Department for Transport

Rail Freight Strategy

Moving Britain Ahead

September 2016

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Foreword

All too often, rail freight may feel it has been forgotten. This is understandable when the emphasis inside and outside the industry is very often focussed on passenger needs. But we must not lose sight of the very important role that freight plays in our railways. That is why I am delighted to welcome the Rail Freight Strategy which seeks to make sure freight plays a full role in our railways. This strategy has developed out of the strong relationship that has built up between the rail freight industry and the Department for Transport in the last few years.

Rail freight is one of the great success stories of rail privatisation. The private rail freight operators who took over from British Rail in the 1990s brought a new spirit of commercial enterprise and customer focus, and an innovative approach to operations, transforming a sector that had been in steady decline into one which in twenty years had doubled its share of the land-based freight market. We now have one of the most dynamic rail freight sectors in Europe, with a proven track record in adaptability.

The Rail Freight Strategy that we are publishing today sets out our vision both for how rail freight in its traditional sense can continue to grow – even if some of its traditional core markets are now in decline – and for the potential opportunities for the broader logistics sector and rail industry to collaborate and innovate in order to help relieve the pressure on our road network.

The rail freight industry has faced a number of uncertainties over recent months, including the decline in traditional core markets such as coal and reduced Channel Tunnel traffic due to migrant activity at Calais. I hope that this Rail Freight Strategy will enable the industry to look forward with confidence and ensure that rail freight continues to play a central role in our future vision for the railway.

I am already beginning to get a feeling for how passionate the industry is about rail freight. It is a passion that I share: rail is the most environmentally-friendly means of land transport, which can help to meet our ever-growing demand for consumer goods. Rail freight is a vital part of the national economy and it is difficult to imagine how industry could operate effectively and competitively without it.

I therefore want the vision that is set out in this Strategy to be recognised as a shared one. The input that we have received from Network Rail, the freight operators and

their customers is invaluable, and the willingness of all to explore innovative ways of developing services and markets is a clear demonstration of the industry's commitment. I look forward to seeing how the actions, ideas and proposals in this Strategy develop.

Paul Maynard MP

Rail Minister

Executive summary

1 The rail freight industry is a UK success story. It brings benefits to the UK economy estimated at £1.6 billion per year in productivity gains for UK businesses, reduced road congestion and environmental benefits. 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 roads - meaning rail freight has real potential to contribute to reducing UK emissions as well as building a stronger economy and improving safety by reducing lorry miles.

2 The Government has set a stretching and legally binding Fifth Carbon Budget which will see a 57 per cent reduction in emissions in 2032 compared to 1990 levels, on a path towards reducing emissions by 80 per cent by 2050 as set out in the Climate Change Act. Government is committed to ensuring that transport plays a full part in delivering the economy-wide emissions reductions needed to meet this target.

3 Currently domestic transport emissions make up nearly a quarter of total UK domestic greenhouse gas emissions, with road freight a significant contributor – in 2014 HGVs were responsible for 17 per cent of total UK transport emissions. Shifting more freight from road to rail therefore has the potential to make a real contribution to meeting the UK's emissions reduction targets. The emissions from rail freight itself are relatively low (only around 2 per cent of total UK transport emissions come from all of rail, including passenger) but there may nevertheless be opportunities to reduce emissions from rail freight further.

4 The full economic and carbon benefits of rail freight will only be realised if the industry is able to grow in key sectors and achieve its potential. However, structural changes in the rail freight market, including the decline in traditional bulk rail freight commodities such as coal, along with changing patterns of consumption driven by the rise of internet shopping and next-day deliveries, present challenges for the traditional operating model of rail freight. The rail freight industry will need to innovate and respond to these challenges.

5 Government recognises the importance of a stable policy framework to enable rail freight to grow and achieve its potential. That is why we have been working with the industry to develop a clear vision for rail freight, in order to provide a sense of direction from Government to help the industry plan ahead and provide greater certainty to customers and investors.

6 To understand the likely growth potential of the rail freight industry in the light of new market developments and network constraints, DfT commissioned Arup to assess rail freight growth potential by commodity and review the key capacity constraints that will limit this growth. Arup's assessment[1] of the rail freight market shows the impact on the rail freight industry of the recent decline in coal for use in power stations. But it also highlights the potential opportunity for the rail freight industry to establish new 'core' markets in the movement of commodities such as construction materials and

[1] www.arup.com/railfreightmarket

ports intermodal (i.e. deep sea containers arriving in the UK via ports). There is also long-term growth potential in some sectors which are currently relatively small markets for rail freight, including domestic intermodal (i.e. containers being transported within the UK), biomass for power generation and the automotive industry.

7 The Arup study also assessed the potential to reduce carbon emissions through greater modal shift from road to rail. The study concluded that, with the right policy interventions and investment, rail freight could make a significant contribution to reducing UK emissions, identifying ten illustrative measures which combined could theoretically lead to emissions savings of around 2.3 million tonnes of CO_2 equivalent ($MtCO_2e$) in 2030.[2] Although in practice it may not be possible to achieve such high savings (as measures would interact in various ways and some may overlap), this study nevertheless suggests that there is potential for modal shift to contribute to the UK meeting the Fifth Carbon Budget (which covers the period 2028-2032). Further work would be needed to understand in more detail the likely costs and feasibility of these measures in practice. The Government will also be publishing the findings of the Freight Carbon Review, which features some analysis of Arup's findings.

8 Based on the Arup study and extensive engagement with industry, in this Rail Freight Strategy we have identified four priority areas where further action by Government, industry and others could empower rail freight to achieve its potential:

a. Innovation and skills

b. Network capacity

c. Track access charging

d. Telling the story of rail freight

Innovation and skills

9 The rail freight industry has a strong record of innovating to improve efficiency and deliver the service its customers want. However, as an industry based on high fixed costs over long timescales, responding flexibly to changing markets presents a particular challenge. The rail freight sector has traditionally been underpinned by a high-volume, high-tonnage model, and the industry will need to focus on growing new 'core' volume markets following the decline of coal. The ports intermodal and construction markets may provide an opportunity for the industry to develop such new markets.

10 Alongside this, there is scope for the rail industry and wider freight industry to explore innovative new models that build on the particular strengths of rail and meet the demand from customers for a reliable, flexible and rapid delivery service. These may include parcels carried directly between and into city centres using the spare capacity on off-peak passenger services, or old rolling stock fully converted to carry freight into cities. Trials of these models are already happening (see Case study 2) and Government has commissioned a study by Arup to assess the potential market for such services, published as a supporting study to this Strategy[3].

11 As well as innovative practices or business models, there may be opportunities for

2 For comparison, total surface transport emissions were 109 $MtCO_2e$ in 2013. The 10 illustrative measures considered by Arup are at Annex D.

3 http://publications.arup.com/publications/c/carriage_of_goods_on_passenger_trains

the rail freight industry to focus on developing new technological solutions to improve efficiency and tackle wider challenges for the industry. For example, the cross-industry Freight Technologies Group is taking forward a number of innovative technologies and practices to improve industry performance and provide a better service for customers (see Case study 3).

12 The need to develop and maintain an up-to-date skills base is an integral element of any successful business, in particular one which is looking to develop innovative solutions. Case study 5 highlights the steps being taken by one operator in this area. The Rail Delivery Group (RDG) is working with the National Skills Academy for Rail to support the rail freight industry in engaging with the skills agenda.

Network capacity

13 Growing demand for both passenger and freight services in recent years means that it is more important than ever that sufficient capacity is available on our rail network to accommodate this growth.

14 Investment in infrastructure through the Strategic Freight Network Fund has already funded new enhancements on the rail network to support the growth of rail freight, with £235 million allocated to the fund during Control Period 5 (i.e. the funding period covering 2014-2019).

15 The need for future investment in the network after 2019 to support freight growth is being considered by DfT as part of the long-term planning process for the rail network, and will be informed by Network Rail's Freight Network Study and the initial industry advice due to be submitted to the Department around the end of 2016. This Rail Freight Strategy does not set out proposals for new enhancements to the network or specify in detail the freight paths that will be needed in future.

16 If freight is to continue to deliver the services that its customers need and expect, alongside new infrastructure we will also need to make the most of capacity on the existing network.

17 This will mean working closely with Network Rail and the rail freight industry to ensure that the allocation of capacity on the network balances the needs of all users, including freight. Network Rail is already focussed on ensuring the needs of freight on the network are adequately considered, and has announced the creation of a new "virtual route" to be headed by Paul McMahon as Managing Director for freight and national passenger operators. This reflects the recommendation in Nicola Shaw's report on the future shape and financing of Network Rail (the Shaw Report), published earlier this year, and is intended to provide a focus within Network Rail for those operations that run across the geographically-focussed routes.

18 Rail freight services operate in response to customer and supply chain demands, making it more challenging to plan for freight services than passenger services, which tend to run to a regular timetable and route. Existing processes are in place to identify "strategic capacity" within the timetable, which sets out pre-defined paths on the network to provide some degree of certainty of access to the network when needed. As part of work to develop the Rail Freight Strategy, a Strategic Capacity Working Group (including Network Rail, DfT and freight industry representatives) has been exploring options for strengthening these processes, and will be taking forward work to assess whether current mechanisms in the Network Code[4] should be modified to reflect this work. In addition, the Department is investigating the impact of

[4] The Network Code is a common set of rules and industry procedures that apply to all parties who have a contractual right of access to the track owned and operated by Network Rail. Further information is given here: http://orr.gov.uk/what-and-how-we-regulate/track-access/the-network-code

freight dwell times – time spent in loops or sidings to allow passenger services to pass – which could provide a basis for assessing potential trade-offs between passenger and freight train pathing decisions.

19 Maximising the efficient use of the network for all users also means keeping the timetable up to date, including ensuring that paths no longer required are either identified as strategic capacity or removed. Over the last two years, more than 3,700 paths no longer required for existing traffic have been relinquished by freight operators and removed or become available as strategic capacity. The RDG will continue working with Network Rail to coordinate the return of underutilised paths by freight operators.

20 In addition to Network Rail's role in the efficient allocation of capacity, the Government has an influence over how the network is used in the way it specifies passenger franchises. Freight operators are already consulted as part of the development of passenger franchise proposals, but the development of a Government strategy for rail freight now provides an opportunity to review the current process to identify where there is scope for the current and future requirements of rail freight to be more systematically considered. In the light of the initial industry advice we receive from the RDG, we will work with the industry to establish how to ensure that the franchising process is informed by a realistic view of likely future demand for rail freight.

21 Where investments on the network have been made specifically to enable freight growth, we are considering whether there is a need for this capacity to be protected for rail freight growth over a reasonable time frame to ensure value for money is realised from the investment. We are exploring the potential benefits and drawbacks of using Track Access Options to secure such capacity.

22 Alongside this, we are continuing the roll-out of digital signalling to unlock existing capacity constraints, and we are working with the rail freight industry to ensure that freight benefits from this.

Track access charging

23 Track access charges represent a significant cost for the rail freight industry, with the industry as a whole projected to pay £87 million per year in track access charges by the end of CP5. This will represent an increase of £15m per year by the end of CP5 compared to the level paid at the end of CP4 (2009-2014), with the increase phased in gradually over the five-year period.[5] The level and future trajectory of track access charges has an impact on rail freight operators' ability to offer competitive prices to their customers and therefore is an important factor in realising the future growth of rail freight.

24 Responsibility for determining the charging framework rests with the Office of Rail and Road (ORR).[6] ORR is currently working with the industry to review the structure of charges for CP6 (from 2019). Following its initial consultation in December 2015, ORR has announced that it will be taking forward work to gain a better understanding of the network's fixed costs and continuing work on a package of improvements to variable charges.

25 The Government is supportive of the principle of greater transparency about where costs are incurred on the network to support better decision-making across Government and the rail industry and help the public to better understand how their

[5] Based on ORR forecast figures during PR18.
[6] Network Rail has responsibility for developing charging proposals in line with guidance and objectives from ORR.

money is being spent.

26 At the same time, we recognise the positive benefits of rail freight for the UK – including its environmental and air quality benefits relative to road freight and its impact on reducing road congestion. These benefits are not currently recognised in the track access charging regime.

27 We will continue to support ORR's work to develop appropriate track access charges for freight from CP6, including by understanding the overall impacts on the rail freight industry of any changes. Alongside this we are considering whether further support may be needed from Government in future in recognition of the benefits to the UK economy and society of modal shift to rail which incurs far lower congestion and pollution costs and helps to improve road safety. Any new support would be subject to the identification of future funding and would need to be designed in a way that would avoid distorting the market.

Telling the story of rail freight

28 The rail freight industry has many potential benefits for customers and for the UK as a whole. But the competitive nature of the industry means that the industry has not always been good at coming together to sell its collective benefits to potential customers, decision-makers and the public. Similarly, the rail freight sector is not always well understood within the wider rail industry.

29 Good progress has been made by the industry, particularly in the last two years, in developing a collective narrative and taking opportunities to showcase its benefits and achievements. The RDG has played an important role in coordinating this work, including through producing the reports ‘Keeping the Lights On and the Traffic Moving’ (2014) and 'Freight Britain' (2015) which provide clear, reliable sources of information about the benefits of rail freight.

30 As part of work to develop the Rail Freight Strategy, Government established a Freight Communications sub-group to identify ways for the rail freight industry as a whole to maximise communications opportunities. RDG has agreed to take forward this work through a strengthened focus on freight as part of its existing Communications Group, bringing together communications representatives from both Train Operating Companies (TOCs) and Freight Operating Companies (FOCs) to enhance cross-industry working on major communications campaigns and initiatives.

31 The Freight Communications sub-group also identified the potential benefits of a single 'portal' for information about rail freight which draws together relevant and up-to-date information about rail freight in a single place. RDG will lead work to develop and host this portal as part of their work through the Communications Group.

Actions and next steps

32 A summary of the main actions agreed as part of this Rail Freight Strategy is listed in Chapter 6. We will be working closely with the rail freight industry, Network Rail and ORR, as well as colleagues in the Scottish and Welsh Governments and devolved bodies where appropriate, to take forwards these actions.

33 The development of this Strategy has been a highly collaborative process with a range of rail freight operators and customers, with particularly important input from the Rail Freight Strategy Advisory Group and RDG Freight Group (membership at Annex C). We envisage these groups playing an important role in taking forward the actions from this Strategy.

34 The Rail Freight Strategy will be reflected in the Government's future thinking about

rail strategy. It will also inform the Freight Carbon Review, to be published later this year, which is reviewing evidence on reducing emissions in the road freight sector.

1. Introduction

The rail freight industry today

35 The freight and logistics industry moves everything we need to live our everyday lives and to keep the economy moving: raw materials, fuel, construction materials, manufactured goods and consumer goods (from food to clothes to luxury products). In doing so it must share the use of our busy transport system with the people who use it to get around, while ensuring efficient, safe and sustainable movement for society as a whole.

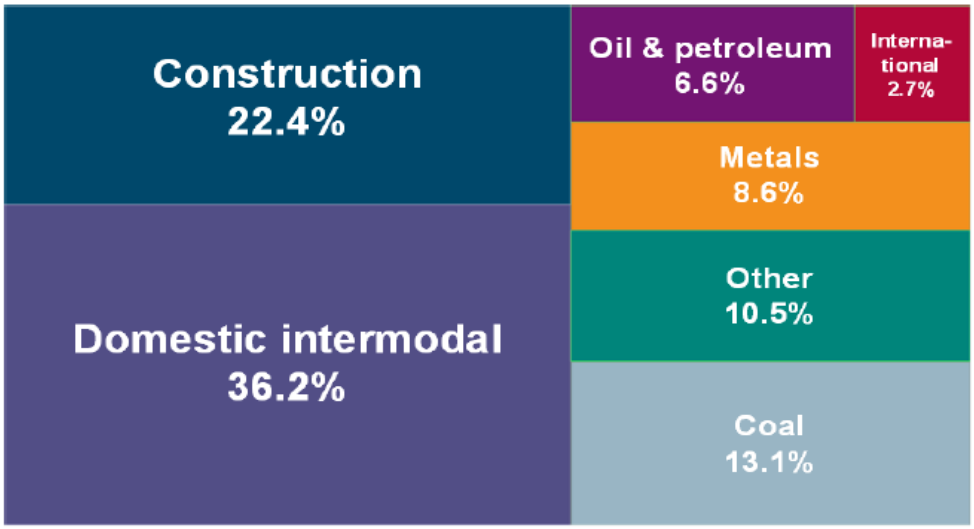
36 The UK freight and logistics sector is critically important to the competitiveness and growth of the economy as a whole. In itself it has been estimated as employing about 1.62 million people, with a further 2.35 million in related occupations – about 7.6 per cent of the UK workforce.[7]

37 Rail freight – that is, the use of the rail network to transport goods on behalf of customers in industry and commerce – plays an important role within the freight industry overall. Rail transported 17.8 billion tonne kilometres of freight in 2015/16, equating to 12 per cent of freight surface transport.[8]

38 Traditionally rail freight has been used to carry heavy bulk materials such as coal, iron and steel and aggregates (the sand, gravel and stone used by the construction industry). It is also now being used extensively to carry containerised goods between our ports and our major industrial centres: anything from imported clothing from the Far East to exported motor vehicles for the European and other markets. In recent years some of our major supermarkets have started using rail to carry fast-moving consumer goods from their national distribution centres to regional centres. An overview of the commodities moved by rail freight in Great Britain during 2015-16 is given in Figure 1.

[7] Source Freight Transport Association: Logistics Report 2016
[8] ORR Freight Rail Usage, 2015-16 Q4 Statistical Release, 19 May 2016. Billion Tonne Kilometres is a measure of the amount of freight moved, taking into account weight and distance travelled on the network.

Figure 1: Rail freight moved by commodity sector in Great Britain 2015-16[9]



39 Although the rail network is used for both passenger and goods transport, there is a significant difference in the way the two operate. Freight services operate in response to demand – if the customer does not need the delivery, the train does not run. Conversely, if a new market opportunity arises, rail needs to be able to take advantage of it. Passenger services operate in anticipation of demand: the services run in their timetabled slot whether or not there are any passengers there.

40 This means that rail freight services need to be able to operate more flexibly than passenger services. New services may need to be introduced in the course of the working timetable. And because in many cases rail freight services are one element in a much longer supply chain, they need to be able to reflect changes in that chain: the shipping company that uses the port of Felixstowe today may switch to London Gateway or Southampton tomorrow, but the goods still need to reach the same end destination at the same time.

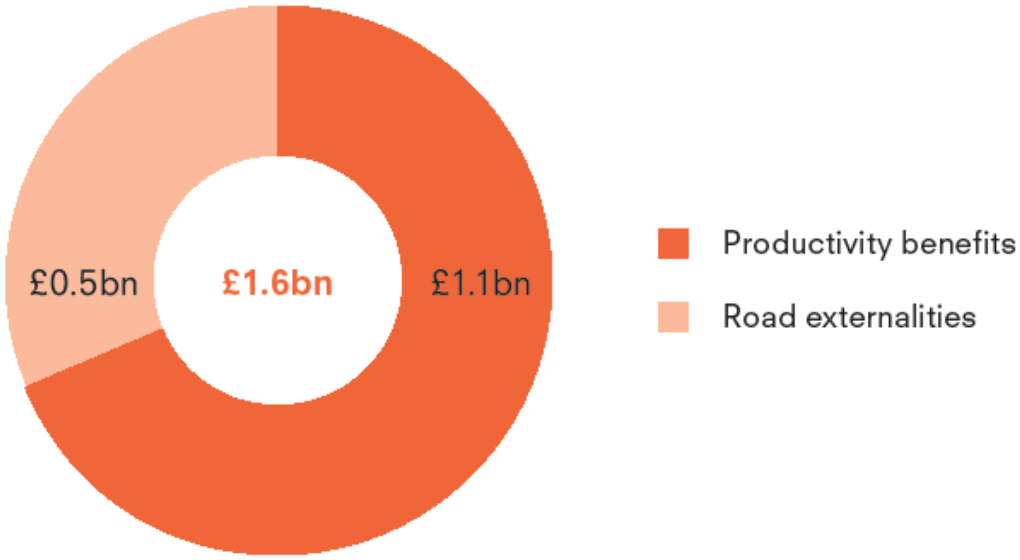
41 Five main freight operating companies (FOCs), in addition to a number of smaller rail freight companies, are licenced to operate in the UK. The main operators are listed at Annex B. In addition to specific rail freight services there is also potential for spare capacity on the rail network to be used to transport smaller goods or parcels; these models are considered further in Chapter 2.

Benefits of rail freight to the UK

42 Analysis by KPMG in 2015 estimated the benefits of rail freight to the UK economy at £1.6bn per year, including productivity gains for UK businesses, reduced road congestion and environmental benefits (see Figure 2). Each tonne of freight transported by rail reduces carbon emissions by 76 per cent compared to road, and each freight train removes 43-76 HGVs from the roads.[10] The rail freight industry is also an important employer in its own right: the five major FOCs directly employ over 5,000 people and have a combined annual turnover of more than £850m.[11]

[9] ORR Freight Rail Usage, 2015-16 Q4 Statistical Release, 19 May 2016. Note that ORR category "Domestic intermodal" includes port intermodal but excludes Channel Tunnel traffic.
[10] Keeping the lights on and the traffic moving, 2014, RDG (2012/13 prices)
[11] Freight Britain, Rail Delivery Group, 2015

Figure 2: Economic benefits of rail freight (2013-14)[12]



43 Although emissions from the rail freight industry itself are relatively low (the total emissions from all of rail represent only 2 per cent of surface transport emissions)[13], there is potential for rail freight to contribute, and play an important role in helping us to reduce emissions in the freight sector as a whole. In particular, transporting more freight by rail rather than road could help reduce emissions in the Heavy Goods Vehicle (HGV) sector, which contributes 22 per cent to total surface transport emissions despite representing only 5 per cent of road vehicles.

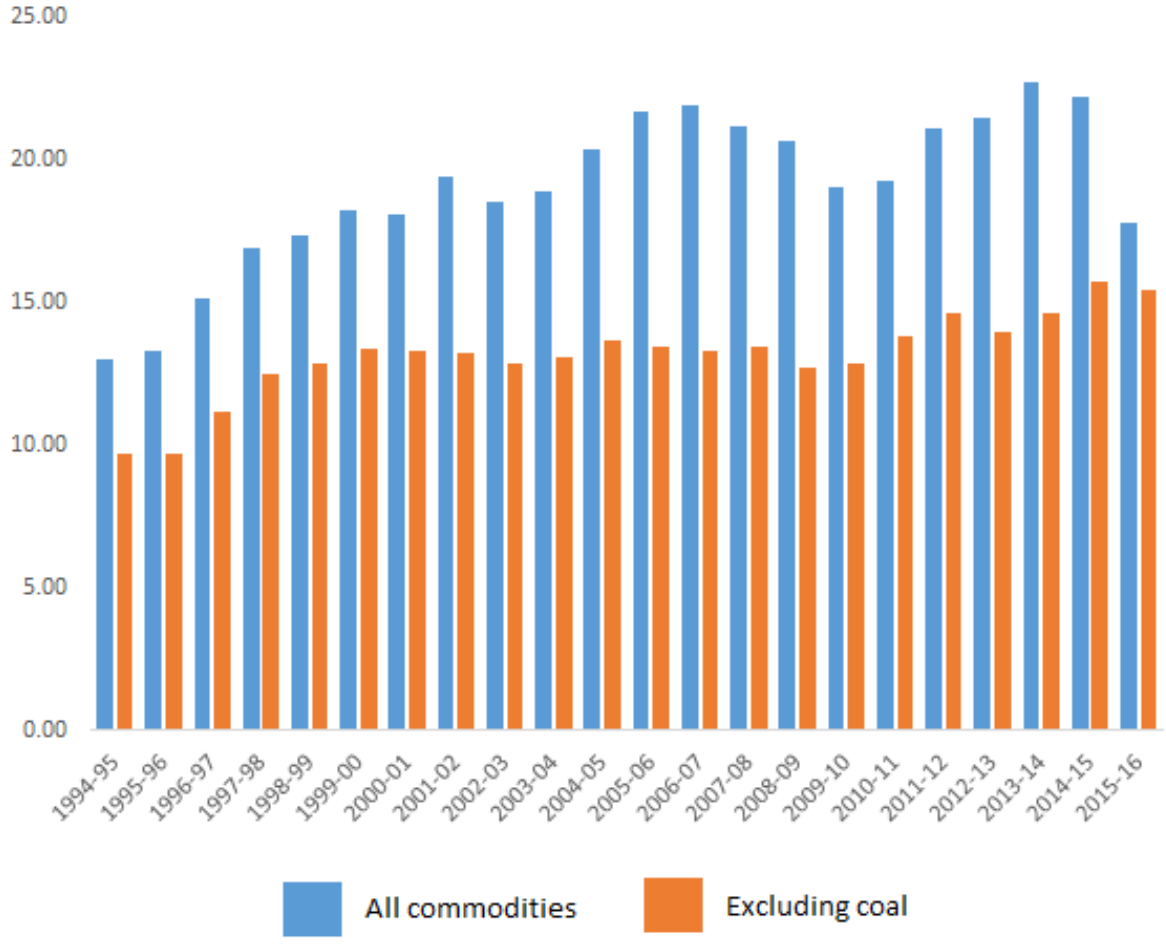
44 There may also be the opportunity to further de-carbonise rail freight. Only a small percentage of rail freight (around 5 per cent) is currently powered by electric traction. However as further electrification of the rail network is undertaken, it will be important to recognise the opportunities that this may present.

45 The rail freight industry is a UK success story. Since privatisation in the 1990s the industry has transformed itself, with the volume of freight moved in 2015/16 over 35 per cent above 1994/95 levels (see Figure 3), despite the recent sharp decline in coal traffic to power stations. For commodities other than coal, there was an increase in the volume of freight moved of around 58 per cent from 1994/95 to 2015/16.

46 An increasing proportion of freight is now being moved by rail. Since 1998, rail's share of all freight moved has increased from just under 8 per cent to 12 per cent in 2014. Compared solely to HGV transport, the proportion was 16 per cent.[14]

[12] Freight Britain, Rail Delivery Group, 2015
[13] Further details can be found at: https://documents.theccc.org.uk/wp-content/uploads/2015/11/Sectoral-scenarios-for-the-fifth-carbon-budget-Committee-on-Climate-Change.pdf
[14] ORR Freight Rail Usage, 2015-16 Q4 Statistical Release, 19 May 2016

Figure 3: Rail freight traffic (billion tonne kilometres)[15]



47 However, structural changes in the rail freight market – including the decline in traditional bulk rail freight commodities such as coal, along with changing patterns of consumption driven by the rise of internet shopping and next-day deliveries – present challenges for the traditional operating model of rail freight. The rail freight industry will need to innovate and respond to these challenges.

48 At the same time, Government recognises the importance of a stable policy framework to enable rail freight to grow and achieve its potential. That is why we have been working with the industry to develop a clear vision for rail freight, in order to provide the level of stability from Government that will help the industry plan ahead and provide greater certainty to customers and investors.

[15] Freight Britain, Rail Delivery Group, 2015

The Rail Freight Strategy

49 The last time Government set out a strategic vision for rail freight was in 2009's *Strategic Rail Freight Network: The Longer Term Vision*.[16] Since then, changes to rail freight's traditional core markets and recent reviews of the rail industry (including the Shaw Report and Bowe Review) mean that now is a good time to re-assess this strategy. In particular, the Shaw Report has identified opportunities to run the railway more efficiently and effectively to better meet the needs of its users, while the Bowe Review set out recommendations for more effective planning and delivery of investments in our rail infrastructure. This provides an opportunity to consider the role of freight, as an important user of the rail network, as Government works with the wider rail industry to take forward the findings of these reviews.

50 This Strategy complements Scotland's Rail Freight Strategy, *Delivering the Goods*, published in March 2016[17], which highlighted the importance of freight for the Scottish economy and identified four priority areas of focus for supporting Scottish rail freight: innovation, facilitation and partnerships, promotion of the benefits of using rail freight, and investment. We have worked closely with Transport Scotland in developing our Rail Freight Strategy, in recognition of the GB-wide nature of the rail freight market.

51 The Strategy also reflects the Welsh Government's commitment to maximising the potential for rail freight, whilst recognising that responsibility, and funding, for rail infrastructure has not been devolved. Recent reports by Welsh Ministerial Freight Task & Finish and Freight Working Groups promote exploring methods of supporting modal shift from road to rail, including working with Network Rail and other industry partners as part of the Long Term Planning Process, in order to maximise environmental and social benefits across Wales.[18]

52 This Strategy is mindful of devolution in the transport sector, particularly the establishment of sub-national transport bodies. In particular, Transport for the North has developed a Freight and Logistics Strategy for the North of England, and Midlands Connect are considering freight as part of a Transport Strategy for the Midlands. These studies will be important in setting out a vision for the role of freight (across all modes) in supporting economic growth across different regions of the UK.

53 This Rail Freight Strategy will not set out proposals for new enhancements to the network nor specify in detail the freight paths that will be needed in future. These issues are being considered by DfT on a longer timescale as part of the long-term planning process for the rail network, which will consider priorities for the railway beyond the current control period (from 2019). To inform the industry's advice to DfT as part of this process, Network Rail is currently consulting on a more detailed Freight Network Study. This considers the requirements of the rail network over the next 30 years and is intended to support the series of Route Studies that have been published or are under development by Network Rail.

54 The Rail Freight Strategy will be reflected in the Government's future thinking about rail strategy. It will also inform DfT's Freight Carbon Review and the Government's emissions reduction plan. The Freight Carbon Review is reviewing evidence on how best to achieve significant carbon abatement within the road freight sector, drawing on the work undertaken as part of the development of this Strategy on shifting more

[16] http://webarchive.nationalarchives.gov.uk/20110223093550/http:/www.dft.gov.uk/pgr/rail/strategyfinance/strategy/freightnetwork/strategicfreightnetwork.pdf

[17] Delivering the Goods: Scotland's Rail Freight Strategy http://www.transport.gov.scot/report/delivering-goods-scotlands-rail-freight-strategy-9044

[18] http://gov.wales/topics/transport/freight/wales-freight-working-group/?lang=en

freight from road to rail (modal shift). The Government's overall Emissions Reduction Plan, to be published later this year, will set out its approach to reducing emissions in line with the UK's legally binding emissions reduction targets under the Climate Change Act.

55 Ultimately it will be for the industry – including rail freight operators and the wider freight and rail industries – to deliver the vision set out here. Reflecting this, the development of this Strategy has been a highly collaborative process with a range of rail freight operators and customers. To support and drive forward this work, we have established a Rail Freight Strategy Advisory Group, which has established working groups to focus in detail on the priority issues in this Strategy. RDG Freight Group has also supported this work. We envisage these groups playing an important role in taking forward the actions from this Strategy. Detail of the organisations involved in these groups is given at Annex C.

Future potential of the rail freight industry

Future industry growth

56 To support the rail industry's long-term planning process, in 2013 Network Rail, in consultation with the rail freight industry and DfT, published its Freight Market Study (FMS) which developed forecasts for future freight volumes in 2023, 2033 and 2043. This forecast an overall growth in rail freight of 2.9 per cent per year (in total tonne kilometres) from 2011 to 2043.

57 These forecasts have been invaluable in planning what new investment may be needed on the network to accommodate future freight growth. However, because these forecasts were "unconstrained" – that is, they considered the potential growth of rail freight based on demand but did not consider how this growth might be affected by available capacity on the network – they are less useful for understanding how in practice various constraints may limit the level of rail freight growth and how these constraints could be overcome.

58 To understand the likely growth potential of the rail freight industry in the light of new market developments and network constraints, DfT commissioned Arup to assess rail freight growth potential by commodity and review the key capacity constraints that will limit this growth. This assessment[19] is not intended to replace or to be directly comparable with the assessment by Network Rail. Rather, it is intended to support the development of this Rail Freight Strategy by providing an insight into the growth that might be achievable on a constrained network, the barriers to future rail freight growth and the impact of different policy interventions.

59 Arup's assessment of the “constrained” growth potential across key commodities is summarised in Table 1. This shows the expected size of the market for different commodities in 2030.

60 This assessment highlights the impact of the decline in coal, but also highlights the potential opportunity for the rail freight industry to establish new core markets in the movement of construction materials and ports intermodal (deep sea containers). There is also long-term growth potential in some sectors which are currently relatively small markets for rail freight, including domestic intermodal, biomass and the automotive sector.

[19] Future potential for modal shift in the UK rail freight market, Arup for DfT, September 2016 (www.arup.com/railfreightmarket)

Table 1: Rail freight sectors growth assessment: summary of findings[20]

NOTE ON GROWTH PROJECTIONS: The estimates of growth potential in this table represent "constrained" forecasts, i.e. they estimate the growth we might expect to see given the likely constraints on the network. These forecasts could be exceeded in practice depending on the measures taken to address these constraints. These figures are not calculated on the same basis as Network Rail's "unconstrained" forecasts set out in the 2013 Freight Market Study and are therefore not directly comparable.

Commodity	Actual freight lifted in 2011: Million tonnes	Projected freight lifted in 2030 in constrained scenarios: Million tonnes	Overview and constraints/ enablers
Electricity supply industry (ESI) coal (coal for use by power stations to generate electricity)	41.1	High Constrained Forecast: 0.00 Central Constrained Forecast: 0.00 Low Constrained Forecast: 0.00	**Long-term decline** Assuming no change in UK Energy policy, the sector will see long-term decline as use of coal for electricity generation continues to fall. Some use of coal could continue but at a very low level for specialist flows.
Construction materials (e.g. cement, construction waste, bricks, bagged products)	18.2	High Constrained Forecast: 31.91 Central Constrained Forecast: 26.51 Low Constrained Forecast: 21.99	**Long-Term Growth** Strong growth potential in bulk movements of core aggregates, reflecting new building developments (e.g. housebuilding) and large infrastructure projects (e.g. High Speed 2, road building, Crossrail 2 and new nuclear power stations). Constraints will include: availability of terminal handling sites for bulk materials in appropriate locations as development activity moves from region to region; different wagon types and loading/unloading equipment for different commodities subject to investment and lead times.
Ports intermodal (deep sea containers arriving in the UK via ports)	15.1	High Constrained Forecast: 45.69 Central Constrained Forecast: 31.81 Low Constrained Forecast: 22.00	**Steady Growth** Overall volume of deep sea containers coming to the UK likely to show steady and strong growth. A move towards "mega-vessels" and larger ships is likely to favour rail given its strength in moving large volumes quickly.

[20]Future potential for modal shift in the UK rail freight market, Arup for DfT, September 2016 (www.arup.com/railfreightmarket)

NOTE ON GROWTH PROJECTIONS: The estimates of growth potential in this table represent "constrained" forecasts, i.e. they estimate the growth we might expect to see given the likely constraints on the network. These forecasts could be exceeded in practice depending on the measures taken to address these constraints. These figures are not calculated on the same basis as Network Rail's "unconstrained" forecasts set out in the 2013 Freight Market Study and are therefore not directly comparable.			
Commodity	**Actual freight lifted in 2011: Million tonnes**	**Projected freight lifted in 2030 in constrained scenarios: Million tonnes**	**Overview and constraints/ enablers**
			Possible scope to introduce new traffic flows via development of northern ports although concentration of population growth in the south-east means port traffic likely to remain concentrated in this region. Key constraints include: terminal capacity; gauge restrictions; and availability of freight paths.
Metals (steel, rails etc.)	8.0	High Constrained Forecast: 8.83 Central Constrained Forecast: 8.83 Low Constrained Forecast: 8.83	**Static** This sector is largely dependent on future volumes of UK steel production. Possible growth in scrap metal traffic due to an increase in recycling and/or a change in production methods within the steel industry.
Network Rail Engineering	6.9	High Constrained Forecast: 9.21 Central Constrained Forecast: 6.36 Low Constrained Forecast: 6.36	**Static** **This sector is closely linked to the railway modernisation and renewal programme.** Likely increase in the bulk movement of materials to distribution depots but there is also a risk modern handling methods may result in increased use road/rail vehicles reducing the need for heavy rail solutions. There is potential for rail to play a bigger role in major rail infrastructure projects (e.g. the construction of connections to HS2)
Ore	4.9	High Constrained Forecast: 4.13 Central Constrained Forecast: 2.07	**Static** The health of this sector is closely related to the UK steel industry - if steel production reduces or ceases, the one remaining major iron ore flow is likely to also cease. Whilst smaller

NOTE ON GROWTH PROJECTIONS: The estimates of growth potential in this table represent "constrained" forecasts, i.e. they estimate the growth we might expect to see given the likely constraints on the network. These forecasts could be exceeded in practice depending on the measures taken to address these constraints. These figures are not calculated on the same basis as Network Rail's "unconstrained" forecasts set out in the 2013 Freight Market Study and are therefore not directly comparable.			
Commodity	**Actual freight lifted in 2011: Million tonnes**	**Projected freight lifted in 2030 in constrained scenarios: Million tonnes**	**Overview and constraints/ enablers**
		Low Constrained Forecast: 0.00	flows may continue these are not in significant volumes.
Petroleum	4.8	High Constrained Forecast: 5.28 Central Constrained Forecast: 4.80 Low Constrained Forecast: 3.60	**Static** Movement by pipeline remains a key transport mode which limits growth potential in this sector There may be some potential for new flows (e.g. new onshore oil or fracking) which due to likely volumes and flexibility of rail over pipeline, could be moved by rail.
Non-ESI coal	3.1	High Constrained Forecast: 2.95 Central Constrained Forecast: 1.48 Low Constrained Forecast: 0.00	**Long-term decline** Small sector which is declining as industrial users move to less polluting fuel. Some specialist users may remain but volumes will be small with little potential for bulk movements. The sector will also be impacted by changes to the UK steel industry.
Industrial minerals	2.4	High Constrained Forecast: 2.73 Central Constrained Forecast: 2.73 Low Constrained Forecast: 2.73	**Static** This is a small sector with limited growth potential. Existing flows are likely to continue with the possibility of new customers. Whilst materials are suit to carriage by rail, additional volumes are likely to be small.
Domestic intermodal (containers being transported within the UK)	2.3	High Constrained Forecast: 5.81 Central Constrained Forecast: 4.03	**Steady Growth** Growth is likely in this sector although domestic intermodal is not well suited to the "whole train load" model of rail freight – a credible method of aggregation/consolidation would help realise growth.

NOTE ON GROWTH PROJECTIONS: The estimates of growth potential in this table represent "constrained" forecasts, i.e. they estimate the growth we might expect to see given the likely constraints on the network. These forecasts could be exceeded in practice depending on the measures taken to address these constraints. These figures are not calculated on the same basis as Network Rail's "unconstrained" forecasts set out in the 2013 Freight Market Study and are therefore not directly comparable.			
Commodity	**Actual freight lifted in 2011: Million tonnes**	**Projected freight lifted in 2030 in constrained scenarios: Million tonnes**	**Overview and constraints/ enablers**
		Low Constrained Forecast: 2.78	Even without growth in the sector, there is scope for rail market share to grow if current long distance general haulage traffic could be shifted to rail. Constraints include: the need for bespoke logistics solutions to facilitate movement by rail; the need for a sufficient volume (critical mass) to justify trainload operations; the need for investment in specialist equipment; and - the key constraint to unlocking potential in this sector - availability / construction of suitable rail-connected terminal facilities including SRFIs.
Domestic waste	1.6	High Constrained Forecast: 1.44 Central Constrained Forecast: 1.44 Low Constrained Forecast: 1.44	**Static** An increase in sorted waste has resulted in smaller quantities over a wider geographical area needing to be transported. Whist some volumes will be transported by rail this is unlikely to be a growth sector for rail, although there is some potential for new flows e.g. London to Avonmouth.
Biomass (for use by power stations to generate electricity)	0.8	High Constrained Forecast: 18.64 Central Constrained Forecast: 7.13 Low Constrained Forecast: 2.51	**Steady Growth** Likely to be growth potential based on current UK energy policy as Biomass will replace some of the coal volume but in smaller overall quantities (due to strategy on subsidies for conversion). Biomass has different handling requirements from coal (e.g. must be kept dry), which will require investment by ports and generators in new facilities and equipment (e.g. handling facilities at ports and power stations; covered hopper wagons).

NOTE ON GROWTH PROJECTIONS: The estimates of growth potential in this table represent "constrained" forecasts, i.e. they estimate the growth we might expect to see given the likely constraints on the network. These forecasts could be exceeded in practice depending on the measures taken to address these constraints. These figures are not calculated on the same basis as Network Rail's "unconstrained" forecasts set out in the 2013 Freight Market Study and are therefore not directly comparable.			
Commodity	**Actual freight lifted in 2011: Million tonnes**	**Projected freight lifted in 2030 in constrained scenarios: Million tonnes**	**Overview and constraints/ enablers**
Chemicals	0.7	High Constrained Forecast: 0.77 Central Constrained Forecast: 0.77 Low Constrained Forecast: 0.77	**Static** This a small sector and growth is unlikely. Location of chemical plants (near coast and customers) tends to favour road and sea modes over rail.
Automotive	0.3	High Constrained Forecast: 0.61 Central Constrained Forecast: 0.51 Low constrained Forecast: 0.42	**Slow Growth** Currently a small sector for rail freight but has growth potential. Opportunities for new flows and even two way flows through the Channel Tunnel show potential as does the carriage of components. There is also potential for growth in rail market share, at key entry ports, as automotive imports are greater than exports although many of same constraints apply. Constraints include: limited supply of specialist wagons; restrictions on loading gauge (limiting the carriage of larger SUV type vehicles); and availability of freight train paths.
Channel Tunnel[21]	0.6		**Limited growth** Limited growth in the short term but potential for increases over the longer term. In particular there is an opportunity to increase rail market share of this cross-channel traffic. Security issues relating to the migrant crisis in Calais have recently been a barrier to growth but the situation has improved since 2015.

[21] As the Channel Tunnel traffic figures are largely already counted within other categories, the future growth potential is left blank to avoid double counting.

Modal shift and emissions reduction

61 Arup were also commissioned to provide a high-level assessment of the likely scale of carbon emissions that could be saved by 2030 through shifting freight from road to rail, and the types of policy interventions that would be needed in order to achieve this.

62 This work identified the potential to achieve significant carbon savings through modal shift from road to rail by 2030. The report identifies ten illustrative measures which, combined, could potentially lead to emissions savings of over 2.35 million tonnes of CO_2 equivalent ($MtCO_2e$) in 2030. The illustrative measures are summarised in Annex D. In practice, as some of the illustrative measures overlap, the benefits achievable may be lower than a simple aggregation of the figures would imply, but this analysis gives an indication of the potential contribution modal shift could make to reducing transport emissions (total surface transport emissions were 109 $MtCO_2e$ in 2013).

63 While the theoretical savings from modal shift are potentially significant, further work would be needed to understand in more detail the likely costs and feasibility of such measures, and it is likely that not all of the measures would be deliverable or affordable before 2030. Nevertheless, this work provides an insight into the areas that Government should focus on in order to support greater modal shift from road to rail to help the UK to meet its emissions reduction targets.

Unlocking the future potential

64 The report by Arup identified a number of priority issues which should be considered in order to remove barriers to growth and support rail freight to achieve the potential growth and modal shift set out above. These include:

a. **Infrastructure capacity**, including addressing limitations in the network (such as gauge clearance and lack of direct rail access in key locations); supporting development of high capacity rail freight interchanges; wagon availability; and availability of efficient freight paths to improve journey times.

b. **Cost barriers**, including costs of additional journey legs for door-to-door journeys with a rail leg, and high capital cost for new facilities (including new locomotives, wagons or equipment).

c. **Flexibility of rail freight services**, including responsiveness of train path allocation; the improvement of freight train path speeds; the '7 day railway'; the need for suitable and resilient diversionary routes for freight; and operators' ability to flex load sizes to attract smaller firms.

d. **Attitudes and awareness**, including the need for easy-to-access information for current non-rail users, and the need to overcome cultural barriers and risk aversion among customers.

e. **Skills, Training and Innovation**, including the development of alternative technologies, the need to review business models to explore opportunities for greater aggregation of loads and ensuring that the freight industry is fully engaged in the skills agenda.

65 Our existing Government policies are already making progress in many of these areas. For example:

a. **Investment in rail freight infrastructure** via the Strategic Freight Network Fund – £235 million over CP5 for enhancements such as: enhancing the capacity of the Felixstowe Branch Line; enabling 775m train operations out of the port of Southampton; improving rail access to the Port of Liverpool.

b. **The designation in January 2015 of the National Networks National Policy Statement** which has provided the Planning Inspectorate with a clear statement of Government policy on the development of Strategic Rail Freight Interchanges (SRFIs). This also provides developers with a clear indication of the evidence they need to submit in applying for planning permission. The National Networks National Policy Statement has been welcomed by the rail freight industry, which advises that proposals for SRFIs are now starting to come forward.

c. **The Mode Shift Revenue Support scheme** which encourages modal shift from road to rail where the costs are higher than road, and where there are environmental benefits to be gained. It currently helps to remove around 800,000 lorry journeys a year from Britain's roads.

d. **Digital signalling** is already deployed on parts of the rail network and will be in service from 2018 on the new Thameslink and Crossrail routes. It is key to enabling more train paths. We are working with industry to establish the strategy for accelerating the rollout of digital signalling, targeted at areas where network capacity is needed the most (see Chapter 3 for more detail).

66 Given the number of different areas of Government policy that can have an impact on the rail freight industry and its customers, a joined-up approach across Government will be important to making the most of the benefits of and opportunities for rail freight. The cooperation between DfT and Home Office to address the recent migrant crisis at the Channel Tunnel in Calais provides an example of how cross-Government co-operation can have a significant impact on addressing policy challenges. As a result freight flows through the Channel Tunnel are beginning to recover.

67 In this Rail Freight Strategy we have identified four priority areas where further action by Government, industry and others could enable rail freight to achieve its potential:

a. Innovation and Skills

b. Network capacity

c. Track access charging

d. Telling the story of rail freight

68 The remainder of the document sets out some of the issues identified in these areas, and outlines actions and next steps in resolving them.

2. Innovation and Skills

Overview

69 The decline in traditional bulk rail freight commodities such as coal, together with changing customer demands, present a challenge for rail freight. The rail freight industry is largely configured around a model of efficiently moving high volume or high tonnage cargos, and its "whole train load" model is not readily adaptable to multiple smaller loads.

70 Rail freight operators, with the wider rail industry and freight and logistics companies, will need to innovate to respond to this if they are to continue to deliver the service customers want and support the clean, sustainable growth of the UK's economy. This will include identifying where new technologies could support more efficient ways of doing things, as well as identifying and responding to new market opportunities.

71 The rail freight industry has a strong record of innovating to improve efficiency and deliver the service its customers want. Since privatisation, competition has helped to transform the industry into a dynamic and efficient sector. Between 2003/4 and 2013/14, freight tonnes lifted increased by 30 per cent while train numbers fell by 30 per cent, resulting in an increase in tonnes per train of over 80 per cent.[22] The challenge for rail freight will be to continue to build on this record to become an industry for the 21st century.

72 As an industry based on high fixed costs over long timescales – with long asset lifetimes and difficulty in reducing or changing its operating models at short notice – responding flexibly to changing markets presents a particular challenge. Nevertheless, the rail freight industry has demonstrated that it is able to adapt creatively to shifts in the market (see for example Case study 1). It also continues to seek out new markets, and to renew customer interest in the potential of rail to deliver their goods – particularly where markets previously existed for rail but over time had switched to road. Case study 4 provides an example of an operator using the opportunity of a market trial to demonstrate the feasibility of using a rail-based transport solution.

New business models

73 As set out in Chapter 1, potential growth in the ports intermodal and construction markets presents an opportunity for the industry to develop new core markets to help fill the gap left by coal.

74 Alongside the traditional rail freight sector's high-volume, high-tonnage model, there is scope to explore innovative new models that meet the demand from customers for a reliable, flexible and rapid delivery service.

[22] Rail Delivery Group (2015): Freight Britain

Case study 1: Freightliner - converting coal hoppers into modern box wagons

In support of a new contract with Tarmac, the UK's leading building materials and construction solutions provider, Freightliner needed to provide a fleet of modern, high capacity box wagons and decided to investigate the possibility of using recycled parts from coal hoppers that had recently been made redundant by the national decline in coal usage.

With the help of wagon provider Greenbrier Europe it was determined that, with some modifications, the bogies (framework carrying wheels attached to the wagon) and some of the braking equipment from the hoppers would be compatible with an existing design of box wagons that Greenbrier had previously produced.

As a result, in November 2015, Freightliner Maintenance Ltd (FML) in York began the recovery and modification of the bogies which were then transported by Freightliner Road Services to Greenbrier Europe in Poland who completed the production of the wagons.

The first 23 brand new open box wagons have now arrived in the UK, transported by Freightliner Poland.

Throughout the whole complex process Freightliner engaged fully with the Office of Rail and Road (ORR) to ensure that UK and European safety standards and legal requirements were met.

The creative approach taken by Freightliner meant that redundant assets that would have stood unused and deteriorating were given new life in the form of recycled bogies and brake components, reducing waste and saving energy.

75 In particular, as the growth in intermodal traffic begins to shift freight demand to those areas of the network where passenger demand is also growing, it will be important to find new and creative ways to maximise the use of existing network capacity and offer new services to customers, if rail freight is to continue to grow. In particular, where there is spare capacity on passenger trains there is a potential opportunity at relatively low additional cost, as this capacity largely goes to waste each time a train runs without it being used. There are opportunities for the wider freight and logistics industry, working with the rail industry, to make more innovative use of this capacity.

76 This could include new models such as parcels carried directly between and into city centres using the spare capacity on off-peak passenger services, or old rolling stock fully converted to carry freight into cities. These new models offer the opportunity to reduce the number of vehicles in city centres, reducing carbon emissions and improving air quality by supporting final mile delivery through zero-emission technology such as electric vans. Trials of these models are already happening (see Case study 2), and Government has funded a study by Arup to assess the potential market for such services, published as a supporting annex to this Strategy.[23]

77 The Arup research has concluded that there is potential to develop this market: there are a number of small-scale examples in operation, a variety of operational models that could be implemented and a number of business models available to industry. The potential market is for time-sensitive, valuable or otherwise important goods that are currently typically sent by Next Day and 2 to 3 Day delivery providers, and goods that can be easily accommodated in cages that can be efficiently loaded and unloaded and do not require special handling. Where the distances involved are medium to long (in effect, 100 miles or greater) the passenger rail network can achieve quicker journey times than road.

78 These models will not replace core business models for traditional rail freight operators, but nevertheless they have the potential to provide the reliable, time-sensitive delivery of goods which customers and supply chains want, providing economic and environmental benefits while offering value for money for fare-payers and taxpayers. In particular, greater use of such models could reduce the need for the use of road freight within cities for the movement of small goods and parcels, with potential benefits for air quality, reduced congestion and improved safety as well as for emissions reduction.

79 It is for industry – including current rail freight operators, passenger train operators, the wider freight industry and third party logistics providers – to respond to the changing market to develop new business models. But Government has a role in supporting and enabling this by demonstrating the opportunity which exists.

80 We also recognise that a clear policy framework from Government, including capacity on the network that will enable growth and clarity on the track access charging regime, will play an important role in enabling industry to innovate. These issues are considered in Chapters 3 and 4.

23 http://publications.arup.com/publications/c/carriage_of_goods_on_passenger_trains

Case study 2: Colas Rail - Express Deliveries: 'high-speed rail freight solutions'

Colas Rail, in partnership with Eddie Stobart/Sainsbury's and TNT Urban Logistics, have undertaken trials, utilising converted rolling stock (Motorail NVA wagons) to carry goods from supermarket roll cages and pallets to clothing and garments – even cars – from central rail-connected warehousing direct to Euston Station.

With the help of customers, Colas developed an 'express service' pilot to provide: greater same-day coverage from central warehouses; faster transit times when compared with road and 'classical' rail freight; and direct rail access for freight to city centres.

Colas modified the former wagons, which are able to operate at 100mph. The modifications included fitting the carriages with their own lighting and power supply allowing the carriage of goods at both ambient and controlled temperatures and built-in strapping allowing for securing loading, meaning the wagons can carry a wider variety of goods.

The creative approach taken by Colas has highlighted the opportunity for rail to offer an express freight service, direct to city centres which provides same-day national delivery solutions to customers with greater speed and reduced emission compared to road.

New technologies

81 As well as innovative practices or business models, there may be opportunities for the rail freight industry to focus on developing new technological solutions to improve efficiency and tackle wider challenges for the industry. The cross-industry Freight Technologies Group is already taking forward a number of innovative technologies and practices to improve industry performance and provide a better service for customers (see Case study 3). There may also be scope to explore greener alternatives to diesel fuel such as biofuels, more advanced technology such as hydrogen or electric or developing new ways of reducing noise.

82 Technological innovation can also be an enabler of new business models. For example, better data about freight movements across the UK could enable the identification of new opportunities for aggregation or consolidation of deliveries into container loads or train loads, enabling the efficient and economic use of rail freight to transport a broader range of goods.

83 Over the longer term, new technological developments are likely to present both an opportunity and a challenge for rail freight, as the rise of electric and autonomous vehicles and development of advanced manufacturing techniques such as 3D printing change the freight landscape. This will make it even more important for the rail freight industry to continue to innovate to be ready to respond to these changes.

Skills

84 In order to develop existing business and to take advantage of innovative ideas and technologies, it is essential that the industry can maintain and enhance its skills base. Many of the railway operators already have initiatives to develop their own training and apprenticeship programmes, recognising the value of the "hands-on" experience that apprenticeships provide. The experience of one of these initiatives is outlined in Case study 5.

85 The establishment of the National Skills Academy for Rail (NSAR) has been an important step forward for the industry. The NSAR works with employers to understand their skills needs, with training providers to ensure they are delivering what the industry needs and with other stakeholders, such as sector skills bodies and Government, to make sure that the industry has the right qualifications to support its vision.

Case study 3: Freight Technology Group

Formed in 2014 the Freight Technology Group is a cross-industry workstream responsible for identifying and developing technology solutions to benefit the sector. This collaborative group, which includes Network Rail and the freight operators, aims to ensure the rail freight sector is engaged in the future vision of the Digital Railway. Recognising the opportunities to use technology to advance the sector the group has a very clear remit, developing schemes that contribute to improving performance, safety and customers' experience of rail freight as well as increasing capacity and reducing costs.

Three technology schemes are currently being delivered. This includes rolling out iPads, which are loaded with timetable advisory software, to train drivers across a number of freight operators. This software tells the train driver how the train is progressing relative to the timetable and is expected to lead to fuel savings of up to 3 per cent. The software also captures large amounts of this data for Network Rail which can assist with performance issues and help optimise and improve future timetables.

A further software solution aims to improve customers' experience of rail freight. 'Freight Collaborative Decision Making' will offer a passenger station style arrivals board at freight yards and terminals to give users of rail freight more visibility of the anticipated timings of freight trains. This is expected to improve decision making and boost performance.

Preparing a train for departure on the network requires collecting significant amounts of information about the consist of the train. The Mobile Consisting Application is intended to digitally transform what is currently essentially a manual process. Instead of collecting the necessary information on paper and faxing it to a clerk for input into Network Rail systems, this application allows data to be collected on a tablet computer and transmitted directly into the necessary systems. It is expected that this will reduce the turnaround time of freight trains thereby improving performance and enabling better asset utilisation and giving Network Rail visibility of trains being prepared for the network.

There are a number of other innovative schemes in the pipeline designed to ensure that the industry is well-placed to embrace technology to put the sector on the front foot.

Case study 4: GB Railfreight / Europorte / B logistics / STVA – Cars transported through Channel Tunnel by rail for the first time in five years

Overnight from 4 to 5 July 2016, a train transporting new cars from Bristol in the UK to Ghent in Belgium travelled through the Channel Tunnel. This is the first time in five years that this type of traffic has been carried via the Tunnel, drawn by the need for reliable and secure transport for this high-value merchandise.

The traction for the car train was provided by GB Railfreight, the rail freight subsidiary of Groupe Eurotunnel, working on behalf of European automobile transport specialist, STVA UK Ltd. From Fréthun, B Logistics and Europorte France completed the journey to Ghent, Belgium.

Each train was made up of nine double-deck STVA wagons, which were tailor-made to transport vehicles. Each wagon can carry 24 cars, with each train transporting 216 cars a week.

The components that went into the manufacture of the vehicles being transported came in part from continental European suppliers themselves and had already been transported through the Tunnel en route to the assembly plant.

This train therefore demonstrates the exchanges and the just-in-time logistics flows between the continent and the United Kingdom for which Groupe Eurotunnel offers a complementary service, with its truck shuttles on the one hand and its rail freight services on the other.

This contract also signifies GB Railfreight's ambition to continue diversifying its portfolio and forge forward with its European growth plans.

Case study 5: Freightliner - Skills and Apprenticeship in Action

Freightliner fully endorses the transport industry's goal of ensuring a continuous pipeline of skilled workers in the rail industry and supports this by providing young people with structured development and employment opportunities including internships (seven in 2015), graduate engineering programmes through participation in ATOC's Railway Engineering Graduate Scheme (REGS) (two currently enrolled) and through our Engineering Apprenticeship scheme.

In 2015, Freightliner recruited five engineering apprentices, four of whom are employed at Freightliner Maintenance Ltd (FML) in Leeds as Engineering Maintenance Technicians on a scheme which should take 42 months to complete.

Freightliner is continuing to develop the scheme further, and a new Apprentice standard – the Railway Engineering Technician – has been developed by employers within the industry. Ahead of the phasing out of the old apprentice frameworks by April 2017, Freightliner is planning to recruit further new apprentices who may go onto the new standard this year.

The apprenticeship is a minimum of three years and involves at least 20 per cent off-the-job training where the apprentices will study towards a BTEC certificate. The new recruits embarking on the new apprenticeship will undertake core learning including a week's core 'Apprentice Development Programme' giving them a basic solid grounding in the railway industry including signalling, ERTMS (European Rail Traffic Management System) and the digital railway and will specialise in traction and rolling stock.

They will be assessed throughout their apprenticeship and, following a final assessment, be fully fledged Railway Engineering Technicians.

James Kindon, Apprentice Electrical & Mechanical Locomotive Maintenance Technician

"I learn something new every day. I now have the confidence to work alone or in a team and I get the chance to share my input in any job we undertake. In my opinion, there is no better way of learning engineering than being able to watch and do it with your hands."

Actions

86 **Supporting industry to identify new market opportunities.** The Arup report mentioned in paragraphs 76-79 highlights opportunities for the use of space on passenger rail services to achieve value for money and reduce the cost to the fare payer as well as taxpayers, while realising environmental and social benefits. The report identifies the provision of information about opportunities as an important enabling role for Government, and by publishing this report the Government hopes to encourage industry to develop innovative ways to exploit such opportunities.

87 **Support for innovation in the rail industry more widely.** Government is already piloting a number of measures to support innovation, including requiring franchise bidders to include strategies for innovation giving innovation a higher weight in evaluating bids, and ring-fencing 1 per cent of franchise revenues in an in-franchise innovation fund to trial new methods, products and services with long term and widespread benefits. The Arup report also identifies Government support for innovation in the rail industry as an important enabler for the development of such new business models.

88 **Supporting a collaborative project on UK freight movements data.** Data 4 Freight is a collaborative project between Transport Systems Catapult and DfT which aims to use data science techniques and closer working with freight operators to develop a better understanding of UK freight movements. By making better use of existing freight data, providing intermodal freight data and exploring more efficient ways of collecting data from companies, this project hopes to develop a better evidence base on freight movements which could lead to improved infrastructure and efficiencies in transporting freight, support measures to reduce empty running and understanding the UK's resilience in times of crisis. Funding has been agreed for initial 'proof of concept' work to understand the potential to collect data from freight companies. This work will conclude in March 2017, and a decision will then be taken about whether to proceed to the second phase of the work. The project is due to conclude in March 2018.

89 **DfT will ensure that rail freight is considered as part of work on options for wider deployment of biofuels to decarbonise the freight sector.** DfT is already undertaking work to support the development of a UK advanced biofuels industry through the award of capital grants, supported by significant private sector investment, to construct three demonstration-scale advanced biofuel plants. As part of the Freight Carbon Review, DfT is considering options for wider deployment of biofuels in the freight sector. As this work progresses we will ensure that rail freight is considered.

90 **Supporting the rail freight industry to engage with the skills agenda.** RDG will host a skills workshop aimed at the rail freight industry, in partnership with the National Skills Academy for Rail, to support the rail freight industry to engage with the wider skills agenda. This will aim to help raise awareness of opportunities and initiatives (such as apprenticeships) which the industry could benefit from.

3. Network capacity

Overview

91 The growth of both passenger and freight sectors in recent years has created considerable challenges over the allocation of capacity. The provision of adequate capacity on the rail network to respond to demand will be a key enabler for further growth.

92 The decline of rail's traditional commodities such as coal, and the growth of the intermodal and aggregates sectors, is likely to change the geographic footprint of rail freight by moving demand to the key arteries and the routes to and from the deep sea ports. This is also where there are higher levels of population and where the majority of passenger growth is forecast. Balancing the needs of different users of the rail network to ensure the optimal use of limited capacity will therefore increasingly be a challenge.

93 New investment on the rail network will help ensure that we are able to meet this growth in demand. Major infrastructure schemes such as High Speed 2 (HS2) will deliver a transformational step change in capacity on our rail network and provide resilience for future growth in demand, including increased capacity for both passenger and freight services. Any further infrastructure investment that may be needed to accommodate increased demand will be considered by DfT on a longer timescale as part of the long-term planning process for the rail network, which will consider priorities for the railway beyond the current control period (from 2019).

94 Ensuring sufficient capacity on the network will mean not only identifying the right priorities for future infrastructure investment, but also always making best use of the existing network. This could include making more flexible and innovative use of existing infrastructure; for example, Case study 6 illustrates an example of a freight operating company making flexible and innovative use of the existing network through introduction of a 'pop-up' rail depot to meet new customer demand. It will also mean ensuring that space on the network is efficiently allocated, including through more efficient timetabling.

95 The passenger services specified by DfT as part of its franchising process also have an impact on the interactions between passenger and freight services, particularly on heavily-used shared routes. Freight operators are consulted as part of the development of passenger franchise proposals, and existing freight services are normally considered as part of the development of proposals for replacement franchises, with bidders instructed to assume that these services continue to exist. However, there is not a well-developed process for assessing the potential for future freight traffic growth to impact on franchise proposals and vice versa. The development of a clear Government strategy for rail freight provides an opportunity to review this position and consider whether the passenger franchise proposal process might be made more robust in this regard.

Investing in infrastructure

96 The introduction of the ring-fenced Strategic Freight Network (SFN) Fund in CP4 (2009-2014), building on the previous use of the Transport Innovation Fund to undertake infrastructure investment specifically focussed on rail freight needs, has seen the construction of a number of projects designed to improve the efficiency of rail freight and to reduce its impact on passenger operations. These projects include three major chord connections at Nuneaton North, North Doncaster and Ipswich; gauge clearance on the Strategic Freight Network to create a network of routes capable of carrying 9'6" deep-sea shipping containers on standard wagons, and works to enable the operation of freight trains up to 775m long on key sections of the network.

97 Although Sir Peter Hendy's Review of Network Rail's maintenance and renewal programmes in 2015 has resulted in the deferral of around £17.5m of the proposed SFN spend for CP5 to beyond 2019, £235m of the initial CP5 budget has been maintained and is being used, among other things, to prioritise the enhancement of the single-track branch line from the Port of Felixstowe to Ipswich, improvements of the rail network connections to the Port of Liverpool, further works to enable freight train lengthening on the routes out of Southampton and enhanced gauge clearance of the Severn Tunnel. The Hendy Review noted that the average benefit to cost ratio of projects funded by the SFN budget was between 4 and 5 – "very high" according to the Department's criteria.

98 Following the Hendy Review, Network Rail has also committed to raising £1.8 billion from the sale of its property portfolio to support investment in infrastructure during CP5. No decision has been taken about the manner in which the freight estate might contribute to this, and Network Rail has commenced a robust process to review the complete freight land holdings and the options for the portfolio for the future. Network Rail has a number of options including retaining the sites and actively building the income they produce. The review process will include an assessment of which sites are currently or could be actively used for freight or other rail-related uses and identifying any sites which may be surplus. A full consultation will be undertaken before any decision is taken about disposal of any freight sites owned by Network Rail.

99 As the RDG starts to prepare its initial industry advice for the Government for CP6, it is taking into account the recommendations made in the Bowe Review and the Shaw Report. In particular, Network Rail has already announced the creation of a new "virtual route" to be headed by a Managing Director for freight and national passenger operators. This reflects the recommendation in Nicola Shaw's report and is intended to provide a focus within Network Rail for those operations that run across the geographically-focussed routes.

100 Network Rail's Freight Network Study, which was published for consultation on 11 August, takes as its basis the Freight Market Study published in October 2013. It considers the infrastructure capacity and capability investments that are likely to be required in CP6 in order to accommodate the freight growth forecasts for 2023 and those that will be needed to accommodate future growth to 2033. It also considers its customers' priorities and finally sets out a proposed strategy to map the development of the network to the anticipated market growth.

101 The actions that are identified below complement the more detailed consideration given to the capacity and capability of the network in the Network Rail draft Freight Network Study and in no way anticipate funding decisions to be taken in the preparation of the Government's Rail Investment Strategy for CP6.

Case study 6: DB Cargo and CEMEX introduce 'pop-up' rail depot

DB Cargo UK and CEMEX have opened a ‘pop up’ rail depot to serve the growing North West construction market and reduce the number of HGVs transporting materials from the picturesque High Peak countryside.

The ‘pop-up’ depot was installed in weeks on land adjacent to the West Coast Mainline using a readymade weighbridge and office.

The temporary site, based in Warrington, Cheshire, will handle around 125,000 tonnes of aggregates each year.

The aggregates are transported from Dove Holes Quarry in Derbyshire on two weekly rail services, with each train carrying approximately 1,540 tonnes of aggregates. Up to 150 HGVs would be needed to carry this by road.

The service provides significant environmental benefits as rail freight produces around 76 per cent less CO_2 than HGVs for the equivalent journey.

This ‘pop up’ depot and associated services demonstrate how rail transportation can be innovative and flexible to meet the needs of its customer whilst making effective use of existing infrastructure.

Digital Signalling

102 Digital signalling, such as European Rail Traffic Management System (ERTMS), has the potential to unlock existing capacity constraints and enable future growth in the rail freight market. We are exploring the case for its rollout and an accelerated deployment targeted around capacity pinch points. This will need to include areas where capacity needs to be unlocked to support additional freight paths.

103 To unlock the capacity benefits, freight trains will need to be fitted with on-train digital signalling systems. However there are significant challenges around managing the cost and complexities of digital signalling across freight fleets, and targeting fitment on fleets which would benefit the most from the additional capacity it brings. We will work closely with freight operators and the rail industry to establish an affordable plan for freight rolling stock.

104 The introduction of digital signalling could also bring significant private sector investment and reduce the burden to the tax payer. We will be exploring the possibility of leveraging this, working closely with rail freight operators and customers to establish the opportunities.

Strategic Capacity for freight

105 There is a fundamental difference in how freight and passenger services are planned. Freight services operate in reaction to demand whilst passenger services operate in anticipation of demand. This makes it easier to plan for passenger services – the introduction of new services tends to be aligned to one of the regular biannual timetable changes, often as part of a franchise commitment. Although many intermodal services and biomass deliveries could be timetabled in a similar way to passenger services, the lengthy lead times for timetable planning make it more difficult to plan new or amended freight services in the same way. This difference drives the need to anticipate future demand and reserve the paths on the network that are most suitable to enable the growth.

106 The concept of 'strategic capacity', which aims to address this, is already well recognised. There are existing industry processes within the Network Code, supported by a Network Rail Code of Practice, to identify ‘strategic capacity’ within the timetable in the form of pre-defined paths whose identification and availability within the timetable provides a degree of certainty of access to the network. However, the number of such slots is limited, and, without certainty regarding which terminals will be required for prospective services, it is often not possible to match reserved slots on the main line with slots on terminals when the demand comes.

107 Although strategic capacity provides a means of identifying capacity available to enable growth, improvements to processes are also required to ensure that it delivers the desired strategic outcome on key freight corridors. These are being explored by the Strategic Capacity Working Group, a subgroup of the Rail Freight Strategy Advisory Group (see Annex C). At present, apart from International paths, ‘strategic capacity’ has a single definition in the Network Code.

108 The working group has identified four potential categories of strategic capacity:

a. International paths conveying traffic to and from the Channel Tunnel (already defined and protected within the Network Code)

b. ‘Secured’ Strategic Capacity – capacity created for freight through Government investment

c. Strategic Freight Capacity identifying end-to-end paths on core freight routes, and

d. Other Strategic Capacity identified on other parts of the rail network over smaller sections of route

109 It is now considering what changes might be needed to the Network Code to define the additional categories.

Realising the benefits of freight investment

110 Significant investment is being made in the network, for example through the Strategic Freight Network Fund, to increase both its capacity and its capability to support rail freight. It is often the case that an investment programme involves a significant number of interventions over a large geographic area and that means that the benefits are only fully realised when all enhancements are complete. This drives the need to protect the incremental capacity that is created through individual interventions in order to ensure that end-to-end outputs are deliverable upon completion of the entire investment programme.

111 Where investments have been made specifically to enable rail freight growth, we are considering whether there is a need for this capacity to be protected for rail freight growth over a reasonable time frame to ensure value for money is realised from the investment. This is particularly pertinent to enhancements brought about through the Strategic Freight Network Fund.

112 However, there is an equally important issue where rail freight customers are making investments off the network (such as in distribution sites) in anticipation of being able to use the network for their business, and are potentially also providing network benefits through their investment. Their ability to realise a return on their investment may be put at risk if the required capacity is not available once the off-network development is complete.

113 The Strategic Capacity Working Group is considering whether a mechanism involving a Freight Track Access Option may be a practical means of doing this. Such an Option could be held by DfT or by other, private funding bodies, in order to protect outputs through the creation of 'Secured Strategic Capacity'. However, further work will be needed to explore whether this mechanism is feasible, how it would work for freight capacity and how to manage potential trade-offs with demand for passenger capacity expansion.

Managing capacity and increasing capability

114 As well as improvements to the capacity of the network, which often require the creation of additional infrastructure in the form of further tracks or loops, increasing its *capability* can also help get the best use out of the existing network (for example, through reviewing and lifting speed and weight restrictions). Modifying existing loops to enable them to be used dynamically – where the freight train is not obliged to come to a standstill within the loop while it is overtaken by a passenger service – is another aspect of increasing capability. The use of more powerful locomotives can also help to increase the operating speed of rail freight, which in turn improves the efficiency with which the network is used.

115 Furthermore, as further electrification of the network is completed, we anticipate that the FOCs will progressively increase their fleets of electrically-hauled or potentially bi-fuel locomotives. Electric traction provides greater haulage power and faster acceleration.

116 Network Rail is also exploring extending the scope of "nodal yards", which provide strategic regulating points between which rail freight services can be pathed at optimal speeds to reduce rail freight dwell times. The Transport Systems Catapult (TSC) is undertaking a study into this, funded by the Department for Transport. The "nodal yard" concept is one that Network Rail is already operating at Ipswich and Wembley and is interested in developing further; the TSC study – which is due to report by March – will produce an algorithm to provide an independent assessment of the potential benefits of reducing freight dwell times. There is a possibility that this algorithm may also provide a means of assessing potential trade-offs between passenger and freight train pathing decisions – for example the relative economic benefits or disadvantages of flexing one service or another to either optimise an existing path or enable an additional path to be included in the timetable.

Timetabling

117 To maximise efficient use of the network for all users, it is important that the timetable is kept up to date, including that paths are either deleted or considered for identification as strategic capacity when they are no longer required. Paths identified as strategic capacity then need to be optimised to improve their journey times. Doing this ensures that best use can be made of capacity on the network.

118 Over the last two years more than 3,700 paths that are no longer required for existing traffic have been relinquished by freight operators and have either been removed completely from the timetable or have become available as strategic capacity.

119 The timetabling process presents an additional challenge for timetabling rail freight services. New or amended freight services are usually added to the timetable once existing train services are already planned; so pathing them between existing services often results in sub-optimal paths which require the train to be regularly looped or held back behind other services. As this results in slower speeds and increased journey times, it can deter customers from using rail.

120 On key freight corridors where there is a known expectation of future growth, the identification and inclusion within the timetable of Strategic Train Slots would assist in developing more efficient paths for both passenger and freight operations from the outset.

121 More generally, Network Rail's national system operator plays an important role in promoting better use of the existing capacity on the network. ORR is currently reviewing how changes to how the system operator is regulated might support Network Rail to deliver improvements in this area.

Actions

122 **Investing in infrastructure.** We will work closely with Network Rail and the industry to understand priorities for rail freight as part of the CP6 planning process, including further options for optimising the capability of the network to accommodate longer and faster freight trains alongside increasing levels of passenger services. We will also work closely with Network Rail and the industry to encourage third party investor confidence in the sector. We have noted the commendation in the Hendy Review of the high value for money achieved by the Strategic Freight Network fund.

123 **'Virtual' freight route and implementation of Shaw Report.** Network Rail has already announced the creation of the new Freight and National Passengers route, which will come into effect from August, as part of its commitment to strengthen its

freight capability and to improve the resourcing and focus on freight at the infrastructure manager level. We will work with Network Rail to support this work and ensure it supports and enables rail freight to reach its potential.

124 **Ensuring the franchising process adequately considers freight services.** In developing its strategy for new franchise competitions, the Government will consider how the current and future requirements of rail freight could be more systematically considered in the passenger franchising process.

125 **Strategic capacity for freight.** In addition, the Strategic Capacity Working Group will continue to develop thinking on strategic capacity, including considering whether the current mechanisms under Part D of the Network Code are adequate to identify and protect strategic capacity, with an assessment of whether or not the Network Code needs to be changed to encompass further categories of strategic capacity.

126 **Realising the benefits of freight investment.** The Strategic Capacity Working Group will continue to develop its thinking on the potential benefits and drawbacks of using Track Access Options to secure capacity created through investments made in the Strategic Freight Network or other schemes with key freight deliverables.

127 **Increasing capability**: Network Rail will in its Freight Network Study look at the potential for reviewing speed and weight restrictions; the Freight Network Study will inform the initial industry advice to the Department as part of the CP6 planning process.

128 **Exploring the potential for "nodal yards".** In the light of the findings of the Transport Systems Catapult report into the scope for reducing rail freight dwell times, due to report by March 2017, we will work with Network Rail to consider the potential for a network of "nodal yards".

129 **Timetabling.** Over the last two years more than 3,700 paths that are no longer required for existing traffic have been relinquished by freight operators and have either been removed completely from the timetable or have become available as strategic capacity. To build on this:

a. RDG will continue working with Network Rail to coordinate the return of underutilised paths in order to cleanse the timetable.

b. Network Rail and the Freight Operators will consider whether contractual agreements should include specific provisions on the return of paths at the end of the contract.

c. We will work with Network Rail to explore the scope for introducing a more holistic approach to timetable design.

4. Track access charging

Overview

130 Track access charges represent a significant cost for the rail freight industry, with the industry as a whole projected to pay £87 million per year in track access charges by the end of CP5 (2014-2019). This will represent an increase of £15m per year by the end of CP5 compared to the level paid at the end of CP4, with the increase phased in gradually over the five-year period.[24] The level and future trajectory of track access charges has an impact on rail freight operators' ability to offer competitive prices to their customers and therefore is an important factor in realising the potential growth of rail freight set out in Chapter 1 – particularly for those commodities where rail freight is in direct competition with road.

131 Responsibility for determining the charging framework rests with ORR.[25] The charges paid by rail freight operators include variable charges (which cover the direct costs incurred by freight trains running on the network) and a share of the fixed costs of the network. Fixed charges are levied only on those sections of the market where there is no competition from road and therefore the market is judged to be able to bear the increased charges (currently coal, spent nuclear fuel and iron ore).

132 For CP5 ORR sought to improve the cost-reflectivity of the charging framework so that the costs paid by operators (including freight) more accurately reflected the costs they incur on the network, providing an incentive for all operators to finds ways of reducing overall costs of maintaining and renewing the network. The increase in freight charges for CP5 reflected ORR's improved understanding of the impacts of freight on the rail network. It included an increase in the level of the existing variable freight charges and introduction of a new charge, the Freight Specific Charge, representing a new contribution from freight to the fixed costs of the network. The total increase in track access charges for CP5 was capped and phased in to give the industry time to adapt to the higher charges; without this cap and phasing-in, freight operators would have been exposed to a higher level of charges during CP5.

133 ORR is currently working with the industry to review the structure of charges for CP6 (from 2019). Its initial consultation on the review was published in December 2015 and a second consultation will be published by the end of 2016. Following the initial consultation, ORR has announced that it will be taking forward work to gain a better understanding of the network's fixed costs and continuing work on a package of improvements to variable charges. ORR will explore options for recovering fixed costs and will be developing its understanding of the impacts these options before considering whether these costs should be passed through to charges.[26]

[24] Based on ORR forecast figures during PR18.
[25] Network Rail has responsibility for developing charging proposals in line with guidance and objectives from ORR.
[26] Update on ORR's review of charges, Chris Hemsley, 7th April 2016 (http://orr.gov.uk/__data/assets/pdf_file/0011/21530/update-on-review-of-charges-by-orr-2016-04-07.pdf)

134 The Government is supportive of the principle of greater transparency about where costs are incurred on the network to support better decision-making across Government and the rail industry and help the public to better understand how their money is being spent. In summer 2015 we set out our intention to change the way we channel public money through the industry to improve efficiency through better alignment of incentives between train operators and Network Rail. DfT provided further clarification on this to ORR in December 2015.[27] We are further considering our approach to this issue and intend to engage with interested parties in due course.

135 At the same time, we recognise the positive benefits of rail freight for the UK – including its environmental and air quality benefits relative to road freight and its impact on reducing road congestion. These benefits are not currently recognised in the track access charging regime. A significant increase in track access charges could result in some freight moving from rail to road, resulting in the associated economic and environmental benefits to the UK being lost, particularly for those commodities where rail freight is in direct competition with road and operators therefore have a limited ability to pass on any increase in costs to their customers.

136 As set out in the Secretary of State for Transport's guidance to ORR in July 2012, in setting track access charges we would expect ORR to note the Government's rail freight policy, including the importance of sustaining efficient and commercially predictable network-wide freight operations. The guidance to ORR also notes that the Secretary of State wishes to be advised by ORR of, and to discuss with ORR, any changes to the charges which ORR proposes to pursue which would adversely affect the competitiveness of rail freight compared to other modes.[28]

137 We also recognise that, because track access charges are reviewed at each control period (set at every five years), this can make it difficult for the industry to plan ahead and take long-term investment decisions. Track access charges are linked to the costs of the network, which are reviewed every control period, and it is therefore difficult to provide visibility of the level of charges further ahead than this. We welcome ORR's early and proactive engagement with the industry as part of the current review of charges and are keen to support this as PR18 progresses.

138 The Rail Delivery Group has recently worked with the rail industry, including the rail freight operators, on its own review of track access charges to support ORR's work.[29] We welcome this positive example of the industry working together to improve incentives and value for money and note ORR's intention to continue to incorporate RDG's work into its charging review.

[27] http://orr.gov.uk/__data/assets/pdf_file/0008/19853/DfTs-letter-on-improving-incentives-for-better-outcomes.pdf
[28] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/3642/sos-guidance-to-orr.pdf
[29] http://www.raildeliverygroup.com/what-we-do/industry-reform/contractual-regulatory-reform/review-of-charges.html

Actions

139 **DfT will continue to support ORR's work to develop appropriate track access charges for freight from CP6, including by understanding the overall impacts on the rail freight industry of any changes.** In particular, DfT is keen to support ORR's work to ensure that decisions about track access charges levied on rail freight reflect the cumulative impacts of different charges on the rail freight industry and are joined up with Government decisions on wider support and funding to freight.

140 **DfT will continue to coordinate the work of the Freight Investability and Sustainability Group (FISG)** to develop thinking on the potential for wider changes to funding alongside more cost-reflective track access charges for rail freight, including whether further support may be needed from Government in future to retain the economic and environmental benefits of rail freight. Any new support would be subject to future funding being identified and would need to be designed in a way that would avoid distorting the market.

5. Telling the story of rail freight

Overview

141 The rail freight industry is highly competitive. This focuses rail freight businesses on effective communication with their customers but means the industry has not always been good at coming together to sell its collective benefits to potential customers, decision-makers and the public. Similarly, the rail freight sector is not always well understood within the wider rail industry.

142 There may be scope for the rail freight industry to do more to showcase its past achievements, develop new opportunities and build positive outward-facing messages – with a supporting role for Government in amplifying key messages.

143 Good progress has been made by the industry, particularly over the last year, in working together to develop a collective narrative. For example, RDG Freight Group has played an important role in enabling the rail freight industry to speak with one voice and engage effectively with decision-makers.

144 RDG Freight Group has also coordinated work to understand the economic benefits to the UK economy delivered by rail freight and the key enablers required to create a positive environment that allows growth. 'Freight Britain', published in 2015, and 'Keeping the Lights On and the Traffic Moving', published in 2014, commissioned by RDG, provided clear, reliable sources of information about the benefits of rail freight, aimed predominantly at Government and other funders.[30] However, different messages and media will be appropriate to different audiences and there may be scope to consider how the "story of rail freight" can best be put across to these audiences.

145 In particular, there may be scope for the industry to make more of opportunities to highlight its benefits and its contribution to wider transport, environmental and economic objectives, for example the work being done by the FOCs to support the wider transport skills agenda.

146 The 'Freight Britain' report also highlights the potential benefits of having a single source of reliable information on rail freight. While some good information about rail freight in the UK exists, this is often fragmented and is not always up-to-date or easy to find. Transport Scotland's freight strategy ' Delivering the Goods', published in March 2016, also highlights this issue. It recognises the advantage, for both internal and export markets, of the production of a single source of information which promotes the benefits of rail freight services and how to access them.

[30] Keeping the lights on and the traffic moving, 2014, RDG (2012/13 prices); Freight Britain, Rail Delivery Group, 2015

Actions

147 **Industry-led Freight Communications group to coordinate communications from the rail freight industry.** As part of work to develop the Rail Freight Strategy, Government has established an industry sub-group to identify opportunities for the rail freight industry as a whole to maximise communications opportunities. Initial priorities have included developing a bank of case studies on rail freight to be used to support wider communications, and working with RDG to ensure freight is reflected in its forthcoming 'Britain Runs on Rail' campaign.

148 **Ongoing role for Freight Communications group as part of existing RDG Communications Group.** To take forward the work of the current group, and to place the industry at the heart of the development of future communications, we propose to transfer the communications sub-group to the chairmanship of the RDG and establish a freight sub-group within the existing RDG Communications Group. This transition under the chairmanship of RDG provides the opportunity to place communication representatives from FOCs and other freight industry representatives together and will enhance cross-industry working on initiatives such as the 'Britain Runs on Rail' Campaign, which covers both the passenger and freight sectors. The RDG will hold freight-dedicated meetings as part of the existing meeting architecture. This group will:

a. Act as the focal point to feed into future communication campaigns;

b. Under the guidance of RDG Freight Group, refresh the ‘Freight Britain’ publication and other key documentation on a regular basis to ensure that accurate information on rail freight is available;

c. Ensure a consistent flow of key messages, case studies, key dates and events to key decision makers (such as Government) to convey success across the sector and look for opportunities to grow the rail freight market;

d. Develop and maintain the rail freight information 'portal' (see below).

149 **Rail freight information 'portal'.** The Communications sub-group has also identified the potential benefits of a single 'portal' for information about rail freight which draws together relevant and up-to-date information about rail freight in a single place. The information contained within this ‘portal’ will include, but is not limited to, documents – such as the RDG publication ‘Keeping the lights on and the traffic moving’ – and other commercial and market information pertinent to the rail freight industry. The RDG have agreed to host this on the freight pages of their website.

150 **Network Rail will update and expand the information about rail freight on their website** as part of work to establish a virtual freight route, focussing on more technical information than the ‘portal’. The Communications sub-group will work, under the chairmanship of the RDG, with Network Rail to identify potential linkages and opportunities to address the needs of different audiences.

151 **Embedding rail freight awareness and understanding within DfT.** DfT is working to ensure that rail freight issues are well understood and recognised in its decision-making, including through a strengthened Rail Freight Team and refreshed rail freight training as part of inductions for new staff. The development of the Rail Freight Strategy will also support more systematic consideration of rail freight as part of wider policy development. We will continue to engage with colleagues in the Devolved Administrations, including as part of the Welsh Government's Freight Working Group.

6. Summary of actions and next steps

Action		Lead	Next Steps / Timing
Chapter 2: Innovation and Skills			
1	We will support industry to identify new market opportunities through provision of information, including through publication of Arup assessment of the potential market for goods to be transported by passenger trains.	DfT	Arup report published as supporting annex to this Strategy
2	We will continue to support innovation in the rail industry more widely through piloting an innovation fund for franchises.	DfT	Innovation fund pilot launched March 2015 TPE and Northern franchisees begin to access Innovation Fund in April 2017 Review of innovation fund pilot – December 2017
3	Supporting Data 4 Freight, a collaborative project between Transport Catapult and DfT which aims to use of data science techniques and closer working with multi-modal freight companies to develop a better understanding of UK freight movements.	DfT and Transport Catapult	March 2017 – conclusion of exploratory work to test potential to collect data from freight companies and decision about whether to proceed to second phase of work March 2018 – second phase of work due to complete (subject to outcome of first phase).
4	We will ensure that rail freight is considered as part of work on options for wider deployment of biofuels to decarbonise the freight sector as part of the Freight Carbon Review.	DfT	Freight Carbon Review – to be completed by the end of 2016 Ongoing engagement with rail freight industry as part of any further work on alternative fuels agreed after the Freight Carbon Review

Action		Lead	Next Steps / Timing
5	RDG will host a skills workshop aimed at the rail freight industry, to support the rail freight industry to engage with the wider skills agenda. This will include raising awareness of opportunities and initiatives (such as apprenticeships) which the industry could benefit from.	RDG	Timing tbc
Chapter 3: Network Capacity			
6	We will work closely with Network Rail and the industry to understand priorities for rail freight as part of the CP6 planning process	DfT	Consideration of Network Rail's Freight Network Study (FNS) and the initial industry advice, within CP6 planning timeframe NR Consultation on FNS started in August Initial industry advice to be submitted to DfT around end 2016
7	We will work closely with Network Rail and the industry to encourage third party investor confidence in the sector	DfT, Network Rail and rail freight industry	Ongoing, through existing stakeholder networks and Ministerial engagement at industry events
8	We will work with Network Rail to support the development of the "Virtual Freight Route" and ensure it supports and enables rail freight to achieve its potential	Network Rail DfT	Freight and National Passengers Route came into effect in August, with Paul McMahon confirmed as Managing Director Full Government response to the Shaw Report to be published by the end of 2016 Ongoing commitment by DfT and NR to work together
9	We will consider how the current and future requirements of rail freight could be more systematically considered in the passenger franchising process	DfT	Freight operators to continue to submit views as part of response to franchise consultations and Network Rail long term planning and route study process. Internal discussions within DfT Rail Group and with Network Rail on how to ensure that the franchising process is informed by a realistic view of likely future demand for rail freight.

Action		Lead	Next Steps / Timing
			Any proposed modifications to be identified and agreed by November 2016
10	The Strategic Capacity Working Group will continue to develop thinking on Strategic Capacity, and on Part D of the Network Code	Working Group including Network Rail	Proposed modifications discussed in August 2016 Indicative timings: Consultation during October - November 2016 Class Representatives Committee in December 2016 ORR approval in early 2017
11	The Strategic Capacity Working Group will continue to develop its thinking on the potential benefits and drawbacks of using Access Options to secure capacity created through investment	Working Group with advice from ORR	Consideration within DfT of wider policy links Advice to Ministers around end 2016
12	Network Rail will look at the potential for reviewing speed and weight restrictions in its Freight Network Study	Network Rail	Consultation on Draft Freight Network Study opened on 11 August Initial industry advice to be submitted to DfT around end 2016
13	We will work with Network Rail to consider the potential for a network of nodal yards	DfT with Network Rail	Transport Systems Catapult study into the implications of reducing freight dwell times - Steering Group meets monthly. Study due to complete by March 2017.
14	RDG will continue working with Network Rail to co-ordinate the return of underutilised paths to build on existing work on relinquishing freight paths	RDG and Network Rail	Paths will be returned to “white space” in the timetable or validated as strategic capacity on an ongoing basis
15	Network Rail and the Freight Operators will consider whether contractual agreements should include specific provisions on the return of paths at the end of the contract	Network Rail and FOCs	Timing to be determined by FOCs and NR
16	We will work with Network Rail to explore the scope for introducing a more holistic approach to timetable design	DfT and Network Rail, with FOCs / ORR	To be taken forward by Strategic Capacity Working Group Aim for revised process for 2020 WTT
Chapter 4: Track access charging			
17	DfT will continue to support ORR's work to develop	DfT and ORR	ORR publish consultation on structure of charges – December 2016

Action		Lead	Next Steps / Timing
	appropriate track access charges for freight from CP6, including by understanding the overall impacts on the rail freight industry of any changes.		ORR set out charges framework for Network Rail – Q2 2017 ORR publish PR18 draft determination – Q2 2018 ORR publish PR18 final determination – Q4 2018
18	DfT will continue to coordinate the work of the Freight Investability and Sustainability Group (FISG) to develop thinking on the potential for wider changes to funding alongside more cost-reflective track access charges for rail freight, including whether further support may be needed from Government in future to retain the economic and environmental benefits of rail freight (subject to future funding being identified).	Freight Investability and Sustainability Group (FISG) (includes DfT, Network Rail, ORR and rail freight industry representatives)	Next meeting of FISG October 2016 – FISG to agree next steps in taking forward work on possible support for rail freight. Timetable for agreeing any further support to be aligned with timing of ORR structure of charges review (see above).
Chapter 5: Telling the Story of Rail Freight – Communications			
19	We will transfer the Freight communication sub-group to the chairmanship of RDG, placing the industry at the centre of future, joint freight communications.	RDG	RDG will run an initial kick-off event in September 2016 for communications colleagues within the sub-group to agree priorities and timescales. The RDG freight communication sub-group meetings will be scheduled in line with the existing meeting architecture of the main RDG Communications sub-group. Next meetings of RDG communications group to take place in September and November 2016.
20	RDG Communications group to arrange freight-dedicated meetings as part of the existing meeting architecture.		
21	RDG Communications Freight sub-group will provide consistent flow of key messages, case studies, key dates and events to key decision makers (such as Government) to convey success across the sector and look for opportunities to build on these successes	RDG	In line with milestones agreed by the group and aligned with key industry and/or calendar events as appropriate.
22	RDG Communications Freight sub-group, under the guidance	RDG	Specific date to be agreed but reviewed/refreshed on an annual basis

Action		Lead	Next Steps / Timing
	of RDG Freight Group, to provide regular refresh of key information including 'Freight Britain' publication so that accurate information on the sector is available		
23	RDG Communications freight sub-group will coordinate work to develop a single 'portal' for information about rail freight which draws together relevant and up-to-date information about rail freight in a single place. RDG have agreed to host this on the freight pages of their website.	RDG	Web pages and content to be developed and agreed by freight sub-group, with guidance from RDG Freight Group. Final version to be published on RDG website in 2017. Specific date to be agreed by at kick-off meeting in September 2016 The content should then be reviewed on a regular basis (timescale to be agreed by RDG communications Freight sub-group).
24	Network Rail will update and expand the information about rail freight on their re-vamped website as part of work to establish a virtual freight route.	Network Rail	RDG Communications Freight sub-group will work with the enhanced NR freight team (once established) to identify potential linkages and opportunities to address the needs of different audiences, and aid development of the rail freight section of the re-vamped NR website.
25	We will continue work to increase rail freight knowledge and understanding within DfT, including incorporating rail freight training into induction events and raising awareness of the Rail Freight Strategy	DfT	Quarterly review of content to ensure accuracy of information. Ongoing work across DfT to implement the Rail Freight Strategy.

Annex A: Glossary

Billion Tonne Kilometres: is a metric of the amount of freight moved, taking into account weight and distance travelled on the rail network in Great Britain (see **Freight Moved** below).

Bowe Review: The Bowe review was commissioned to inform government policy and processes used to develop, agree and plan the delivery of the enhancements programme for future Network Rail Control Periods. The review was tasked with identifying the lessons to be learned from Control Period 5.The review was published in November 2015.[31]

Control Period (CP): Investment in the railway is broken down into 5-year tranches known as control periods. Control Period 4 (CP4) ran from April 2009 March 2014; CP5 is the period from April 2014 to March 2019; CP6 will cover April 2019 to March 2024.

European Rail Traffic Management Systems (ERTMS): The European Rail Traffic Management System (ERTMS) is a European cab-based signalling and train control system that offers significant capacity and performance benefits, as well as further enhancing safety beyond the capability of legacy ATP systems.

Financial Investability and Sustainability Group (FISG): FISG is a working group chaired by the DfT, which brings together Network Rail, ORR and the rail freight industry to develop thinking on the potential for wider changes to funding alongside more cost-reflective track access charges for rail freight.

Freight Market Study (Network Rail): The Freight Market Study was produced in 2013 to inform the Long Term Planning Process (LTPP) for Control Period 5. Together with the Long Distance Passenger, London & South East Passenger and Regional Urban Passenger Market Studies, it set out how demand for freight and passenger movements by rail are expected to change in each of these markets in Great Britain up to and including the next 30 years.

Freight Network Study (Network Rail): The Freight Network Study is produced by Network Rail, in collaboration with the rail freight industry. It considers the future development of rail freight across the rail network in Great Britain to inform long-term Government decisions about the rail network.

Freight Operating Companies (FOCs): Companies who hold a freight operator's licence to utilise the rail network in order to transport goods. There are five main freight operating companies; DB Cargo UK; Freightliner, GB Railfreight; Colas Rail; and Direct Rail Services. A series of smaller FOCs also operate on the GB rail network.

Freight lifted: Freight lifted is the mass of goods carried on the rail network measured in tonnes, excluding the weight of the locomotives and wagons. Unlike freight moved it takes no account of the distance travelled.

Freight moved: Freight moved is measured in net tonne kilometres and shows the amount of freight which is moved on the railway network, taking into account the weight of the load and the distance carried.

[31] Further information can be found at: www.gov.uk/government/publications/bowe-review-into-the-planning-of-network-rails-enhancements-programme-2014-to-2019

Hendy Review: Sir Peter Hendy, the chair of Network Rail, was asked by the Secretary of State for Transport to report a proposal for re-planning Control Period 5 (CP5) enhancements. The Hendy Review reported in January 2016.[32]

Initial industry advice (IIA): The initial industry advice sets out the industry's view on how it can deliver a more efficient and better value railway and how the railway can play a key role in driving sustainable economic growth. The initial industry advice examines the key choices and options facing funders in specifying the future outputs of the railway and the level of funding required. These choices inform the development of the Government's planning process for the next control period.

Mode Shift Revenue Support (MSRS): The mode shift freight grants provide revenue support to industry to encourage mode shift from road to rail or water, where the costs are higher than road, and where there are environmental benefits to be gained. These benefits include the congestion effects of road freight on other road users, the environmental effects (such as carbon emissions), impacts on road infrastructure and road user safety.

National Network National Policy Statement (NNNPS): The National Networks National Policy Statement sets out the need for, and Government's policies to deliver, development of nationally significant infrastructure projects on the national road and rail networks in England.

Office of Rail and Road (ORR): The Office of Rail and Road (ORR) is the independent safety and economic regulator for Britain's railways.

Rail Delivery Group (RDG): RDG is an industry body, set up by Government, following a recommendation in the Rail White Paper "Reforming our Railways: Putting the Customer First" (Cm 8313, March 2012). The role of RDG is to enable Network Rail and train and freight operating companies to succeed by delivering better services for their customers.

Rail Delivery Group - Freight Group: An industry group chaired by RDG, which brings together senior representatives from the Freight Operating Companies. A membership list is available at Annex C.

Rail Freight Strategy Advisory Group: An advisory group set up and chaired by DfT to support the development of the Rail Freight Strategy. The group is made up of key rail freight stakeholders including representatives of the freight operating companies and freight customers. A full membership list can be found at Annex C.

Shaw Report: Nicola Shaw, Chief Executive of High Speed 1, was commissioned by the Chancellor of the Exchequer and Secretary of State for Transport to advise Government how it should approach the longer term future shape and financing of Network Rail. The Shaw Report was published in March 2016.[33]

Strategic Freight Network (SFN) Fund: a ring-fenced and dedicated freight fund to enhance the strategic freight network to facilitate growth of the freight market and deliver significant environmental, operational and economic efficiencies which are identified by the freight industry. Schemes are prioritised by the industry-led SFN Steering Group.

Strategic Rail Freight Interchanges (SRFIs): A Strategic Rail Freight Interchange (SRFI) is a large multi-purpose rail freight interchange and distribution centre linked into both the rail and trunk road system. It has rail-connected warehousing and

[32] Further details can be found at: www.networkrail.co.uk/Hendy-review.
[33] Further details can be found at: www.gov.uk/government/publications/shaw-report-final-report-and-recommendations.

container handling facilities and may also include manufacturing and processing activities.

Annex B: Freight Operating Companies in the UK

The five largest freight operating companies (FOCs) in the United Kingdom are:

- DB Cargo UK
- Freightliner
- GB Railfreight
- Colas Rail
- Direct Rail Services

There are a number of smaller rail freight companies that also operate within the United Kingdom. An alphabetical list of companies with freight operating licences can be found on ORR's website.[34]

[34] http://orr.gov.uk/what-and-how-we-regulate/licensing/licensing-railway-operators/current-licences

Annex C: Industry groups members list

Rail Freight Strategy Advisory Group Membership

Organisation	
Department for Transport	Rail Group Freight Operator Licensing and Roadworthiness Climate Change team
Associated British Ports	
DB Cargo	
Drax	
Freightliner	
Freight on Rail	
Freight Transport Association	
GB Railfreight	
Lafarge Tarmac	
Network Rail	
Office of Rail and Road	
Rail Delivery Group	
Rail Freight Group	
Transport Scotland	
Welsh Government	

Rail Delivery Group (RDG) Freight Group Membership

Name	Organisation
Russell Mears	Freightliner - Chair
Lindsay Durham	Freightliner
John Smith	GB Railfreight
Duncan Clarke	GB Railfreight
Geoff Spencer	DB Cargo UK
Nigel Jones	DB Cargo UK
Jeff Marshall	Direct Rail Services (DRS)
Stephen Haynes	Colas Rail
Graham Richards	Office of Rail and Road
Paul McMahon	Network Rail
Rachel Gilliland	Network Rail
Elizabeth de Jong	Rail Delivery Group
Jonathan Chatfield	Rail Delivery Group - Secretariat
Maggie Simpson	Rail Freight Group
Richard Carter	Department for Transport
Melissa Smith	Department for Transport

Annex D: Arup study summary of interventions

Indicative emissions savings from illustrative interventions identified in the Arup study

Intervention	Overview	Indicative emissions (net) savings (tonnes CO_2e)
Capacity and gauge enhancements	Ensure sufficient capacity on the network in those areas most needed to support freight growth. This should include ensuring existing investment plans are delivered on time and budget and ensuring existing capacity is efficiently allocated between different services on the network.	661,786
Strategic Freight Network	Reviewing priorities for the Strategic Freight Network to identify priorities from 2019 onwards.	483,707
Financial assistance	Long-term certainty over levels of grant aid to support modal shift (e.g. the current Mode Shift Revenue Support scheme) and stability of track access charges.	378,624
New build terminals	Focus on increasing the number of Strategic Rail Freight Interchanges (SRFIs) as well as smaller terminals, to support future growth in intermodal traffic.	216,530
Studies into Supply Chain Solutions	Undertake a series of studies investigating how new rail based solutions can better match with modern supply chain logistics requirements.	195,918
Large project procurement	Identify opportunities to use rail freight to support major Government projects such as HS2, Crossrail 2 and new runway capacity.	156,255
Freight path improvement	Working with industry to optimise existing freight paths, including increasing the speed of paths where possible.	155,918
Alternative locomotive technology	Encourage research into alternative locomotive technologies to reduce fuel consumption and emissions from diesel locomotives (focusing in particular on the commonly-used Class 66 locomotives).	51,321
Rail Freight Conference Programme	Clear messaging and information about rail freight, with support from Government, to help promote the benefits of rail freight and improve customer confidence. One such solution to overcome this lack of awareness could be a series of Rail Freight conferences including the key stakeholders in the system and inviting non-users along to learn about the benefits and advantages of moving goods by rail.	45,823
Channel Tunnel freight review	Promoting and encouraging traffic growth through the Channel Tunnel, including support for new traffics and encouragement of competition.	[Not quantified]