “gaps” in routes between a port and the SRN - made up of local roads not subject to the funding benefits of the SRN - despite in essence being a vital part of a key route.

3.41 Lastly, a key road project being progressed is the Lower Thames Crossing. It was originally identified as a scheme to be developed in RIS 1 with the aim that it could be ready to enter the planning process and construction in the next road period.

3.42 This development has been underway and the preferred route for a new £4-6 billion crossing was announced in 2017. The plans now also include a junction for the port of Tilbury, and improvements where the A2 joins J1 of M2. Ports across London and the South East have previously highlighted how important a new crossing is to connectivity and their business so this is a positive development. When complete, the crossing will provide more than 70% additional road capacity across the Thames east of London. A statutory consultation will be held in 2018.

Figure 16: RIS 1 port-related schemes

Schemes	Port Served	Status	Cost (£million)
A5036 Princess Way - Access to Port of Liverpool	Liverpool	The preferred route has been announced following consultation. Detailed plans under development with work to commence in Spring 2020 – subject to approval	£250M
A63 Castle Street	Hull	Due to start construction by end 2019/20 and open to traffic in 2021/22 - subject to approval	£100 -250M

⁷⁶ Proposals for the creation of Major Road Network, Department for Transport, 2017
<https://www.gov.uk/government/consultations/proposals-for-the-creation-of-a-major-road-network>

A160/180 Immingham	Grimsby and Immingham	Completed - Opened 30 June	£93.3M
M271 / A35 Redbridge roundabout upgrade	Southampton	Scheme announced in December 2014 and due to start construction in March 2018	£25M
A20 Access to Dover	Dover	Construction started in February 2016 - completed in February 2017	Funded by Port of Dover and Dover District Council
M25 Junction 30	London Gateway / Tilbury	Construction started in February 2015 - completed in Autumn 2016	£79.3M
M2 Junction 5: improvements	Medway	Construction is proposed to start in 2019/20	£50-100M
A19 Norton to Wynward	Teesport	Scheme proposed to start construction in 2019/20	£75 - £128M
A14 Cambridge to Huntingdon	Felixstowe	Scheme started construction in March 2017 and will be open to traffic in 2020	£1200M - £1800M
A12 Chelmsford to Colchester	Felixstowe	Scheme due to start construction in 2020/21	£100M - £250M

Rail

- 3.43 Rail Investment Process: £48 billion will be spent to enhance and improve our rail network⁷⁷ from 2019-2024. Investment is focused on the vital work of maintaining and renewing the existing railway and providing funding to support a significant increase in renewals activity – e.g. overhauling the network to ensure it runs smoothly. This reduces the need for safety measures such as temporary speed restrictions, which would otherwise impact on passengers and freight alike.
- 3.44 Between 2014 - 2019, Government has invested over £235 million in rail freight projects through the Strategic Freight Network Fund. The aim is to deliver greater capacity and capability, creating opportunity for more freight to be transported by rail. The DfT Rail Freight Strategy (see paragraph 3.47) sets out how the benefits of rail freight can be captured.
- 3.45 Projects identified and progressed through the SFN Fund include: increasing capacity on the Felixstowe Branch Line and improving rail access to the Port of Liverpool (See Figure 17). In addition to Strategic Freight Network funding, wider investment in rail such as the recently completed Reading area redevelopment created space for an additional six freight trains a day on the critical freight route between Southampton and the country's logistics heart in the Midlands.

⁷⁷ "New £48 billion funding for Britain's railways", Department for Transport & The Rt Hon Chris Grayling MP, 12 Oct 2017 <https://www.gov.uk/Government/news/new-48-billion-funding-for-britains-railways>

Figure 17: Strategic Freight Network Funded port-related schemes⁷⁸

Scheme	Description	Total Cost (£m)	SFN contribution (£m)	Completion date⁷⁹	Outputs
Felixstowe Branch Line Capacity	Installation of a second track between Trimley and Grimston Lane crossing, plus associated infrastructure improvements	60.4	52.4	August 2019	Up to 47 freight train paths per day in each direction on the branch line serving the Port of Felixstowe
Ipswich Yard	Revised layout of yard	33.8	32.7	December 2014	Increased capacity to handle container trains to and from the Felixstowe branch, optimised operations and capability for trains up to 746 metres long
Ipswich Chord	New chord allowing direct access from the Felixstowe branch to the 'cross country' route via Ely	59	50.5	March 2014	Increased capacity and reduced journey times for Felixstowe container trains routed via Ely. This is enabled by eliminating the need to reverse at Ipswich
Southampton Freight Train Lengthening	Lengthening of loops and associated infrastructure between Southampton and the West Midlands and West Coast Main Line	90.5	90.5	March 2019	775 metre long container and automotive trains between the Port of Southampton and destinations in the West Midlands and North

⁷⁸ This table lists key enhancements which have been wholly or partly funded through the CP4 and CP5 SFN ring-fenced funds, and have been completed or are programmed to be completed by the end of 2019. For the purposes of this table, some schemes have been grouped where they contribute to a common set of outputs.

⁷⁹ Where schemes are grouped, the completion date reflects that of the final scheme to be delivered out of the group

Southampton – West Coast Main Line diversionary gauge clearance	Interventions such as track lowering and/or bridge modifications to provide W12 loading gauge between Southampton and Basingstoke via Andover	32	29.2	July 2016	Clearance for 2.9m (9' 6") high maritime containers and 2.6m wide domestic/Europe an swap bodies on standard deck wagons via a diversionary route. Allows continuity of services during maintenance closures of the two-track section via Winchester
Banbury area remodelling and Oxford corridor enhancements	Track improvements at Banbury and signalling enhancements throughout the Oxford to Banbury corridor	20.2 ⁸⁰ (469.8)	20.2	March 2019 (December 2019)	Exit and entry speeds of up to 40 or 50 miles per hour at Banbury Loops, plus headways reduced to three or four minutes between trains on the Oxford to Banbury section, increasing capacity, including for freight trains between Southampton and the West Midlands and North
Gauge clearance schemes connecting the West Midlands and South East with the North East and Scotland	Programme of interventions such as track lowering and/or bridge modifications to provide W12 loading gauge over the following routes: Water Orton to Doncaster/South Kirkby Doncaster to Wakefield and Leeds	67.3	67.3	March 2019	Clearance for 2.9m (9' 6") high maritime containers and 2.6m wide domestic/Europe an swapbodies on standard deck wagons on routes connecting the West Midlands and South East with North East England and onwards to

⁸⁰ Freight element of larger scheme(s)

	Northern and southern sections of the East Coast Main Line Doncaster to the Port of Immingham Darlington to Middlesbrough/ Teesport				Scotland. Includes connections to East Coast ports including Immingham, Middlesbrough and Tyne Dock, as well as inland container terminals in South and West Yorkshire
North Lincolnshire resignalling and re-control	Renewal of signalling between Immingham and Scunthorpe and transfer of control to York Regional Operating Centre	4.0 ⁸¹ (121.4)	4.0	January 2016 (September 2017)	Improved reliability and increased flexibility of train services including freight to and from Immingham port
Northern Ports and Transpennine Freight Capacity	Installation of a second track at the Port of Liverpool boundary on the Bootle Branch and signalling changes at Earlestown	8.0	8.0	March 2019	Two freight train paths an hour into and out of the Port of Liverpool and via Earlestown
Great Western Main Line gauge clearance	Interventions such as track lowering and/or bridge modifications to provide W12 loading gauge at specific sites on the Great Western Main Line in tandem with electrification works	15.2	15.2	March 2019	Clearance for 2.9m (9' 6") high maritime containers on standard deck wagons between London and Bristol/Cardiff, plus passive provision for 2.6m wide domestic/Europe an swapbodies on standard deck wagons where interventions have taken place

⁸¹ Freight element of larger scheme(s)

Thames Haven Level Crossing improvements	Enhancement to level crossings on the Thames Haven branch	0.5	0.5	March 2019	Increased capacity and 775 metre long container trains to and from London Gateway Port
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3.46 Similarly, Network Rail are also planning future rail investments with port connectivity as a critical factor. They have produced two key freight documents – Freight Market Study and the Freight Network Study - as well as Route Studies for each of its geographic routes which all account for the needs of freight and, specifically for greater connectivity to and from our ports. For example:

- **Freight Market Study** is a long term unconstrained growth forecast for 2023, 2033 and 2043 and anticipates strong growth in the rail sector over the next 30 years - with a year on year predicted increase of 3% - and predicts, by 2033, the freight industry market share on rail will increase from 11% to 19%.
- **Freight Network Study** focuses on developing capacity, capability and gauge, primarily for intermodal commodities from our major ports, and the Channel Tunnel, to key terminal locations. This strategy sets out options to funders for the creation of a core arterial and nationally cohesive rail freight network focusing on end to end / line of route enhancements to deliver the forecast growth in intermodal, and other traffics. It sets out the priority areas for investment support and of the 5 priority areas identified, 4 of them have a direct link to enhancing port connectivity in England.
- **DFT's Rail Freight Strategy** sets out the government's support of rail freight and identifies an action plan, tasking government and industry to deliver a series of key priorities which would allow the rail freight sector to adapt, innovate and communicate to ultimately deliver its potential for growth in a time of changing core markets. Significant progress has been made against the priority areas identified for unlocking potential growth, including telling the story of rail freight, gaining greater recognition for freight in the rail franchising process, and sustainability of track access charges.

3.47 These options for funders will be considered as part of the larger CP6 decision process, and will be subject to detailed business cases not considered by this Study. However, the principles and potential interventions set out in the Freight Network Study are welcome in terms of port connectivity, and the high level of priority given to interventions highlighted in Figure 17 would accord with the views put forward by port stakeholders. Network Rail will be also be publishing a business plans for its Freight and National Passenger Operator route, setting out what it will deliver between 2019 and 2024. The business plan will include updated freight forecasts and a list of options for funders.

3.48 Furthermore as part of the Strategic Vision for Rail the use of digital technology is identified as a huge opportunity for rail⁸². These digital technologies will help the railway of the future make better use of the existing infrastructure and capacity to reduce the need for costly and disruptive civil engineering schemes, and find much more sustainable solutions which are lower cost for rail users and taxpayers.

⁸² Connecting people: a strategic vision for rail, Department for Transport, 2017
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/663124/rail-vision-web.pdf

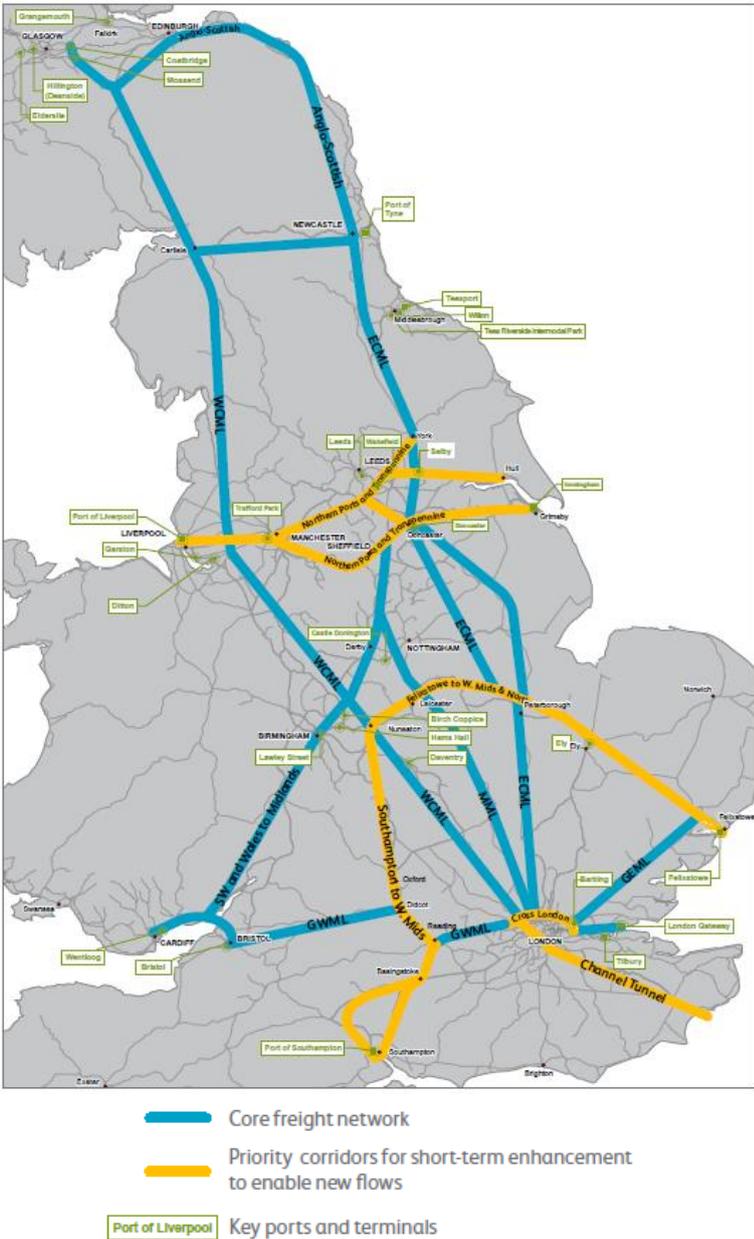
- 3.49 Rail freight is a major part of the implementation of digital technology, and will be a key enabler of the performance, efficiency and safety benefits these technologies can deliver. Government is funding First in Class projects pioneering the installation of digital signalling technologies on freight vehicles, so rail freight can lead the way on future deployments of these technologies. These technologies have the potential to enhance hinterland and port connectivity by rail.
- 3.50 Similarly, following the Hansford Review⁸³, Network Rail has also set up their "Open for Business" programme to better facilitate third party investment and delivery on the railway. Alongside this, the department has published guidance for market-led proposals to outline what Government looks for in private sector proposals and the process by which they are considered⁸⁴.



⁸³ The Hansford Review, Unlocking rail investment - building confidence, reducing costs: An independent review chaired by Professor Peter Hansford FEng, Network Rail, 2017
<https://www.networkrail.co.uk/industry-commercial-partners/third-party-investors/network-rail-open-business/#hansfordreview>

⁸⁴ Rail market-led proposals: <https://www.gov.uk/government/publications/rail-market-led-proposals>

Figure 18 – Network Rail's Core Freight Network Priorities for Short term intervention⁸⁵.



Transport Investment Strategy

3.51 **The Transport Investment Strategy⁸⁶** (TIS) sets out the department’s priorities and approach for future transport investment decisions. The strategy acknowledged that economic success is closely tied to our ports and investing in the infrastructure around the ports not only improves direct access but also drives economic growth and contributes to rebalancing the economy. Equally, it pointed to the need for transport investment to be informed by the development plans of gateways (ports)

⁸⁵ Freight Network Study, Long Term Planning Process, Network Rail, April 2017 <https://cdn.networkrail.co.uk/wp-content/uploads/2017/04/Freight-Network-Study-April-2017.pdf>
⁸⁶ Transport Investment Strategy, Department for Transport, 2017 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/624990/transport-investment-strategy-web.pdf

themselves, and the priorities of the regional bodies who best understand their regional networks.

- 3.52 **Transport investment appraisal and decision-making:** the department makes decisions on investments using the five case model. This ensures projects set out a compelling case on their strategic fit, value for money, affordability, achievability and management of benefits. This model allows consistent and comparable analysis which helps prioritise resources.
- 3.53 The department is continuously working to review and update its decision-making frameworks and guidance. As part of this, the department has published new Strategic Case Supplementary Guidance aimed at ensuring the four key TIS objectives for investment are considered more consistently in strategic cases for transport investment schemes. This will help ensure schemes set out how they align with objectives around boosting trade and competitiveness as part of the strategic case.

Wider Government Activity

- 3.54 Across government there are a number of existing policies and strategies which are driving forward work against the priority issues identified on port and freight connectivity. These are:
- 3.55 **National Infrastructure Commission (NIC):** As part of the NIC's remit, they will produce a National Infrastructure Assessment once every parliament. The first assessment is due to be published in 2018, however the interim report⁸⁷ set out a vision for infrastructure needs over the next 30 years and has identified seven priority areas to be addressed for the UK to have long term prosperity. Three of these impact on port connectivity – connected, liveable city regions; revolutionising road transport; and financing infrastructure in efficient ways.
- 3.56 Importantly, it also noted that as government transport investment programmes are developed it will be important to balance the needs of both passengers and freight, in particular connectivity to international gateways.⁸⁸
- 3.57 The Chancellor has also asked the NIC to undertake a freight study⁸⁹. The terms of reference ask the NIC to make recommendations to ensure wider freight connectivity supports economic growth, and to consider how the economic benefits of freight are factored into investment decisions⁹⁰. This is a very positive development for the consideration of port connectivity in conjunction with wider freight issues. DfT's Maritime Directorate is already engaging with the NIC's Freight Study team.
- 3.58 **The Industrial Strategy**⁹¹ sets out the government's aim of rebalancing the economy, with an overall objective of creating an economy which boosts the productivity and earning power of people throughout the UK. Infrastructure investment has been identified as one of the 'five foundations' to achieving the overall objective of the Industrial Strategy. It also recognises international gateways,

⁸⁷ Congestion, Capacity, Carbon: Priorities for National Infrastructure, Consultation on a National Infrastructure Assessment, National Infrastructure Commission, 2017

https://www.nic.org.uk/wp-content/uploads/Congestion-Capacity-Carbon_-_Priorities-for-national-infrastructure.pdf

⁸⁸ Ibid, p85

⁸⁹ Hammond, Philip. "New National Infrastructure Commission Study." Received by The Rt Hon. Lord Adonis, HM Treasury, 22 Nov. 2017, London.

<https://www.nic.org.uk/wp-content/uploads/Chancellors-letter-freight.pdf>

⁹⁰ Freight Study - terms of reference, National Infrastructure Commission, 2017

<https://www.nic.org.uk/wp-content/uploads/Terms-of-Reference.pdf>

⁹¹ Industrial Strategy: building a Britain fit for the future, Department for Business, Energy & Industrial Strategy, 2017

https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf

such as ports, help keep the UK globally competitive because they are important to connecting people and markets and to attracting inward investment,.

- 3.59 **Transport for the North (TfN)** has undertaken significant work on transport infrastructure across the north of England and on how improvements can contribute to the region's increased prosperity.
- 3.60 Four reports – Enhanced Freight and Logistics Analysis Report⁹², International Connectivity⁹³, Long Term Rail Strategy⁹⁴ and Updated Major Roads⁹⁵ reports – have identified 'freight and logistics as a key enabling capability' within the North and improved surface access means its ports could deliver improved global connectivity.
- 3.61 TfN's Strategic Transport Plan Statement highlights 'Strategic Development Corridors' which will encompass the needs of freight and logistics. They are being developed and will be used to inform future investment processes. TfN is also undertaking a gap analysis to identify infrastructure interventions across the whole of the North to support growth and facilitate more efficient movements of freight, potentially supporting the development of a "Freight Superhighway" between ports in the Humber and Liverpool.
- 3.62 **Midlands Connect (MC)** has published its strategy which sets out its ambitions to drive economic growth by maximising the benefits of the Midlands as a transport hub. The MC Strategy is informed by a number of work packages, including on freight. The Freight Narrative Report⁹⁶, which was published in April 2017, demonstrates the importance of road and rail freight to the region and in particular those corridors serving the major ports, which were seen as a priority.
- 3.63 Midlands Connect looked beyond its own boundaries to identify possible growth opportunities and how this will affect the freight moving through the region. Links to ports, including those in the South, are recognised as an important factor for freight in the Midlands, noting: *"In particular, even small improvements on routes to ports could expand the area of the Midlands that can be accessed within a lorry shift, potentially attracting more investment to the West Midlands"*.
- 3.64 MC also identified the opening of Liverpool 2 as well as the improvements to the Humber ports as being beneficial to the region – but that improvements to transport corridors may be required. Further recognition was given to access to the deep sea ports of Felixstowe, Southampton, London Gateway, and also Dover, as important to the Midlands' economy.
- 3.65 As emerging STBs (such as England's Economic Heartland and Transport for the South East) develop their transport strategies further sub-regional analysis of the connection between port activity and economic growth is likely to be undertaken.
- 3.66 **Local Enterprise Partnerships (LEPs)** are also playing a key role in addressing port connectivity matters, and providing other assistance which can support port activity to generate local economic growth.
- 3.67 LEPs are awarded Growth Deal funding through the Local Growth Fund (LGF). This is a cross-government fund to promote economic growth through investment in

⁹² Enhanced Freight and Logistics Analysis Report: Strategic Transport Plan Evidence Base 2018

<https://transportforthenorth.com/wp-content/uploads/Freight-and-Logistics-Enhanced-Analysis-Report.pdf>

⁹³ Independent International Connectivity Commission Report, Transport for the North, 2017

http://www.transportforthenorth.com/wp-content/uploads/International-Connectivity-Report_websafe.pdf

⁹⁴ Long Term Rail Strategy Transport for the North, 2018

https://transportforthenorth.com/wp-content/uploads/Long-Term-Rail-Strategy_TfN.pdf

⁹⁵ Updated Major Roads Report: Strategic Transport Plan Evidence Base, Transport for the North, 2018

https://transportforthenorth.com/wp-content/uploads/Roads-Report_updated_Jan2018.pdf

⁹⁶ Freight Narrative Report, Midlands Connect, 2017

https://www.midlandsconnect.uk/media/1108/freight_narrative_report.pdf

infrastructure. A number of LEPs have used these funds to address port connectivity issues (see Figure 19).

- 3.68 Similarly, the large Local Majors Fund scheme exists to support capital projects which would otherwise be too large for a LEP to fund from LGF awards and this has also been used to support port connectivity projects (see Figure 19).
- 3.69 LGF funding is allocated to LEPs on a competitive basis based on an assessment of a LEP's Strategic Economic Plan. The LGF has been allocated in full to 2020/21, but this does not reduce the need for engagement between ports and LEPs. It remains important there is an ongoing understanding of the impact that port activities and effective connectivity have on the local economy, and local stakeholders are in the best position to prepare successful bids in any future funding opportunities.

Figure 19 - Highway Maintenance Challenge Fund, Large Local Majors Fund, Port, Local Growth Fund and Regional Growth Fund Port-related investment schemes:

Programme	Project Name	Port	Status	Total Govt. funding (£m)*
Highway Maintenance Challenge Fund	Wirral Dock Bridges	Birkenhead	Completion anticipated Spring 2018	6.4
Large Local Majors	Upper Orwell Crossings	Ipswich	DCO in preparation	77.5
Large Local Majors	Lake Lothing Third Crossing	Lowestoft	DCO in preparation	73.4
Large Local Majors	Great Yarmouth Third Crossing	Great Yarmouth	DCO in preparation	98.8
Local Growth Fund	Port of Workington Road Access	Workington	In preparation	2.0
Local Growth Fund	Port of Poole Infrastructure - Poole Bridge Approach Spans	Poole	Work completed and bridge reopened January 2018.	7.3
Local Growth Fund	A185/A194/A19 Traffic Movements (A194/A185 The Arches Junction)	Port of Tyne	Work underway. Completion expected by Jan 2018	7.0

Local Growth Fund	A19/A194/A1300 Lindisfarne Roundabouts	Port of Tyne	Completed Summer 2017	6.1
Local Growth Fund	A19 to North Bank of Tyne improvements	Port of Tyne	In development	4.7
Local Growth Fund	Rail Gauge Enhancements - Port of Immingham to ECML at Doncaster	Immingham	In progress	7.2
Local Growth Fund	Goole Intermodal Terminal	Goole	Business Case being prepared	2.1
Local Growth Fund	Paull Employment Site including site access	ABP Hull	Business Case being prepared	6.0
Local Growth Fund	South Bank Wharf roundabout and access improvements.	Teesport	Business Case being prepared	1.7
Local Growth Fund	A565 North Liverpool Key Corridor	Liverpool	Under construction. Completion 2019	13.3
Local Growth Fund (DfT 'tail' major scheme)	A180/A18 Link	Immingham	Completed June 2016	4.9
DfT 'tail' major scheme	Heysham-M6 Link Road	Heysham	Completed October 2016	110.9
Local Growth Fund (DfT portfolio scheme)	Newhaven-Port Access Road, Parker Pen & East Side	Newhaven	In development	10.0
Local Growth Fund (DfT	Sunderland Strategic Transport Corridor (Low	Sunderland	In development . Public Inquiry June	40.6

portfolio scheme)	Carbon Zone to City Centre to Port) – New Wear Bridge to City Centre		2018. Estimated completion 2021	
Local Growth Fund (DfT portfolio scheme)	A13 Widening	London Gateway	Advance works commenced. Estimated completion 2020.	66.1
Regional Growth Fund	Western Gateway Infrastructure Scheme	Port Salford	Completed	15.0

4. Port Connectivity: Vision and Recommendations

This section establishes the Government's ambition for the future of port connectivity and the benefits it can bring. It also sets out a number of recommendations and an initial plan for implementation on how government and industry can work together, in tandem with other freight initiatives, to improve port connectivity.

Key Points

- This Study has identified a number of key areas which need to be improved to drive forward the delivery of a dynamic supply chain and enhance port connectivity. These include:
 - building an evidence base for freight and ports;
 - ensuring ports, and their needs, are fully factored into transport and wider government decision-making;
 - improving communication of the successes and aspirations of the port sector; and
 - informing the port narrative within the long term vision - Maritime 2050 - for the maritime sector.
- The recommendations from this Study set out a series of actions which will be used to begin delivering the port connectivity vision. The recommendations are aimed at both government and industry, cover both short and long term work streams, and in some instances are necessarily phased.

Vision for the future of port and freight connectivity:

- 4.1 This Study has established a successful port industry is a vital part of a well-functioning economy. Imports and exports are essential to wider economic sectors, and ports play a crucial role for the UK in enabling international trade. Ports continue to invest to ensure their role in the supply chain is an efficient one, but there is evidence this must be combined with effective hinterland links in order for a port to maximise its potential.
- 4.2 Responsibility for investment in hinterland links has traditionally fallen under the remit of the public sector, but there is opportunity to explore alternative funding models and to be more innovative in leveraging private investment in our transport network.

Chapter 3 of this Study highlighted some of the excellent work being undertaken to progress port and freight connectivity across government, both in terms of policy and physical infrastructure across individual transport modes. It is crucial these efforts remain joined-up and consistent.

- 4.3 There is growing recognition that freight and ports are important, where previously such acknowledgement has been limited by a general lack of profile and understanding of port, and freight, issues. While progress is being made, there is potential for a greater step-change in how ports and freight are perceived across the country.
- 4.4 The levels of attention being given to port connectivity is certainly heading in the right direction, and there is more we can do on both a government and industry basis to ensure – for the benefit of the country – port connectivity is in an even better position in the future.

Vision

- Port and freight connectivity is a default consideration in government economic policy and investment decisions.
- The hinterland links to ports are a factor in successive national road and rail investment periods.
- The importance of successful port contributions to regional prosperity are recognised by Sub-national Transport Bodies (STBs), Local Enterprise Partnerships, and local government, and are factored into their plans for local and sub-regional networks.
- Engagement between government and ports at all levels is regularised and there is a firm understanding of current and future issues through improved flows of information.
- Ports continue to grow and invest, bringing continued FDI, and the UK remains a key stop on global trade routes.
- There is a clear, proactive understanding and joined-up policy approach to ports and freight across the Department for Transport and wider government.
- Data on cross-modal freight movements is significantly enhanced and the economic benefits are firmly captured and recognised in transport investment planning.
- The common interests of the freight industry (including ports) and the wider supply chain (including customers) are strongly and cohesively represented to government by the industry.
- The port industry has a higher profile within government, business and the public.
- The port sector continues to be a successful private sector industry playing a vital role in underpinning this country's trade and industry, contributing to economic prosperity and productivity, and is served by fluid hinterland transport links which contributes to the government's growth and environmental agendas.

Achieving the Vision

- 4.5 The recommendations from this Study set out a series of actions which will be used to begin delivering the port connectivity vision. The recommendations are aimed at both government and industry, cover both short and long term work streams, and in some instances are necessarily phased.

- 4.6 As these recommendations deal in part with matters of infrastructure and sectoral behaviour changes - which by their very nature can take time for revisions to have an impact – improvements to port connectivity will not happen overnight. However, it is right we start addressing these matters now to enhance the country’s trade platform, to pave the way for future economic growth, and to provide maximum adaptability to technological and global changes. These recommendations are the initial steps necessary to start delivering this vision.
- 4.7 The following sections describe the recommendations, and indicate some of the activities likely to be undertaken to deliver the recommendations.

Ports - vital enablers of the UK economy and trade

Ports cannot operate in isolation and are part of a wider economic supply chain critical to UK prosperity. Freight needs to be considered more holistically on a cross-modal basis.

- 4.8 This Study has been approached from a port perspective, but consideration of port connectivity cannot be segregated from wider supply chain issues, as it is fundamentally a wider freight and transport infrastructure matter.
- 4.9 Throughout the study, there was significant and positive engagement between the various DfT freight, infrastructure investment teams, and Highways England (HE) and Network Rail (NR) colleagues. There was a lot of overlap in interests, and cross-modal working was very constructive in developing this Study through effective sharing of information and views.
- 4.10 Undertaking the PCS has made clear the benefit of a consistent approach on freight matters. Stakeholders reinforced this message during the study and emphasised the need for a joined-up approach on freight. We will respond initially by instigating an immediate “virtual” cross-modal freight team (which is already the model being used to take forward engagement in the NIC freight study). In the future we will consider the potential for further integration of freight policy teams to ensure freight matters are given the coherence and focus they deserve.
- 4.11 With an increasing focus on trade and economic growth across government, such an overarching approach to freight will enable the Department to clearly make the case for freight in cross-government policy matters - for example when contributing to initiatives on trade and productivity contained in the Industrial Strategy.
- 4.12 This ‘virtual’ team can also provide central oversight of freight activity across the country. Devolution has brought about focussed regional initiatives on freight, such as the freight work streams of Transport for the North (TfN) and Midlands Connect (MC), which were seen by stakeholders as a positive step forward in identifying the importance of port connectivity. Similarly, LEPs have been undertaking transport investment in their own right across the country as well as feeding into work undertaken by STBs.
- 4.13 While there have been positive developments at a regional level, our stakeholders noted freight movements are a national as well as regional issue. As such it was important there is a cohesive national approach to freight to set overarching principles. A “virtual” freight team, in collaboration with the freight industry, will provide that framework, as well as consider freight projects on a cross-modal basis where there may be opportunities to achieve efficiency savings and trade-offs between modes.

- 4.14 This Study does not seek to set the boundaries for the role of the ‘virtual’ freight team and its terms of reference will be developed in due course. However, amongst the wider government freight work there is an excellent opportunity for the team to engage with the NIC to build on the progress already made during this Study in ensuring our port and cross-modal freight interests, and their vital role in our trading future, are well-captured in the NIC’s freight study.
- 4.15 The NIC’s freight study will make recommendations on the future of freight infrastructure to reduce the effects of congestion on productivity and ensure that wider freight connectivity, including to our ports, supports economic growth. Prior to this announcement, a number of port stakeholders had raised this as an issue that the NIC’s remit could usefully examine. This is a landmark opportunity for an independent cross-modal analysis of the long-term infrastructure needs of freight.

Recommendation 1:

The Maritime Modal Connectivity and DfT modal freight teams to form a holistic “virtual” freight team in order to:

- *Cohesively engage with the National Infrastructure Commission to ensure ports, and cross-modal freight interests, are recognised in their Freight Study; and,*
- *Better understand cross-modal freight issues in order to make the case for freight matters in cross-government processes and initiatives*

Building an evidence base for freight and ports

Our key economic corridors are vital to our national infrastructure, economy, and international trade. However we need to evaluate these further to build a more detailed understanding of freight movement, economic connectivity, trade corridors, and provide a robust evidence base to advocate for increased investment.

The case for port connectivity investment

- 4.16 Chapter 2 of this Study has set out the qualitative basis to support the case for an infrastructure investment focus on port connectivity. This provides substantial evidence which contributes to a strong strategic case for such investment. However, a robust evidence base to underpin the economic case has been more difficult to provide at this time.
- 4.17 It was found that there is currently a scarcity of data related to ports and freight, particularly for end-to-end journeys and full line of route transport (i.e. from quayside to end user). Information held between modes was often inconsistent, making effective cross-modal comparisons difficult. Consequently, the data were less extensive than the comparative information available to inform business cases for passenger transport schemes. This potentially makes freight business cases more difficult to evidence.

- 4.18 The port connectivity survey has significantly improved the level of information available to the Department on port plans and issues, and has already been used to help inform the next strategic road and rail investment development process (RIS2 and CP6 respectively).
- 4.19 The Study has therefore established a significantly improved evidence base on port connectivity and port developments which can assist future policy design. This evidence has been used to develop a series of 9 regional case studies on connectivity to English ports, and provides up-to-date and informative evidence on port needs. It also identifies specific connectivity issues against which to compare cross-modal investment priorities.
- 4.20 Whilst the survey data has meant a significant improvement from a low baseline, the overall quantity and quality of response to the survey, from an industry which often highlights connectivity as a critical issue, could be further improved.
- 4.21 The availability of freight data in an appropriate format was a limiting factor as the study had hoped to be able to accurately map key trade corridors at a national level between key economic centres and the main ports that serve them.
- 4.22 Given the wider economic benefits of facilitating trade, exports and economic growth, this is a strand of work we wish to return to on a national level in more detail once better data is available.
- 4.23 In order to build on the evidence base for freight connectivity, the Study makes the following recommendation:

Recommendation 2

DfT will build on the Study findings and take forward further data-focussed analysis of the key economic corridors to ports, seeking to model the commodities moved, by which freight mode, their value to the UK economy, and the benefits of increased connectivity, as well as identifying the sum of government spending on port-related projects.

- 4.24 This is the overarching objective, beneath which are likely to sit a number of activities aimed at improving the level and quality of freight and port data necessary to inform the corridor work (and freight connectivity work more generally). For example:
- Work has been undertaken at a regional level by TfN and Midlands Connect to identify local trade routes/corridors, and we will consider what lessons can be learned from this activity. In particular, the DfT Trade and Exports Team will initiate an Export Corridors Pilot study within the Northern Powerhouse. This will examine the UK's ability to export and the role that transport and the supply chain play.
 - The DfT will continue our development of the port freight forecast model for the port sector, working with industry to interpret our findings. This should provide greater evidence about the potential volumes, traffics and commodities which will underpin not only the ports sector but the freight sector and the economy more widely.
 - DfT intends to refresh and update its freight model. This was originally built for the Department around 2004 and slightly updated a few times since then, but not incorporated into its main suite of multimodal models. A robust and up to date cross-modal evidence base for freight, including detailed analysis of freight flows,

can then be used in wider transport modelling to inform policy and investment decisions in the DfT and across wider government.

- DfT will work with the port industry to build on the improved information provided by the port connectivity survey to enhance the quality of available information. In particular we will:
 - Consider options to move the survey beyond its original “one-off” occurrence to a more regularised process. A recurring survey will provide DfT with up-to-date information and enable us to continue being an informed advocate for the industry.
 - Work with the industry and the Infrastructure and Projects Authority (IPA) to agree a mechanism to secure details of port infrastructure investment data to feature in the National Infrastructure and Construction Pipeline. Currently, the Department has difficulty providing the IPA with appropriate levels of port information for inclusion. However, there is merit in ensuring port infrastructure investment is included alongside the broader spectrum of public and private infrastructure development.
 - This report has drawn together information across transport modes to produce an overview of port connectivity issues and activity in different regions. The DfT Maritime Modal Connectivity team will work with DfT Modal colleagues (policy and analyst), NR and HE, to develop a more systemic and streamlined way of capturing relevant data, including total sums of investment, on port connectivity in the future - in particular on the corridor analysis work.

4.25 When considering the future of port connectivity and “trade corridors” there is a need to ensure all transport options are evaluated. Waterborne freight is a potentially underused domestic freight mode and, whilst the Study focussed on land transport where government has a more direct influence on use of infrastructure, initial views were sought on how to increase the use of domestic freight by water.

4.26 The views on this from stakeholders were polarised. Some saw significant potential and believed enhanced incentives from government were necessary, while others saw little potential to extend waterborne freight beyond where it was already working.

4.27 The Department continually reviews policy positions and existing schemes, and has already commissioned research into Options for Changes to Revenue Support Freight Grant Schemes. This considered possible changes to mode shift schemes that would make it easier to apply for grant for intermodal rail freight through the Channel Tunnel and for coastal shipping. Uptake by these modes is very low compared with intermodal rail containers, particularly from ports.

4.28 The research developed a generic coastal shipping model to calculate financial need for grant (where the cost of using coastal shipping is higher compared with the equivalent road alternative). It also makes a case for an additional coastal shipping grant scheme, similar to the Mode Shift Revenue Support (MSRS) (Intermodal) scheme for Rail, but acknowledges limitations of the State aid rules on such a

scheme. We will seek to build on the findings of this study and consider the wider issues related to waterborne freight.

Recommendation 3

The DfT Maritime Modal Connectivity Team, working with industry, will seek to better understand the barriers, challenges and market opportunities of coastal shipping and inland waterways within the current freight landscape.

Ports by default – ensuring ports are a factor in decision making

There is an increasing awareness of the importance of road and rail connectivity to ports, but we need to ensure this issue is consistently part of investment, infrastructure and planning processes.

- 4.29 Chapter 3 of this Study has shown there is a significant amount of work ongoing across government which considers port connectivity.
- 4.30 In preparation for RIS2, HE is undertaking a strategic approach which identifies connecting international gateways as one of its key priorities, due to the wider economic benefits it drives. NR has also identified key port-related rail freight infrastructure as priority options for the government to consider.
- 4.31 These bodies are now actively seeking to capture port access issues in their planning, as are many local and regional bodies such as STBs and LEPS. The importance of facilitating trade is currently a key government focus, and so this Study has been of interest to Treasury and the Department for Business, Energy and Industrial Strategy (BEIS). It is also of value to the emerging NIC freight study.
- 4.32 Equally, the Transport Investment Strategy (TIS) recognised the need for future investment rounds on rail and road to be informed by the development plans of international gateways themselves. This Study is the first step in seeking to inform this process and represents a step-change in transport investment.
- 4.33 The course of undertaking this Study has highlighted the issue of port and freight connectivity and raised it up the government agenda. This momentum must be maintained so we can cement ports' position as a default factor in economic and investment policy. An important part of maintaining such a position is having the data to back it up (see recommendation 2), but also proactive advocacy and understanding of the needs of the ports industry.
- 4.34 To recognise the importance of port connectivity, and solidifying the progress made during the Study, a new Maritime Modal Connectivity Team has been created. This team will continue to promote port connectivity with the aim of ensuring port and freight issues are represented across government and within transport planning. The

team will be proactive in bringing stakeholders across government and industry together to foster better understanding of each party's issues and interests.

Recommendation 4

The DfT Maritime Modal Connectivity Team will seek to ensure the needs of our ports are captured, and included, in future investment decisions by default through representing the sector in all Departmental modal and cross-modal infrastructure investment processes, including:

- *Building on the momentum of this Study to engage further with DfT Rail/Network Rail and DfT Strategic Roads/ Highways England, DfT Place Teams, appropriate regional bodies and other transport delivery/investment bodies to ensure appropriate consideration is given to port freight priorities in business case development.*
- *Seeking to establish consistent, regular, and informed engagement between these bodies and ports to increase transparency, understanding and participation in transport investment processes.*

4.35 This will enable the DfT Maritime Modal Connectivity Team to continue to raise the issues port stakeholders encounter and move towards improvements. For example:

- Port representatives expressed concern consistently about the complexity of infrastructure investment planning processes such as Control Period 6 (CP6) and Road Investment Strategy 2 (RIS2), and their lack of knowledge of timings and criteria. Ports expressed a desire to understand these processes better, so that their own development plans could be more informed. We will work with DfT modal teams to identify how these processes might be better communicated to a port audience.
- There were similar concerns about the overall transparency of 'why' projects were not selected, or whether they were a 'near miss' and have potential as a priority for future funding rounds. This type of information would provide additional confidence to port investors that local issues have been recognised, and help ports to better promote relevant projects.
- There was a mixed picture reported by ports in terms of their experience of engagement with NR and HE both on specific projects, and wider consultation. Some fantastic examples were given of close working - some less so – and we would like to see greater consistency in ongoing engagement across England.
- The Maritime Modal Connectivity Team will work with DfT Rail colleagues to ensure that:
 - Network Rail scorecards for freight performance metrics take into account port views when considering rail freight customers experiences, and that Network Rail's end users are able to hold Network Rail to account for delivery that matters to them. Network Rail will be expected to develop scorecards for freight end users, including port's customers in CP6.
 - As Network Rail develops governance arrangements for its Route Supervisory Boards, there is consideration of how port customers will be represented.

- Ports are invited to DfT's Freight Strategy Advisory Group, to ensure policy development takes account of port interests and the role of ports in facilitating freight growth.
- The strategic business plans for each relevant Network Rail route consider port related rail freight issues
- Ports are invited to be members of relevant Route Advisory Boards
- HE set out in their Road to Growth paper their wish to work closely with the operators of major international gateways. SRN-dependent sectors need to better understand how the operation of the SRN meets their requirements, including seeking to secure port operator representation on their Sustainable Development Steering Group. The Maritime Modal Connectivity Team will liaise with HE to help facilitate this activity and engage in their recommended "last mile" study.
- There have also been some good examples, such as at one port, where the Maritime Modal Connectivity Team has liaised with local and place teams within the Department for Transport to consider a port's impact on the wider economic narrative of a locality. This approach has led to a better understanding of the opportunities of local funding and the work of local and regional bodies.
- Likewise the freight work streams of STBs such as TfN and Midland Connect are highlighting the importance of ports (and the links to them) on the regional economy. The Maritime Modal Connectivity Team will continue to build on these local links to ensure that local opportunities are fully recognised in port activities

High profile ports and freight) - enhanced engagement and understanding.

There is a lack of awareness of the vital role ports play as infrastructure that is critically important to national prosperity. There is a need for better engagement, influencing, information and joined-up thinking on port connectivity.

- 4.36 The port and freight industries are highly competitive. These markets concentrate communication on business critical messaging to their customers, but this does not always lend itself to the port and wider freight sector coming together to sell their collective advantages and benefits.
- 4.37 Whilst the competitive, and at times commercially sensitive, aspects of the industry may hinder joint communication, this scenario is further complicated by a wide array of target audiences with whom the ports need to interact.
- 4.38 For instance, ports' potential target audiences are varied: combined authorities and local authorities on a local scale; delivery bodies, such as LEPS and STBs such as TfN, at a regional level; NR, HE and central government on a national scale; and even the general public. The messaging to each of these audiences is equally varied, as the information or key topics which are relevant to one audience are potentially irrelevant to another.
- 4.39 While the challenge ahead is clear, there is greater scope for the port sector, as a singular entity and as part of the wider freight supply chain, to do more in showcasing the critical role it plays for trade and the economy. Similarly, there is more to do in articulating development plans and highlighting the vital role it plays in the everyday lives of the British people.

- 4.40 Current messaging on ports tends to be modally-specific with no central, singular freight voice across the breadth of the freight transport supply chain. More holistic freight messaging presents an opportunity to deliver a harmonised message from the wider freight supply chain, including customers, on common matters and enhance their overall position, for example by demonstrating the importance of effective freight flows – from factory gate to port gate – to the economy.
- 4.41 The recent rail industry campaign "Britain runs on rail"⁹⁷ is a good model of this type of outreach. The British Ports Association has recently undertaken some similar promotional activity with a video⁹⁸ that highlights the economic value of the ports industry, and a positive example of the type of activity we are recommending. The UK Major Ports Group has also developed infographics highlighting why ports matter⁹⁹, and we are seeing more activity by port operators themselves. This is a positive start, but could be further improved, particularly by focussing on audiences outside the immediate maritime and freight sectors.

Recommendation 5

In order for port interests to have a higher profile in economic and policy discussions we recommend:

- *Raising the bar on awareness by ports working together, through the UKMPG and BPA, to put in place a communication strategy to promote the importance of ports more widely.*
- *The ports industry work with cross-modal freight industries and the wider supply chain, including customers, to ensure the wider supply chain message on freight connectivity is cohesive, and ports are given appropriate weight within it.*

- 4.42 Equally there is a role for the Department in supporting and amplifying key industry messaging, and ensuring that its successes and needs are communicated appropriately across government. This takes two forms:
- Having the right information and understanding of issues to feed into these processes and represent the ports industry;
 - Taking an overarching, co-ordinating role and bringing interested parties together.
- 4.43 The first may be tackled by some of the activity under Recommendation 2, but detailed communication of port plans and needs via a Port Masterplan can assist in conveying these messages to a wider audience in a structured way.
- 4.44 The Study identified variation in the quality of engagement and sharing of information across the country. A number of our ports identified good levels of engagement with policy makers and delivery bodies at strategic, national and regional level in some areas, but less so in others. Similarly, stakeholders felt that at a local level, some

⁹⁷ 'Britain Runs on Rail', Rail Delivery Group

<https://www.britainrunsonrail.co.uk/>

⁹⁸ "The British Ports Association." New Video Highlights Value of UK Ports Industry Ahead of Draft Brexit Deal | The British Ports Association, 16 Jan. 2018, www.britishports.org.uk/news/new-video-highlights-value-of-uk-ports-industry-ahead-of-draft-brexit-deal

⁹⁹ <http://ukmajorports.org.uk/uk-major-ports-welcome-the-pms-remarks-we-must-capture-the-opportunities-from-brexit/>

LEPs and local authorities understood ports and actively considered their needs, but others did not.

- 4.45 Ports also told us they are often unsure of who to engage with, as well as how and when to influence, when it came to expressing their opinions on transport infrastructure development plans. In general, ports assessed themselves to have low knowledge of the criteria for successful consideration of port projects and were not receiving any feedback on how to market themselves more effectively. Timing of such influencing can be key where a port infrastructure project is in its infancy.
- 4.46 The DfT Maritime Modal Connectivity Team will build on the contacts and momentum established from this Study to both highlight port connectivity issues in relevant government processes, and bring together stakeholders for relevant discussions, by taking forward Recommendation 6.

Recommendation 6

The DfT Maritime Modal Connectivity Team will:

- *Utilise existing maritime strategy committees and ministerial round tables to ensure port connectivity and infrastructure needs are given appropriate space for action.*
- *Facilitate regional events and discussions between ports and regional bodies (e.g. LEPs, local authorities and sub-national transport bodies) to raise awareness.*
- *Review and re-publish Port Master Planning Guidance, with the expectation more ports undertake the process.*
- *Investigate mechanisms to encourage more consistent sharing of information by ports.*

Informing the long term view – port's contribution to 'Maritime 2050'

- 4.47 Maritime is an important enabling sector for the UK economy's global trade patterns and technology will drive how the maritime sector operates in the future – and ports will be an important component.
- 4.48 This Study has illustrated the clear linkages between efficient hinterlands, successful ports, and the subsequent overall benefits to the economy. Once the enhanced data are available and awareness of trade corridors is improved (recommendation 2) future developments for the port sector will be carefully and fairly considered. We will ensure the factors influencing port and freight connectivity identified in this Study will inform 'Maritime 2050'.

Recommendation 7

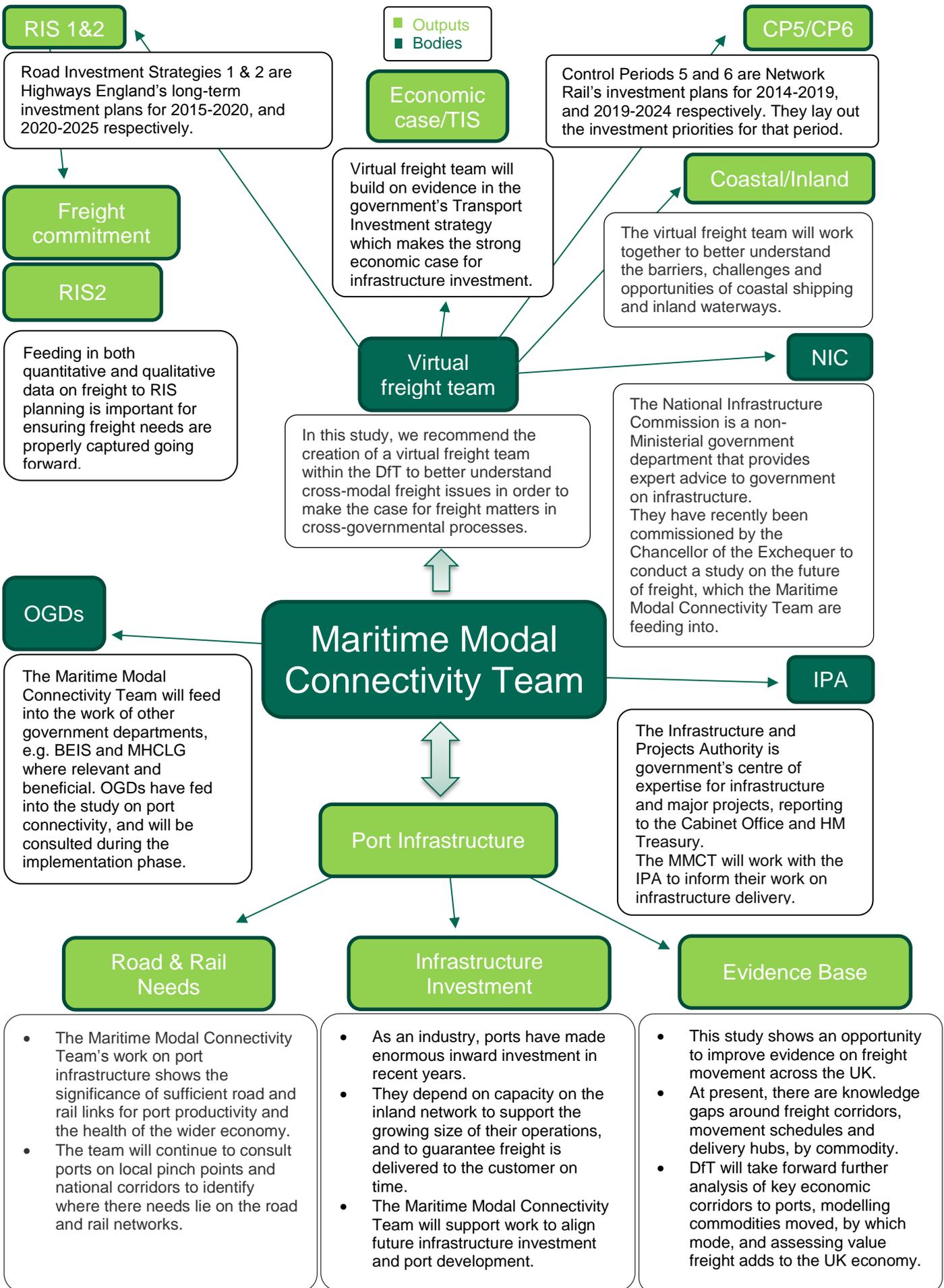
The DfT Maritime Modal Connectivity Team will work across the Maritime Directorate, with the industry and trade associations, to ensure the long-term vision for the sector, including how port connectivity can continue to make the UK an important node in global shipping patterns and technological change is fully captured in 'Maritime 2050'.

Next Steps

Taking forward the port connectivity agenda

- 4.49 This Study has been an important first step in understanding the current position and issues of port connectivity. It demonstrates the potential economic benefits in ensuring that effective port hinterland conditions are a priority factor in investment decisions, and that positive progress is indeed being made on this. However, we have also identified where this can be improved further, and that there may be benefits from both government and industry taking a more cohesive approach to freight matters.
- 4.50 Establishing this baseline and making initial recommendations for activity that set the direction for longer term improvement is Phase 1 of enhancing port connectivity.
- 4.51 Phase 2 is the implementation period for those recommendations and other connected activity that will be taken forward under the Maritime 2050 banner, in particular:
- Closer cross-modal working within a “virtual” freight team
 - Establishing better data on freight movement and mapping key trade corridors for ports
 - Engaging with the National Infrastructure Commission to inform their Freight Study.
- 4.52 Figure 20 provides an illustration of the ongoing work of the Maritime Modal Connectivity Team.

Figure 20: An illustration of the ongoing work of the Maritime Model Connectivity Team.



Annex A: Engagement and Information Gathering

Stakeholder Engagement

- A.1 This was led by Sir John Randall as independent lead for port engagement and consisted of a sequence of visits to ports and other fact-finding meetings with key stakeholders. The ports were recommended by the BPA and UKMPG with the criteria that they represented ports of varying type, scale, and geographical location.
- A.2 Sir John also hosted a workshop and roundtable discussion attended by a diverse selection of port stakeholders.

Information gathering

- A.3 Department for Transport officials focused on gathering a detailed evidence base on port development plans, as well as transport connectivity in the vicinity of ports and on key corridors to and from ports. This included:
- a Port Connectivity Survey issued to relevant ports;
 - a Local Authority and Local Enterprise Partnership Survey on Port Connectivity issued to relevant bodies;
 - close liaison with, and sharing of data by, Highways England and Network Rail
 - a detailed literature review.

List of parties engaged with:

Government	Department for Transport
Transport Select Committee Chair	DfT Road Freight Policy
HM Treasury	DfT Road Investment
Department for Business, Energy and Industrial Strategy	DfT Rail Freight Policy
Department for International Trade	DfT Rail Investment
National Infrastructure Commission	DfT Regional Engagement
Infrastructure and Projects Authority	DfT Strategy Unit
	DfT Trade and Exports

Port Sector	
UK Major Ports Group	Newhaven
British Ports Association	Port of Bristol

Peel Ports	Port of Shoreham
Associated British Ports	Port of Tyne
Port of Dover	Poole
Port of London Authority	Falmouth
Port of Tilbury	PD Ports
DP World	Portland Harbour Authority
Hutchison Ports UK	

Wider Freight Strategy

Network Rail	Midlands Connect
Highways England	Transport for the North
Road Haulage Association	Confederation of British Industry
Rail Freight Group	Chartered Institute of Logistics and Transportation
Freight Transport Association	

Freight Customers

Drax Power	Unilever
Marks and Spencer	Atlantic Container Line
Jaguar Land Rover	Evergreen Maritime
Toyota	Kuehne + Nagel

Annex B: Road Investment Process

Strategic Road Network (SRN)

- B.1 In respect of investment in the SRN, the Infrastructure Act 2015 sets out the statutory process for setting a Road Investment Strategy (RIS). To fill out the detail of what that process means in practice, the Department described its approach for developing the second RIS (RIS2) in Planning Ahead, published in March 2016.¹⁰⁰

Figure 21: Road Investment Strategy (RIS2) Planning Timeline



- B.2 In summary, the process for developing RIS2 consists of three phases, as shown in the accompanying diagram. The Research Phase concludes with the recent public consultation on Highways England’s Strategic Road Network Initial Report.
- B.3 During the course of this Study we have informally engaged with the RIS2 team to keep them up to date with findings so that can be fed into RIS2 planning.

¹⁰⁰ Road Investment Strategy post 2020: planning ahead, Department for Transport, 2016
<https://www.gov.uk/government/publications/road-investment-strategy-post-2020-planning-ahead>

Research Phase

- B.4 During this phase, the Department and Highways England have produced¹⁰¹:
- Six strategic studies, addressing particularly complex problems affecting specific parts of the SRN.
 - 18 refreshed route strategies, together covering the entire network, which identify the current performance issues and future pressures on the SRN.
 - The Road to Growth, a strategic economic growth plan for the SRN.
- B.5 As this work has progressed, the Department and Highways England, together with the Office for Rail and Road and Transport Focus, have engaged with a wide range of organisations and individuals. This includes road users, MPs, strategic transport bodies, local government, local enterprise partnerships, business groups and environmental organisations.
- B.6 Highways England has used the outputs from this work, and the wider process of engagement and analytical activity, to provide advice to Government on the current state of the network and its proposed priorities for RIS2 (the Strategic Road Network Initial Report). In turn, the Department has sought comments on Highways England's proposals through a public consultation.

Decision Phase

- B.7 The Government will draw on the evidence collected in the Research Phase, including responses to its consultation, to develop a prioritised set of proposals for RIS2 that is affordable within the available funding and can be delivered practicably. This is a formal process involving Highways England and the Office of Rail and Road.
- B.8 At the end of this phase, RIS2 will be published, followed by Highways England publishing their Strategic Business Plan in response. Together, these documents will set the framework for what is to be delivered during the second Road Period.

Mobilisation Phase

- B.9 Having reached decisions about the content of RIS2, Highways England will start work on individual scheme development. Before the start of the second Road Period, they will publish a Delivery Plan, setting out in more detail how they will implement RIS2.
- B.10 Throughout this process, information about RIS2 will be published at:
<https://www.gov.uk/Government/collections/road-investment-strategy-post-2020>.

Local Road Network and Major Road Network

- B.11 Local roads are funded out of local taxation and formula grant funding from central government. There are a number of additional funding pots available for local road investment, including:
- Large Local Majors
 - National Productivity Investment Fund
 - Highways Maintenance Challenge Fund

¹⁰¹ Future Investment in England's motorways and major roads, Highways England and Department for Transport, 2017
<https://www.gov.uk/guidance/future-investment-in-englands-motorways-and-major-roads>

- Transforming Cities Fund

B.12 The Department is currently consulting on proposals for the Major Road Network (MRN) that would target investment in the most important local authority A-roads. Final decisions on the investment process and the roads that form the MRN will be made in the light of consultation responses.

Annex C: Rail Investment Process

High Level Output Specification (HLOS) and Statement of Funds Available (SoFA) for Control Period 6 (2019 - 2024)

- C.1 The Department published the final Statement of Funds Available for the railway in England and Wales for Control Period 6, which covers the years 2019 to 2024. This follows the publication of a High Level Output Specification and initial Statement of Funds Available on 20 July 2017.
- C.2 At this stage it is expected around £47.9bn will be spent on the railway across Control Period 6. Of this, up to £34.7bn will be provided directly via Government grant, with the remainder coming from a combination of track access charges and income from other sources, such as Network Rail's property portfolio. These amounts will be refined during the regulatory process which will produce, by summer 2018, detailed draft amounts for the 2019-2024 period for consultation.
- C.3 The investment will focus on the vital work of maintaining and renewing the existing railway, although part of it will fund upgrades to the network known as 'enhancements'. The Statement of Funds Available includes funding to continue to take forward the enhancements that now span Control Period 5 and Control Period 6, as well as for continued investment in the accessibility of the railway and to support the rail freight network. The SoFA is also making provision for funding for early-stage development of new enhancement schemes.
- C.4 The SoFA includes funding for continued investment in improvements to the rail freight network. Government has recognised the crucial role that rail freight plays in supporting the economy and the environment, and our continued investment in the freight network reflects this.
- C.5 This publication of the HLOS and SoFA as part of the regulatory process is a key stage in the rail investment cycle, but there is more work to do before the start of the control period (CP6), including defining how much will be spent on the different elements of the railway. Network Rail has recently produced detailed business plans for 2019 to 2024¹⁰², which will be scrutinised by the independent regulator, the Office of Rail and Road, to ensure they are robust and deliver efficiently, with the final settlement agreed in late 2018.

New 'Pipeline' approach to Rail investment

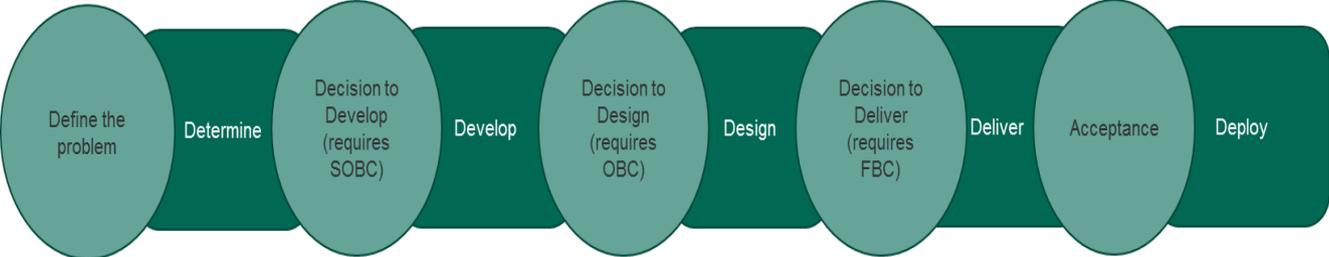
- C.6 The Memorandum of Understanding between Network Rail and the Department for Transport, published in March 2016, sets out the principles of the new pipeline approach to enhancements (shown below). It indicated a commitment to schemes in three distinct stages, each preceded by a decisions point. These commitments will be: 'decision to develop', 'decision to design' and 'decision to deliver'.
- C.7 The Department is responsible for specifying its strategic priorities and principles for enhancements. These objectives and the current position of the pipeline have been

¹⁰² <https://www.networkrail.co.uk/who-we-are/publications-resources/strategicbusinessplan/>

be set out in the Rail Network Enhancements Pipeline which was published on 20 March 2018¹⁰³.

- C.8 This framework gives the Department far greater control over the enhancements process and how infrastructure is planned and delivered, allowing us to alter the balance of the portfolio to meet our objectives and the available funding envelope.
- C.9 It also provides more opportunities for third party involvement in rail infrastructure by creating clearly defined requirements and priorities. Government is keen to encourage third party investment and delivery in rail infrastructure where it can provide best value for money, be consistent with other policy objectives, affordable and commercially viable.
- C.10 The Department for Transport published, on 20 March 2018, guidance for investors and developers to ensure the process for taking forward proposals and engaging with Government is as clear and transparent as possible¹⁰⁴.

Figure 22: 'Pipeline' rail investment process



¹⁰³Rail network enhancements pipeline : https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691719/rail-network-enhancements-pipeline.pdf

¹⁰⁴ Rail market-led proposals: <https://www.gov.uk/government/publications/rail-market-led-proposals>

Annex D: Recommendation Summary

Recommendation	Description
<p>Recommendation 1 -</p> <p>Ports cannot operate in isolation / Freight needs to be considered more holistically</p>	<p>The DfT Maritime Modal Connectivity and DfT modal freight teams to form a holistic “virtual” freight team in order to:</p> <ul style="list-style-type: none"> • Cohesively engage with the National Infrastructure Commission to ensure ports, and cross-modal freight interests, are recognised in their Freight Study; and, • Better understand cross-modal freight issues in order to make the case for freight matters in cross-government processes and initiatives.
<p>Recommendation 2 -</p> <p>Building an evidence base for freight and ports</p>	<p>DfT will build on the Study findings and take forward further data-focussed analysis of the key economic corridors to ports, seeking to model the commodities moved, by which freight mode, their value to the UK economy, and the benefits of increased connectivity, as well as identifying the sum of government spending on port-related projects.</p>
<p>Recommendation 3 -</p> <p>Understanding the potential for waterborne freight</p>	<p>The DfT Maritime Modal Connectivity Team, working with industry, will seek to better understand the barriers, challenges and market opportunities of coastal shipping and inland waterways within the current freight landscape.</p>
<p>Recommendation 4 -</p> <p>Ensuring ports are consistently part of investment, infrastructure and planning processes</p>	<p>The DfT Maritime Modal Connectivity Team will seek to ensure the needs of our ports are captured, and included, in future investment decisions by default through representing the sector in all Departmental modal and cross-modal infrastructure investment processes, including:</p>

	<ul style="list-style-type: none"> • Building on the momentum of this Study to engage further with DfT Rail/Network Rail and DfT Strategic Roads/ Highways England, DfT Place Teams, appropriate regional bodies and other transport delivery/ investment bodies to ensure appropriate consideration is given to port freight priorities in business case development. • Seeking to establish consistent, regular, and informed engagement between these bodies and ports to increase transparency, understanding and participation in transport investment processes.
<p>Recommendation 5 - Enriching port communication - a role for industry</p>	<p>In order for port interests to have a higher profile in economic and policy discussions we recommend:</p> <ul style="list-style-type: none"> • Raising the bar on awareness by ports working together, through the UKMPG and BPA, to put in place a communication strategy to promote the importance of ports more widely. • The ports industry work with cross-modal freight industries and the wider supply chain, including customers, to ensure the wider supply chain message on freight connectivity is cohesive, and ports are given appropriate weight within it.
<p>Recommendation 6 - Enriching port communication - a role for Government</p>	<p>The DfT Maritime Modal Connectivity Team will:</p> <ul style="list-style-type: none"> • Utilise existing maritime strategy committees and ministerial round tables to ensure port connectivity and infrastructure needs are given appropriate space for action. • Facilitate regional events and discussions between ports and regional bodies (e.g. LEPs, local authorities and sub-national transport bodies) to raise awareness.

- Review and re-publish Port Master Planning Guidance, with the expectation more ports undertake the process.
- Investigate mechanisms to encourage more consistent sharing of information by ports.

Recommendation 7 -

Informing the long term view – port's contribution to 'Maritime 2050'

The DfT Maritime Modal Connectivity Team will work across the Maritime Directorate, with the industry and trade associations, to ensure the long-term vision for the sector, including how port connectivity can continue to make the UK an important node in global shipping patterns and technological change is fully captured in 'Maritime 2050'.

Annex E: Glossary

- ACL** – Atlantic Container Line
- BEIS** – Department for Business, Energy and Industrial Strategy
- BPA** – British Ports Association
- Bt-k** – Billion Tonne Kilometres
- CILT** – Chartered Institute of Logistics and Transport
- CBI** – Confederation of British Industry
- CP5** – Control Period 5 (2014 – 2019)
- CP6** – Control Period 6 (2019 – 2024)
- DfT** – Department for Transport
- FBC** - Full Business Case
- FDI** – Foreign Direct Investment
- FTA** – Freight Transport Association
- HE** - Highways England
- HGV** – Heavy Goods Vehicle
- HLOS** - High Level Output Specification
- IPA** – Infrastructure and Projects Authority
- IS** – (BEIS) Industrial Strategy
- LA** – Local Authority
- LEP** – Local Enterprise Partnership
- LGF** – Local Growth Fund
- MC** – Midlands Connect
- MRN** – Major Road Network
- NIC** – National Infrastructure Commission
- NR** – Network Rail
- OBC** - Outline Business Case
- ORR** – Office of Road and Rail
- RFG** – Rail Freight Group
- RHA** – Road Haulage Association
- RIS 1** – Road Investment Strategy 1 (2015 – 2020)
- RIS 2** – Road Investment Strategy 2 (2020 - 2025)

Ro-Ro – Roll-on-roll-off
SFN - Strategic Freight Network
SOBC - Strategic Outline Business Case
SoFA - Statement of Funds Available
SRN – Strategic Road Network
STB – Sub-national Transport Body
TEU – Twenty-foot Equivalent Units
TfN – Transport for the North
TIS – Transport Investment Strategy
UKMPG – UK Major Ports Group