

# The role of the railway in Great Britain

Evidence paper





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**February 2019**

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## Chair's foreword

In Great Britain we are rightly proud of our railways. They enable millions of people every day to get to school, college and work, visit family, meet clients, and access new places, and manufacturers to move everything from cars to concrete. Our railways do a huge amount for the country and are carrying vast numbers of passengers and goods every day. This is why I was delighted to be asked last year to act as the independent Chair of the Rail Review.

The railways' success since privatisation is also the root cause of the problems they now face. I have seen first-hand that the railways are staffed by passionate and knowledgeable people who want the best for passengers. But too often the infrastructure and organisational systems in which they work are no longer coping with the unprecedented demands placed on them. And those left paying the price are the passengers and taxpayers who fund it all.

Since commencing my Review in September 2018, I have been struck by the clear desire of the industry, and all those working in it, for change and improvement. I am here to ensure the country harnesses that desire to produce a railway that better meets the needs of its customers.

I have very deliberately devoted the last five months to listening carefully to those with a stake in our railways. I have gained invaluable insights from individuals and organisations representing passengers, freight and train operating companies, national, devolved and local governments, and the trades unions, through to rolling stock manufacturers, investors and business groups.

I am now able to set out some of what I have heard in a series of papers, of which this is the first. These papers will provide some of the evidence base on which I will build my future recommendations for the customer-focused sustainable railway that our country requires and public deserve. They will provide the underpinning as I consider the organisational and commercial structures that are required to deliver this. Getting the evidence right is particularly important in the context of the railways: the sheer complexity of the industry has bred misunderstanding and – dare I say – even myths about how it is owned and operated.

People take different views on the level of taxpayer funding that should go into the railway. That matter is deliberately not in-scope for this Review and will always be a choice for government. My eventual recommendations will focus on ensuring that the money that is invested delivers for passengers and freight users.

Alongside these papers I will be making a series of speeches, which we will also publish, and I would encourage interested parties to engage with this material in the round. Once I have set out my stall I will invite comments on my definition of the problem, and my priorities for reform, through a further round of the Review's Call for Evidence.

The challenge for any major rail review is to ensure that its recommendations are implemented by the industry. On this I am optimistic. There is a real desire for change, and if the government and the industry work together then I believe it is achievable.

**Keith Williams**

Independent Chair



# The Williams Rail Review

The government's aim is for a world-class railway, working seamlessly as part of the wider transport network and delivering opportunities across the nations and regions of Great Britain. The Williams Rail Review ('the Review') was established in September 2018 to recommend the most appropriate organisational and commercial structures so that the railway can deliver greater benefits for passengers and freight users and continue to support a stronger, fairer economy.

The Review's full terms of reference are available on our website: <https://www.gov.uk/government/groups/rail-review>

The Review's final report will be a government white paper, which will be published in autumn 2019.

The Review is examining the railway of Great Britain – England, Scotland and Wales.<sup>1</sup>

## The evidence paper process

Engaging the people, businesses and organisations using and running the railway is critical. At each stage of the Review, we will seek to understand the full range of perspectives and options in pursuit of the right answers.

To support this engagement we are publishing a series of evidence papers to inform the debate. This is the first of these papers. They draw on the extensive engagement with passengers, the rail industry, and wider stakeholders undertaken by the Review to date. They also draw on responses that we have received so far to our Call for Evidence launched in December 2018.<sup>2</sup> (While we have yet to fully quality assure all the material received, we have included some extracts in the papers to provide the fullest possible range of insights.)

The papers provide factual summaries of a number of key issues in the rail industry. They are focussed on evidence, and do not seek to set out options or potential models. The Independent Chair of the Review will be setting out some of his early thinking on these areas in a series of speeches in parallel with publishing these evidence papers.

This first paper reviews the role of the railway in Great Britain, and its costs and benefits. Further papers will be published over the coming weeks. These will examine the experience of railway users (both passengers and freight); the organisation of the railways in Britain and other countries; and rail's role in



the wider transport system, including in the context of potential future technological, economic and societal changes.

We are determined that each stage of the Review will be properly evidence-based. So, having published the papers we will use the Call for Evidence to invite formal feedback, alongside our ongoing engagement with stakeholders.

# 1. Introduction

- 1.1 The transport system underpins our daily lives by enabling people and goods to flow freely around the country. The railway in Great Britain is an important component of this overall system. They provide a range of benefits not only to those using the railway but also indirectly to other transport users and to the country's society, economy and environment. This paper sets out these benefits, and also considers the costs of the railway and the share of its customers and the taxpayer in meeting them.
- 1.2 Starting with a brief overview of the railway in Great Britain in **Chapter 2**, the paper then considers the benefits received by those using the railway – passengers in **Chapter 3** and freight customers in **Chapter 4**.
- 1.3 **Chapter 5** then sets out the wider benefits of the railway. These include the role of the railway in enabling businesses across the economy to operate, the wider environmental benefits the railway brings, and the employment and economic activity supported within the industry itself.
- 1.4 In light of these benefits, **Chapter 6** explains how government is involved in the railway through both funding and regulation to help maximise the benefits of the sector. The chapter considers the mix of public and private involvement in the industry.
- 1.5 The rail industry's finances are presented in **Chapter 7**. The chapter looks at the split of funding provided by its customers and by taxpayers and how this money is spent. Industry expenditure is broadly split between running train services (both freight and passenger), and providing the physical infrastructure of the railway (such as track, signalling and stations).
- 1.6 The next steps for the Review are set out in **Chapter 8**.

## 2. The railway in Great Britain

- 2.1 The national rail network in Great Britain is a national asset with a vast physical presence and which many people use on a day to day basis. It has almost 16,000km of route and serves over 2,500 individual stations.<sup>3 4</sup> Figure 1 shows the principal routes and stations on the network.
- 2.2 Every year around 1.7 billion passenger journeys are made on the network and 17 billion tonne kilometres of freight is transported.<sup>5</sup> The industry directly employs around 240,000 people.<sup>6</sup>

### Demand for rail travel

- 2.3 Demand for rail services has more than doubled over the last 20 years, increasing faster than for any other transport mode.<sup>7</sup> Despite this growth, rail still accounts for only 2% of all trips made and 8% of distance travelled in England. By comparison, car travel accounts for 61% of trips and 78% of distance.<sup>8</sup> However, rail travel is very important for certain journey types and in certain places – for example, 45% of journeys into central London during the weekday morning peak are by rail.<sup>9</sup>
- 2.4 The railway supports a mix of leisure, business and commuter passenger journeys and freight traffic. Around 70% of all rail journeys are provided by operators in London and the South-East, with over 1 million passengers arriving into London by rail on a typical weekday.<sup>10</sup> In England, commuting for work makes up almost half of all trips, with leisure making up a further quarter.<sup>11 12</sup> Whilst demand for rail travel is mixed across passenger type and region, operators in London and the South-East generate around half of total passenger revenues.<sup>13</sup>
- 2.5 People with higher incomes make substantially more rail trips than the rest of the population. In 2017, the top 20% of earners in England made on average over three times as many rail trips per year as those in the lowest 20% and almost double the number of trips of those in the second highest income group.<sup>14</sup> This is driven by the fact those who commute by rail are often doing so to access relatively well-paid jobs.
- 2.6 Demand for freight services has also been growing, and freight now comprises around 6% of the total traffic on the network, often using trains capable of carrying payloads upwards of 1000 tonnes.<sup>15</sup>

### A busy network

- 2.7 Today, Britain has some of the most intensively used railway lines in Europe.<sup>16</sup> The Railway Industry Association informed us that UK network utilisation is around 60% higher than the EU average.<sup>17</sup> This impacts the



Figure 1. Key rail routes and stations in Great Britain (copyright: ATOC)

network's resilience: according to Network Rail around 70% of delays are caused by knock-on effects from congestion rather than by a primary cause.<sup>18</sup> Transport Focus' research with passengers consistently shows the importance of "an affordable, punctual, reliable, frequent service on which you can get a seat or, at the very least, stand in comfort".<sup>19</sup>

## The roles of the public and private sectors

- 2.8** Government intervenes in the railway to secure benefits for the country, acting as a procurement authority, network funder, and sponsor of major rail projects and rail bodies. Government is also the sole shareholder of Network Rail, the body that owns and operates most of the national rail infrastructure.
- 2.9** Passenger train services on the rail network of Great Britain are provided by 20 different franchised operators.<sup>20</sup> Most of these are specified by the UK government, with the others specified by different devolved governments or authorities. The boundaries between most of these operators are broadly geographic, with relatively little overlap.<sup>21</sup> In addition, 'open access' operators not contracted by the government also operate a small number of services on the national network, sometimes competing directly with franchised operators on the same journeys.
- 2.10** The physical infrastructure of the railway in Great Britain is owned and managed separately from the train operators. Network Rail runs the majority of the infrastructure of the railway as an arm's length body of the UK government. Between 2019 and 2024, Network Rail plans to spend around £48 billion in England and Wales and around £5 billion in Scotland.<sup>22</sup> Network Rail's role – to operate, maintain and improve Britain's railway – applies not only to the tracks but also the network's bridges, tunnels, viaducts, signals, level-crossings and major stations. Network Rail also leads the process with train operators to develop the national rail timetable and allocate access to the rail network. Network Rail employs around 40,000 staff.
- 2.11** The industry is overseen by an independent safety and economic regulator, the Office of Rail and Road (ORR). It sets targets and regularly reports on the performance of Network Rail, as well as overseeing competition and consumer rights. It monitors and regularly reports on the performance of Network Rail, oversees competition and consumer rights, and can use its enforcement powers if Network Rail or operators fail to comply with their licence obligations. The Rail Safety and Standards Board (RSSB) works closely with the ORR to improve safety, performance and value for money across the industry.

2.12 Patterns of current demand for rail services, the industry's structure and the routes and services it provides reflects the long history of the railway in Great Britain and the economic geography of the country at the time the network was built and the structures put in place at privatisation.

## 3. Passengers

- 3.1 The railway helps connect people to places and enables them to go about their daily lives. The range of benefits they gain from the railway are reviewed in this chapter. The chapter does not examine the very apparent concerns passengers have with the quality of the service they currently receive from the railway; these issues will be considered in a subsequent evidence paper.
- 3.2 Rail is one of the safest forms of transport, and Britain's railway is safer than their major European counterparts.<sup>23 24</sup> Over the past decade there have been no passenger or workforce fatalities resulting from a mainline train collision or derailment.<sup>25</sup> This is despite passenger journeys and passenger kilometres rising by 40% and 36% respectively.<sup>26</sup> Whilst a single fatality is not to be accepted, there has been a long-term improvement in the number of workforce fatalities, which regularly exceeded 100 per year in the 1960s, to typically no more than three per year in the last decade.<sup>27 28</sup> The industry has a number of workforce safety improvement initiatives in place with the objective of getting this down to zero.<sup>29</sup>
- 3.3 Rail is particularly suited to serving certain transport markets. It is especially efficient when moving large numbers of people into and around dense urban areas, and over medium to long distances at speed. Given its high fixed costs in the form of the track, signalling and station infrastructure, which do not vary significantly with passenger numbers, it is less cost-efficient at serving other types of market where demand is lower.
- 3.4 The benefits people derive from using the railway can be examined under the three main categories of rail passenger:
- **Commuters:** Commuters are the single biggest source of demand on the railway, comprising 47% of all rail journeys in England.<sup>30</sup> The railway allows people to live and work in locations that would be hard to access by other transport modes, primarily due to the additional time it would take to make the journey. Passengers also increasingly value the opportunity to continue using a wide variety of leisure and work-related internet-based services whilst travelling.
  - **Leisure:** A quarter of all rail journeys in England are for leisure. Parts of the railway network can be at their busiest in support of major sporting or cultural events – such as rugby matches at the Principality Stadium, shows at the NEC, the Edinburgh Festivals, or the weekly round of football league matches. Rail is also used to access wider public services and to connect families and communities.

- **Business:** Business travel constitutes 9% of demand for rail travel in England. Although the vast majority of business trips are made by car, the railway can allow some businesses to access more distant opportunities and markets than might realistically be possible by other means, particularly for access to city centres.

Rail travel also has the advantage that it better enables passengers to work and be productive during the journey. The railway is increasingly providing business lounges, on-train connectivity and other tools which enable people to stay connected and working whilst in transit.



## 4. Rail freight customers

4.1 Businesses and consumers across the country are the ultimate end users of rail freight services. They all rely on goods being moved efficiently and cost-effectively around the country. The rail freight industry plays an important role in supporting productivity and increasing the sustainability of the country's economy.

### Rail freight in Great Britain

- 4.2 In 2017, approximately 9% of domestic freight was moved by rail.<sup>31</sup> The rail freight market in Great Britain is competitive, with rail freight operators competing not only with each other for traffic but also with road hauliers. Some commodities – especially 'intermodal' freight (containers) – are particularly price sensitive to competition from road.<sup>32</sup>
- 4.3 The movement of bulk materials such as coal and steel has historically been rail freight's core market. Coal flows saw a significant decline in 2015 following the decision to phase out coal-based energy production, with coal freight volumes now down by 79% compared to 1982-83.<sup>33</sup> The industry has had to make significant changes to its business model to grow other markets, including intermodal, construction and automotive. It has had considerable success, and total freight volumes excluding coal have increased by over 60% since the early 1980s.<sup>34</sup>
- 4.4 The industry estimates that rail freight now transports more than one in four of the containers that pass-through UK sea ports, whilst the movement of construction materials is another key growth area.<sup>35</sup> Rail freight has supported the construction of the country's largest infrastructure projects – including Heathrow Terminal 5, High Speed 1, the Olympic Park and Crossrail. Rail freight is often able to deliver materials into the heart of cities.
- 4.5 The rail freight industry makes an important contribution to the nation's economy. The Rail Delivery Group calculated that the sector secured over £1.7 billion of benefits for Britain in 2016.<sup>36</sup> The rail freight industry plays a crucial role in Britain's wider logistics system, particularly in the movement of imports and exports between our ports and centres of population and industry. Network Rail estimates that rail now transports 10% of all finished automotive exports.<sup>37</sup>

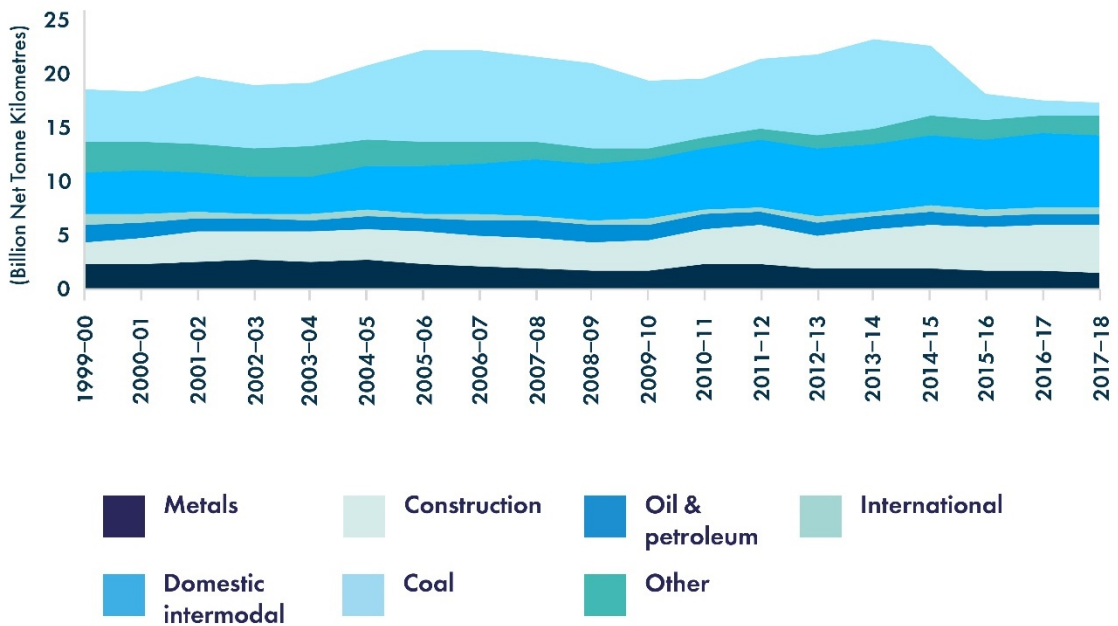


Figure 2. Freight moved on the rail network<sup>38</sup>

## The benefits for rail freight customers

4.6 Businesses making products that need to be transported to their customers make commercial decisions about which transport mode to use. Three broad types of benefit can prompt these businesses to opt for rail freight:

- **Financial:** The competitive nature of the rail freight industry, with multiple freight operating companies competing with each other as well as with road hauliers, ensures rail freight is generally a price competitive option for customers.
- **Operational:** Although rail often cannot provide direct point-to-point transit and is less flexible than road given the need for a timetabled train path, the rail network can offer greater journey time reliability than road, and the rail industry estimates that one train can transport the equivalent goods of up to 76 lorries.<sup>39 40</sup> Analysis by the Rail Delivery Group (RDG) shows that average delay per mile on the Strategic Road Network is double that experienced by rail freight, and as congestion on our major roads worsens freight customers are increasingly looking to rail to ensure their goods arrive on time.<sup>41</sup> Overall, freight performs well on the network, with 94% of freight trains assessed as arriving within 15 minutes of their scheduled time in 2017-18.<sup>42</sup> Furthermore, the availability of rail freight increases delivery options for businesses, supporting more resilient supply chains.
- **Environmental:** Rail's environmental profile is a further benefit of using rail freight. Some major retailers utilise domestic intermodal services to

move goods between distribution centres as rail freight is widely regarded as the most environmentally-friendly way to move bulk goods on land.

- 4.7 The rail freight industry also plays an important role in supporting the general upkeep and day-to-day operation of the railway. Tasks regularly undertaken by freight operators include moving materials for Network Rail engineering works, and the provision of standby locomotives to rescue broken-down passenger trains.
- 4.8 In terms of its wider safety benefits, in 2014 RDG estimated that rail freight prevented around 600 road casualties each year.<sup>43</sup> In addition, rail freight is used to move a variety of potentially hazardous goods such as chemicals and flammable products.

## 5. The wider economy

5.1 This chapter reviews the wider benefits for Britain's economy generated by its railway. It first reviews the wider benefits the railway brings to the economy and the environment. It then sets out the benefits delivered to the economy directly by the railway – the direct employment and economic benefits – rather than its users.

### Benefits to the economy

5.2 The railway in Britain creates a range of economic and societal benefits that extend far beyond the direct benefits to its passengers and freight users.

5.3 In common with other forms of transport investment, improvements to the railway can both help support regeneration (particularly around stations) and facilitate the beneficial effects of agglomeration.<sup>44</sup>

5.4 The railway is also particularly capable at delivering economic benefits in a number of further respects:

- **Labour market mobility:** Rail connects individuals to work opportunities that would be slow, expensive or otherwise inconvenient to reach by other modes. It opens up new opportunities for employees and expands the labour market for employers.
- **Facilitating housing development:** Improved transport links, including rail, makes more land attractive for housing development as it effectively brings the land and employment opportunities closer together. New housing development is sometimes dependent on the provision of an associated rail scheme, either in the form of a new station or an uplift in service. However, the proximity of a rail service can also have a positive impact on land in surrounding areas where it is not considered dependent development. This can particularly be the case in places where road travel is less attractive or it might be undesirable to add significant new road capacity due to local sensitivities or pressures on the wider surrounding network.
- **Social mobility:** More than one in five households in the UK do not have access to a car; this increases to nearly two-thirds amongst the poorest households.<sup>45</sup> Access to public transport, including the rail system, improves access to education, employment and leisure opportunities, and so supports social mobility and inclusion. The active network of community rail schemes across the country demonstrate the value that the railway can bring to local people and communities.<sup>46</sup>

- **Easing road congestion:** The railway accommodates significant transport demand that could otherwise be expected to use the road network, contributing to congestion. Rail access to airports and other major transport hubs and centres of economic activity helps to minimise localised road congestion. In the case of commuters, who tend to travel during the morning and evening peak periods, the availability of rail services reduces the most problematic road congestion pressures which predominantly occur during those periods. In addition, rail freight services remove lorry movements from the roads, which the industry estimates would otherwise require an additional 8.2 million HGV journeys every year.<sup>47</sup>

## Wider environmental benefits

5.5 Rail provides the cleanest mode of transport for many types of local, regional and longer distance journey. Currently 34% of the rail network is electrified.<sup>48</sup> Work is also ongoing in the industry to consider the scope to introduce new technologies such as using batteries or zero emission hydrogen fuel cells to power trains.

5.6 For both freight and passengers, rail performs better than most fossil fuel-based transport modes:

- **Greenhouse gases:** By providing a lower-carbon alternative to car and lorry transport rail reduces total greenhouse gas emissions from transport. The industry is now developing a strategy for delivering the government's ambition for all diesel-only trains to be removed from the network by 2040.<sup>49</sup>
- **Air quality:** Train travel gives rise to fewer pollutants per mile than road transport, assisting the urgent need to improve air quality, particularly in major conurbations and along key trunk routes. There are, however, some localised air quality issues at stations, which government and industry are working to address.
- **Noise pollution:** Road and air travel have proportionately greater noise impacts on affected communities than rail travel.

5.7 The environmental benefits of freight are one of its key advantages relative to road haulage. The Department for Transport's Rail Freight Strategy states that each tonne of freight transported by rail reduces carbon emissions by 76% compared to road.<sup>50 51</sup> The Strategy notes that 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% of total UK transport emissions.<sup>52</sup>

5.8 In 2014, the RDG found that rail freight produced over 10 times less small particulate matter than road haulage and 15 times less nitrogen oxide for the equivalent mass hauled.<sup>53</sup>

### **Direct economic benefits of the railway**

5.9 As well as enabling businesses in other sectors to travel and access clients and markets, the rail sector also directly generates significant economic activity and employment in the British economy.

5.10 There are valuable export opportunities for rail companies based in Great Britain. Estimates by the Rail Supply Group put the value of annual UK exports in rail-related goods at around £400 million, and the Office for National Statistics estimates that the equivalent value for rail services is a further £260m.<sup>54 55</sup> Globally, the rail market is estimated to be worth €163 billion per year, over two-thirds of which is considered open to international competition.<sup>56 57</sup> The proportion of all UK rail manufacturing and equipment that is exported remains low relative to overseas competitors: only around 10% of total revenues in the UK, versus 20% in France and 50% in Germany.<sup>58</sup>

5.11 The December 2018 Rail Sector Deal recognises the scope to expand export as well as domestic opportunities for the UK rail industry, and sets out a joint industry and government plan to help the sector grow and develop new opportunities focussing primarily on five key technology areas in which the UK could develop a competitive advantage and that have high potential market demand.<sup>59</sup>

## 6. The railway – a public and private service

6.1 This chapter considers how government intervenes in the railway to help maximise the benefits of the sector. The chapter sets out the mix of public and private involvement in the industry.

### Public funding

6.2 The benefits provided by the railway in Great Britain are secured through certain costs. Government provides significant public (taxpayer) funding to the railway. If private investment and market forces alone decided what railway services were provided the services on offer to users would be very different. In the absence of any government intervention, the rail industry would likely under-provide services that create external benefits and boost social welfare but did not return a commercial profit. Large numbers of rail services, routes and stations would not be commercially viable, particularly in areas away from large urban centres and where passenger volumes are lower.

6.3 Governments take decisions about the type and overall level of wider social benefits they want to secure from the railway, and, importantly, in which parts of the country they want these benefits to be delivered. This often leads to variation in the levels of investment in the network and subsidy of services across the country.

6.4 A key choice for successive governments has been in deciding the balance between taxpayers and users funding the railway, and their relative investment in rail compared with other public spending priorities. Both have varied over time. Government investment in rail will be influenced by a number of factors, including where and when costs fall for large infrastructure projects. Whilst all taxpayers contribute to the cost of the railway, not everyone uses it. However, as noted above, the economic and wider societal benefits of the railway go beyond rail users.

### The current mix of public and private in Britain's railway

6.5 Britain's railway is controlled and operated through a mix of the public and private sectors. Most of the railway is under either direct or indirect public control, with the private sector concentrated in certain parts of the industry and with particular roles.

6.6 Passenger train services are largely operated by the private sector through franchise contracts with the UK and devolved governments. These operators essentially act as contractors tasked with delivering core outputs

prescribed by the government for a set period of years. Their contracts specify to varying levels of detail the required services and standards the operators must meet. Some of the contracts are subsidised by the contracting body, and others deliver a net return to the taxpayer. At present, one operator – London North Eastern Railway – is directly operated by the UK Government.

### **The role of public support in the rail industry**

Taxpayer funding is provided to the rail industry to:

- 1. Fund ongoing operation, maintenance and repair of rail infrastructure:** The bulk of the cost of providing the physical infrastructure of the railway is funded by the taxpayer. This funding goes to Network Rail, which is fully controlled by government. In the absence of this spending, it is unlikely that sufficient private investment could be attracted to retain the current level of network provision.
- 2. Subsidise some passenger services:** Government provides subsidy to retain on behalf of passengers those rail services which do not generate an operating profit. It judges this worthwhile to retain the social and other wider benefits (for example, ensuring that trains serve particular stations with lower passenger volumes).
- 3. Provide new railway infrastructure:** Enhancements to the rail network can increase capacity, improve reliability, reduce journey times, and allow the network to serve new markets. They range from enhancing aspects of the existing network (such as station upgrades, or line speed improvements), to major new infrastructure schemes (such as Crossrail in London, or High Speed 2). These big investments are generally government funded, although there is scope for private sector investment.

6.7 There are a small number of open access operators providing passenger services. These companies operate without receiving a direct subsidy or paying premium to government, although they pay Network Rail to access the rail network, as do the other operators.

6.8 Similarly to these open access operators, rail freight operators are purely commercial enterprises and are not required to deliver a specification determined by a public authority. However, given the wider benefits the sector generates, the government provides subsidy to the rail freight industry.



6.9 Network Rail represents the largest cost element of the rail industry in Britain. Network Rail is wholly owned the government.

6.10 The majority of passenger trains are owned by private rolling stock leasing companies who manage the assets through their life and take residual value risk. They lease the rolling stock to operators for the duration of their franchise. The current fleet is made up of more than 14,000 vehicles.<sup>60</sup> The leasing companies have provided £13 billion of private sector investment in the railway since privatisation.

## 7. The rail industry's finances

- 7.1 This chapter provides an overview of the complex finances of the rail industry. It sets out the high-level financial flows between Network Rail, passenger train operators, and the government funders. The chapter also briefly discusses the role of private sector investment in the industry. Finally, the chapter places government spending on rail within the wider context of all transport expenditure.
- 7.2 Figure 3 summarises the rail industry's key income streams and the various high-level money flows within the industry. Passengers and taxpayers (via government support) are the two predominant income sources.
- 7.3 Government support to the railway comes from its funding of Network Rail through both grants and loans. It also subsidises some train operators.
- 7.4 Network Rail and passenger train operating companies comprise most of the industry's cost base. Other, smaller costs are borne by freight and open access operators and have not been included in this analysis.

### Network Rail

- 7.5 In 2017-18, total Network Rail income from sources other than passenger train operators was £9.5 billion. This consisted of a network grant, net government funding through borrowing and other commercial income.
- 7.6 The annual network grant amounted to £4.5 billion in 2017-18. Since its creation, Network Rail has also been able to borrow with the benefit of a government guarantee. This arrangement has been replaced in recent years by direct borrowing from government. In 2017-18, the net increase in Network Rail's debt was £5.6 billion, with government as the sole lender of new funds. However, during the year £1.1 billion was returned to government in interest and other financing costs by Network Rail, meaning that the net impact on the public funds of Network Rail's borrowing was £4.5 billion in 2017/18.
- 7.7 Network Rail also received other commercial income (including property and freight access charges) from sources other than passenger train operators, which amounted to £0.5 billion.
- 7.8 In addition to this Network Rail also received net income of £1.7 billion from train operators. This comprises regulated track access charges, plus stations, depots, facilities and electricity costs (both regulated and commercially negotiated), net of performance compensation payments under schedules 4 and 8.

- 7.9 Network Rail's total income in 2017/18 was therefore £11.2 billion, comprising:
- a. £4.5 billion of network grant
  - b. £4.5 billion of borrowing (net public funding provided)
  - c. £0.5 billion of commercial income from sources other than passenger train operators
  - d. £1.7 billion of net income from train operators
- 7.10 Network Rail's expenditure during 2017-18 was £11.2 billion, comprising:
- a. £3.0 billion on operation and maintenance of the rail network
  - b. £2.4 billion on network renewals
  - c. £3.3 billion on network enhancements
  - d. £1.3 billion of (external, non-government) financing costs
  - e. £1.2 billion of other expenditure. This includes repayment of Crossrail project funding made available during the course of construction
- 7.11 Network Rail receives 5-year funding settlements from government to allow it to effectively plan its investments. Network Rail was funded to deliver a very large portfolio of enhancements in the five years to 2019. As costs escalated and delivery timetables extended for this portfolio, there were implications for other areas of Network Rail's activity. This was particularly true in the case of renewals, where a large volume of works were deferred beyond 2019. Reflecting this, as well as the challenges of a growing and busier network, Network Rail will receive increased levels of operations and maintenance funding and very significantly increased levels of renewals funding for the five years to 2024.

## **Passenger train operating companies**

- 7.12 In 2017-18, total train operating company income from passenger fares and other commercial sources was £10.5 billion. Within this total, passenger revenue was £9.6 billion in 2017-18 and other income (including advertising and car parking) was £0.9 billion.

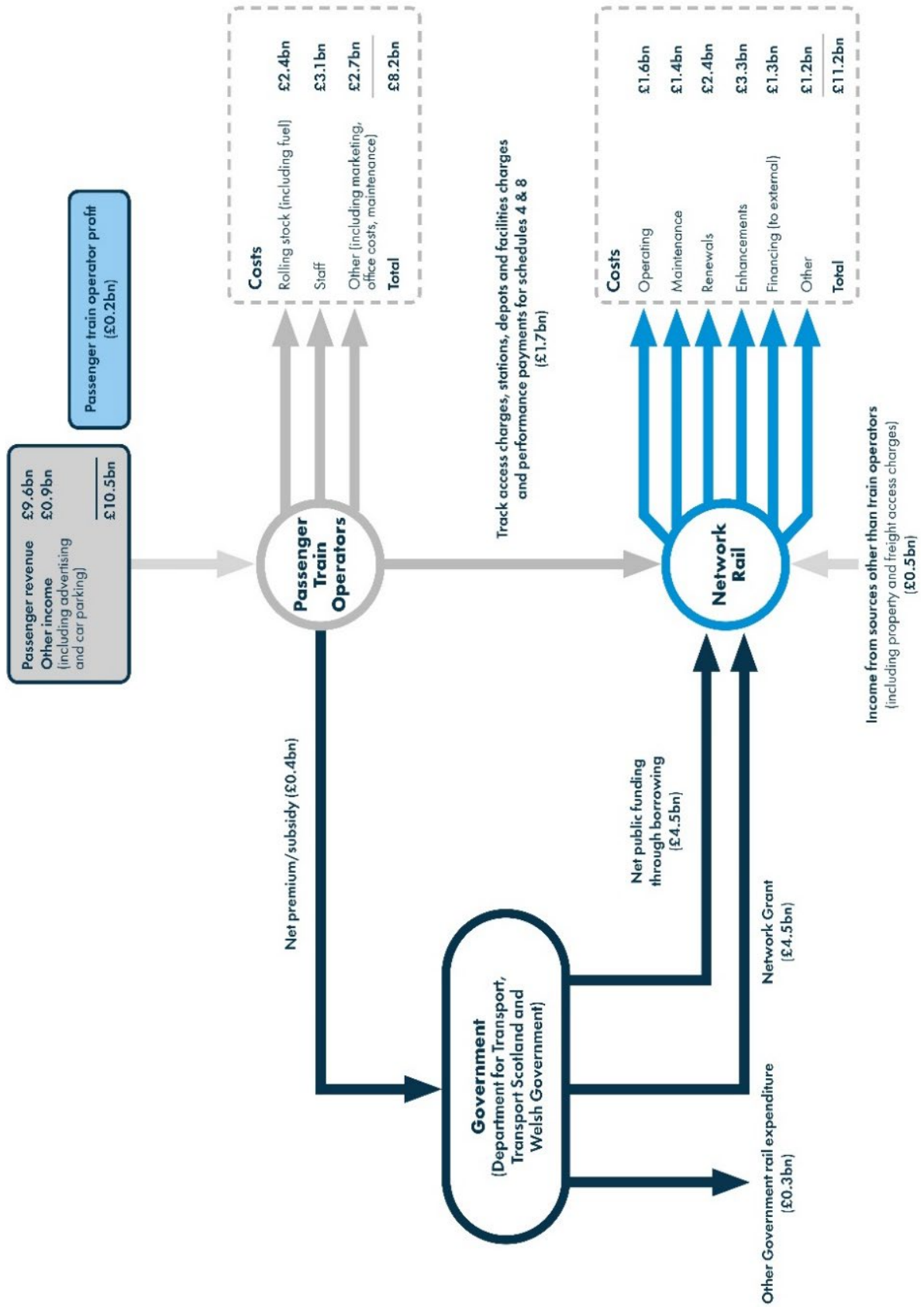


Figure 3. Rail industry financial flows, 2017-18<sup>61</sup>

- 7.13 In 2017-18, total train operator costs excluding net payments to Network Rail and net franchise premium payments to government were £8.2 billion, a significant proportion (38%) of which was on staff costs (including pensions). Rolling stock (including expenditure on diesel) is the other main area of cost, with a series of smaller costs presented together as 'other costs' – including maintenance, cleaning and marketing costs, among others.
- 7.14 In 2017-18, train operators paid Network Rail £1.7 billion. This comprises regulated track access charges, plus stations, depots, facilities and electricity costs (both regulated and commercially negotiated), net of performance compensation payments under schedules 4 and 8.
- 7.15 Depending on the characteristics of their market and the underlying cost base of their businesses, train operators either make annual premium payments to the government or receive an operating subsidy. In 2017-18 the balance of subsidy received by train operators (£2.5 billion) versus the premium payments paid to government (£2.9 billion) amounted to a net cost to train operators (and therefore a net receipt for government) of £0.4 billion.
- 7.16 Total train operator costs were therefore £10.3 billion, comprising:
- a. £3.1 billion on staffing
  - b. £2.4 billion on rolling stock (including diesel costs)
  - c. £2.7 billion of other costs (including maintenance, cleaning, policing and marketing costs, among others)
  - d. £1.7 billion of net payments to Network Rail
  - e. £0.4 billion of net franchise premium payments to government
- 7.17 With total income of £10.5 billion during the year, the remaining £0.2 billion was the total profit earned by train operators.

## Public support to the railway

- 7.18 The figures presented so far use a combination of data from the UK Rail Industry Financial Information (UKRIF) produced by the Office of Rail and Road and Network Rail's Regulatory Financial Statements. UKRIF has only existed since 2010-11 and therefore to consider how government support has evolved, a combination of Network Rail's Regulatory Financial Statements and Rail Industry Financials produced by the Office of Rail and Road is now used.<sup>62</sup> This difference in sources will account for any slight discrepancy from numbers previously reported.

7.19 Following the creation of Network Rail, increased capital expenditure has driven an increase in government support to the industry (see Figure 4). Government support includes:

- a. Direct capital grant to Network Rail.
- b. Annual net increases in Network Rail’s debt, less any financing costs paid back to government during the year. (This approach applies whether new borrowing was via government-backed external loans, or direct from government).
- c. Net support paid to train operators (noting that in 2017-18 this is a negative figure – i.e. a net receipt to government).
- d. Other support – including direct government support for industry bodies.

7.20 This approach to considering public support to the railway generally excludes government investment in any rail infrastructure that is funded outside of the current operating network (for example, Crossrail and High Speed 2), and also income gained from any rail-related asset sales.

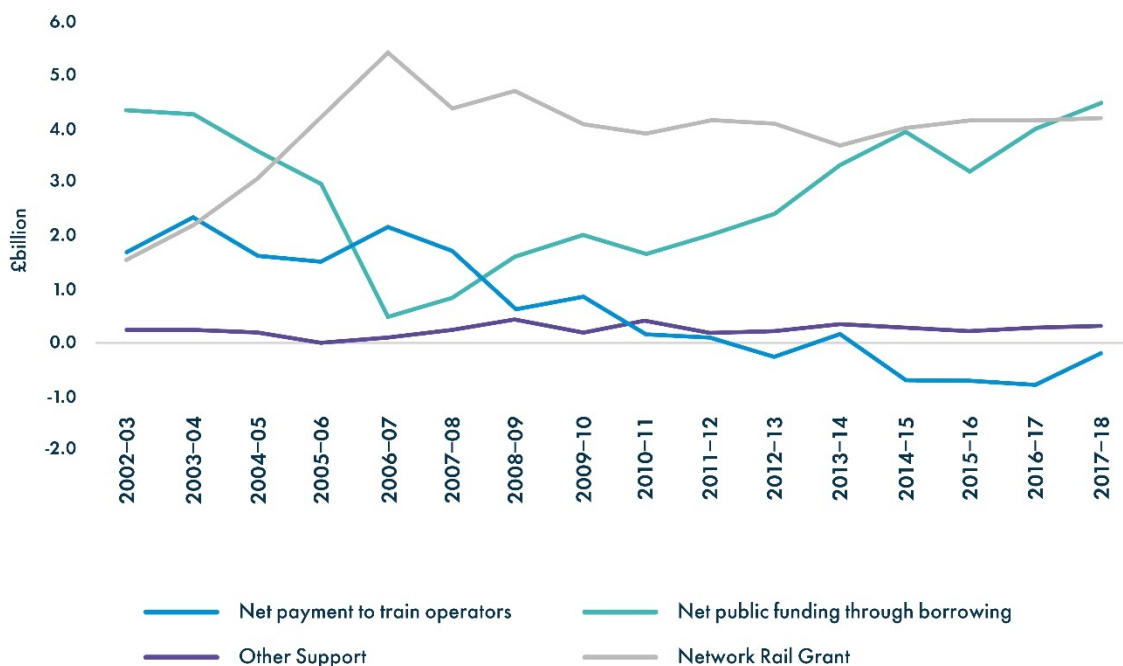


Figure 4. Public spending on rail (in 2017-18 real prices)<sup>63</sup>

7.21 Total net government support in real terms has ranged from £6.1 billion to £9.0 billion annually since Network Rail’s inception in 2002-03. Support was at its lowest level in 2010-11 and 2012-13. However, by 2017-18 it had risen to £8.8 billion (using slightly different definitions Figure 3 shows an equivalent value of £8.9 billion). The growth in support in recent years has

been driven by a number of factors – including several major new enhancement programmes in response to capacity pressures on the network and the growing cost of maintaining an increasingly aging network.

**7.22** In real terms passenger fare revenue has almost doubled in the 15 years to 2017-18, increasing from £4.9 billion to £9.7 billion. This was driven by substantial demand growth during this period coupled with rising fare levels. Since 2014, regulated fares have been capped to rise no faster than the Retail Prices Index measure of inflation. From 2006-07, strong passenger revenue growth has led to a lower requirement for government subsidy to train operators to the extent that an overall net premium has been received by government in each year since 2014-15.

### **Private sector investment in rail**

**7.23** In 2017-18 private investment into the railways rose to £1.3 billion, an increase of 36% on the previous year.<sup>64</sup> This growth was driven by several significant new rolling stock orders. In 2017-18, rolling stock accounted for 79% of total private investment in the rail industry.

### **Rail funding in context**

**7.24** Information covering UK public sector expenditure is obtained from HM Treasury's statistical release, Public Expenditure Statistical Analysis (PESA).<sup>65</sup> This uses a broader definition of 'rail' which extends beyond the national rail system to include expenditure on, for example, London Underground services, the Channel Tunnel Rail Link, London and Continental Railways, High Speed 2, and spending by local government bodies. Government subsidies paid to train operators are included, though the premium returned to government is outside the scope of this publication. PESA also does not include the government backed loan or borrowing from Network Rail.<sup>66</sup>

**7.25** In recent years, rail (on the above definition) has made up more than half of public expenditure on transport (see Figure 5).

**7.26** Since 1998-99 the proportion of public transport spending allocated to rail has increased from 16% to 55%. This trend partly reflects increased spending to accommodate the very sharp growth in demand for rail travel (relative to the rate of growth in other transport modes) as well as the policy choices of successive governments in their use of transport budgets. It also reflects the reclassification of Network Rail as a public body.

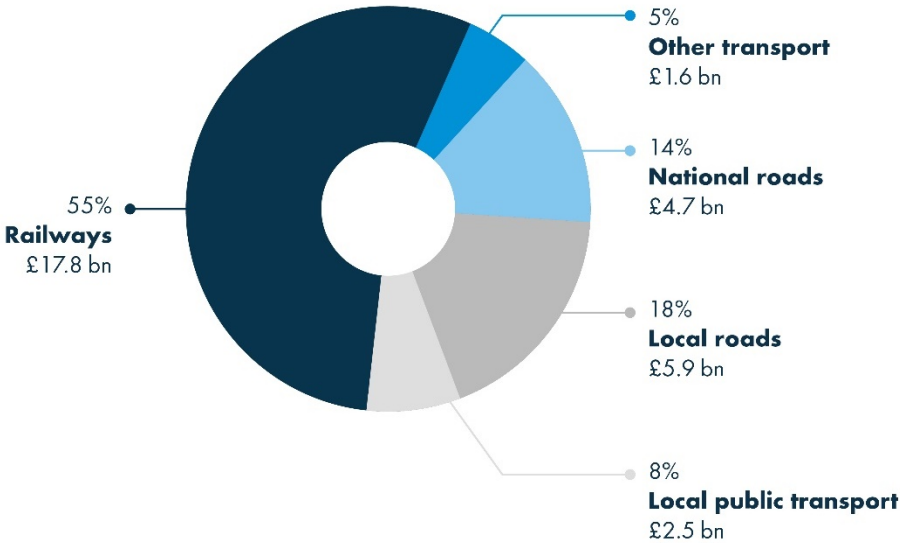


Figure 5. Public spending on transport in the UK, 2017-18



## Methodological statement

This chapter has drawn on the best available data sources to create the most accurate possible high-level assessment of industry finances.

It is difficult to set definitions that give a full and meaningful but still accessible picture of industry income and costs. There are numerous multi-directional financial flows across the constituent parts of the industry – for example, train operators pay compensation to Network Rail and vice-versa, and the government both pays and receives money from train operators. Choices over how much or how little of this detail to show are a matter of judgment. In addition, the various organisations in the industry report financial data in different ways and for different purposes that can render direct comparison challenging.

The Review has started from the premise of presenting a consistent picture of total government support over time for the rail industry. We have counted annual increases in Network Rail's net debt as "government support" (including in the period where Network Rail was borrowing externally with a government guarantee). This borrowing would not have been counted as government support at the time, but we are mindful that the company's entire outstanding debt became a government liability from the point of its reclassification to the public sector in 2014/15.

Furthermore, these figures are for the most part only a snapshot of a single year (2017-18), and the amounts spent in each area can vary significantly between years depending on, for example, the number of major projects underway or the operational requirements of the railway at any given time.

The Review will continue to consider how to build and present the clearest possible picture of industry finances.

Note: All figures reported in this chapter are converted to real 2017-18 prices using the GDP deflator published on 1 November 2018.<sup>67</sup>

## 8. Next steps

- 8.1 This paper has summarised the benefits and costs of the railway in Great Britain. The Review will draw on this evidence in its subsequent phases.
- 8.2 Similar papers on other key rail issues will be published over the coming weeks. These will examine the experience of railway users (both passengers and freight), the organisation of the railway in Britain and other countries, and rail's role in the wider transport system, including in the context of potential future technological, economic and societal changes.
- 8.3 Alongside publishing these evidence papers, Keith Williams will make a series of policy speeches to translate this evidence into initial policy insights, to frame the challenges facing the industry, and set out the approach the Review will adopt in developing its solutions.
- 8.4 Following these evidence papers and speeches, the Review will issue a new phase of its ongoing Call for Evidence process – with a deadline of late-May 2019. This will seek views on the papers and themes set out by Keith Williams, and be supported by the Review's ongoing work to engage widely with people using and working on the railway.

# Glossary

- **Agglomeration** Agglomeration arises when transport links better enable individuals and firms to derive productivity benefits from locating in closer proximity to other individuals and firms.
- **Billion Tonne Kilometres** A metric of the amount of freight moved, taking into account weight and distances travelled on the rail network.
- **Department for Transport (DfT)** The UK Government department with responsibility for the railway in England and Wales, as well as some reserved railway matters in Scotland.
- **Enhancement** A project that improves the capacity and/or capability of the rail network.
- **Franchise** An agreement between a Franchising Authority (such as the Secretary of State for Transport) and a Train Operating Company to operate passenger train services.
- **Freight customer** A business which contracts a Freight Operating Company to transport goods on the rail network on its behalf.
- **Freight Delivery Metric (FDM)** The percentage of freight trains that arrive at their destination within 15 minutes of their schedule arrival time. (Freight trains are only considered to have failed FDM where the delay was caused by Network Rail).
- **Freight Operating Company (FOC)** A company who holds a freight operator's licence to utilise the rail network in order to transport goods.
- **High Speed 2 (HS2)** The new high speed railway which will connect the cities of London, Birmingham, Manchester and Leeds.
- **Intermodal** Rail freight flows transporting containers.
- **National rail network** All domestic railway services with the exception of underground services, light rail, heritage rail, and tram systems.
- **National Travel Survey (NTS)** A household survey designed to monitor long-term trends in personal travel and to inform the development of policy.
- **Network Grant** Direct funding provided by the Secretary of State for Transport and Scottish Ministers to Network Rail.
- **Network Rail (NR)** The public sector arm's length body which owns, operates and maintains the rail network in England, Wales and Scotland.
- **Office of Rail and Road (ORR)** The independent safety and economic regulator for Britain's railway.

- **Open Access Operator (OAO)** A Train Operating Company that operates passenger services which does not have a franchising agreement with the government.
- **Premium** Money paid to a Franchising Authority by a Train Operating Company as part of a Franchising Agreement.
- **Public Expenditure Statistical Analyses (PESA)** A yearly publication of information on government spending.
- **Rail Delivery Group (RDG)** An industry body, set up by the government, following a recommendation in the Rail White Paper “Reforming our Railways: Putting the Customer First” (Cm8313, March 2012).
- **Rail Safety and Standards Board (RSSB)** An industry body that works to improve safety, performance and value for money across the industry.
- **Retail Prices Index (RPI)** A measure of the rate of inflation.
- **RMT** The National Union of Rail, Maritime and Transport Workers is a trade union of transport workers.
- **Rolling stock** Locomotives, coaches, multiple units and wagons that operate on the rail network.
- **Rolling stock leasing companies (ROSCOs)** Companies that own rolling stock and lease to Train Operating Companies and Freight Operating Companies.
- **Schedules 4 and 8** Mechanisms to compensate train operators for the financial impact of planned (Schedule 4) and unplanned (Schedule 8) service disruption attributable to Network Rail or other train operators.
- **Strategic Road Network (SRN)** The motorways and major A roads in England that are managed by Highways England.
- **Subsidy** Money paid by a Franchising Authority to a Train Operating Company as part of a Franchising Agreement.
- **Train Operating Company (TOC)** A company who holds a passenger operator’s licence and runs passenger services on the rail network.
- **Transport Salaried Staffs’ Association (TSSA)** A trade union of transport workers.
- **Transport Scotland** The national transport agency for Scotland.

- **Transport Statistics Great Britain (TSGB)** The Department for Transport's main statistical compendium publication, describing major statistical trends in the British transport sector.
- **Trips** A one-way course of travel with a single main purpose.

# Endnotes

<sup>1</sup> The UK Government is responsible for the overall legal framework and, in relation to the majority of the network, is responsible for the work of Network Rail, funding major projects, and contracting rail services. However, in some parts of the country, the Devolved Administrations, sub-national transport bodies and city regions are involved in the specification and funding of services and infrastructure, ranging from full devolved responsibilities to more informal collaboration. The railway in Northern Ireland is legally and operationally distinct.

<sup>2</sup> <https://www.gov.uk/government/consultations/williams-rail-review>

<sup>3</sup> The national rail network is used in this paper to include all domestic railway services, with the exception of underground services (such as London's tube network), light rail (such as the Tyne & Wear Metro and Manchester Metrolink) and tram systems (such as the Blackpool Tramway or Nottingham Express Transit).

<sup>4</sup> ORR: [http://orr.gov.uk/\\_data/assets/pdf\\_file/0006/39417/rail-infrastructure-assets-environmental-2017-18.pdf](http://orr.gov.uk/_data/assets/pdf_file/0006/39417/rail-infrastructure-assets-environmental-2017-18.pdf) and <https://dataportal.orr.gov.uk/displayreport/report/html/a201ed45-23cf-4785-8d71-881f93592314>

<sup>5</sup> [http://orr.gov.uk/\\_data/assets/pdf\\_file/0005/39983/passenger-rail-usage-2018-19-q2.pdf](http://orr.gov.uk/_data/assets/pdf_file/0005/39983/passenger-rail-usage-2018-19-q2.pdf)

<sup>6</sup> National Skills Academy for Rail (unpublished).

<sup>7</sup> ORR, <http://dataportal.orr.gov.uk/displayreport/report/html/02136399-b0c5-4d91-a85e-c01f8a48e07e>

<sup>8</sup> National Travel Survey 2017 (Table: NTS0303), <https://www.gov.uk/government/statistics/national-travel-survey-2017>

<sup>9</sup> TfL, <http://content.tfl.gov.uk/travel-in-london-report-10.pdf> (Table 10.3)(data for 2016)

<sup>10</sup> ORR, <http://dataportal.orr.gov.uk/displayreport/report/html/a10e3c7b-7766-40ae-a87a-14c56cf85a63>; DfT, <https://www.gov.uk/government/statistics/rail-passenger-numbers-and-crowding-on-weekdays-in-major-cities-in-england-and-wales-2017>

<sup>11</sup> ORR, <http://dataportal.orr.gov.uk/displayreport/report/html/a10e3c7b-7766-40ae-a87a-14c56cf85a63>

<sup>12</sup> NTS, (<https://www.gov.uk/government/statistical-data-sets/nts04-purpose-of-trips>), table 0409

<sup>13</sup> ORR, <http://dataportal.orr.gov.uk/displayreport/report/html/a578fd7d-bd90-4e28-bfbc-da153157e196>

<sup>14</sup> National Travel Survey (NTS), <https://www.gov.uk/government/statistics/national-travel-survey-2017>, Table 0705 (household income)

<sup>15</sup> Calculated using ORR data, <http://dataportal.orr.gov.uk/displayreport/report/html/b24681c0-2914-4f03-8c99-be04a532455f>. Payload information sourced directly from Aggregate Industries Ltd.

<sup>16</sup> European Commission, [https://ec.europa.eu/transport/sites/transport/files/staff\\_working\\_document\\_-\\_6th\\_rmms\\_report.pdf](https://ec.europa.eu/transport/sites/transport/files/staff_working_document_-_6th_rmms_report.pdf)

<sup>17</sup> Source: Railway Industry Association submission to the Rail Review [https://www.riagb.org.uk/RIA/Newsroom/Press\\_Releases/Rail\\_review.aspx](https://www.riagb.org.uk/RIA/Newsroom/Press_Releases/Rail_review.aspx)

<sup>18</sup> Source: Network Rail submission to the Rail Review (unpublished)

<sup>19</sup> Transport Focus, <https://www.transportfocus.org.uk/research-publications/publications/williams-rail-review-passengers-want/>

<sup>20</sup> ORR, <https://dataportal.orr.gov.uk/displayreport/report/html/2b2e2c38-c822-4e1f-9fb4-b049b3c13899>

<sup>21</sup> The current Cross Country franchise is an exception, with a network that stretches from Cornwall to Scotland, and that shares lines and stations with all but three other train operating companies

<sup>22</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/6509\\_98/railways-act-2005-statement-of-funds-available-2017-web.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/6509_98/railways-act-2005-statement-of-funds-available-2017-web.pdf);

<https://www.transport.gov.scot/media/41425/sofa-2019-24-25-jan-2018.pdf>

<sup>23</sup> TSGB, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/665312/intermodal-comparisons-ras33.zip](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/665312/intermodal-comparisons-ras33.zip)

<sup>24</sup>

[https://www.era.europa.eu/sites/default/files/library/docs/safety\\_interoperability\\_progress\\_reports/railway\\_safety\\_and\\_interoperability\\_in\\_eu\\_2018\\_en.pdf](https://www.era.europa.eu/sites/default/files/library/docs/safety_interoperability_progress_reports/railway_safety_and_interoperability_in_eu_2018_en.pdf)

<sup>25</sup> Ibid

<sup>26</sup> Passenger km: <https://dataportal.orr.gov.uk/displayreport/report/html/21c19868-5153-4d1c-8157-c1606b0ebe50>

Passenger journeys: <https://dataportal.orr.gov.uk/displayreport/report/html/02136399-b0c5-4d91-a85e-c01f8a48e07e>

- <sup>27</sup> ORR, <https://dataportal.orr.gov.uk/displayreport/report/html/2fc1ca62-029a-4d0d-86e5-cfbd8bcf4cf9> (mainline)
- <sup>28</sup> RSSB, <https://www.rssb.co.uk/Library/risk-analysis-and-safety-reporting/2016-07-annual-safety-performance-report-2015-2016.pdf>
- <sup>29</sup> RSSB, <https://www.rssb.co.uk/Library/risk-analysis-and-safety-reporting/annual-safety-performance-report-2017-18.pdf>
- <sup>30</sup> NTS, <https://www.gov.uk/government/statistics/national-travel-survey-2017> (Table 0409)
- <sup>31</sup> Transport Statistics Great Britain 2018, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/762011/tsgb-2018-report-summaries.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/762011/tsgb-2018-report-summaries.pdf) (tonne kilometres)
- <sup>32</sup> Cambridge Economic Policy Associates, [https://orr.gov.uk/data/assets/pdf\\_file/0007/25747/cepa-mcb-freight-report-final-redacted.pdf](https://orr.gov.uk/data/assets/pdf_file/0007/25747/cepa-mcb-freight-report-final-redacted.pdf)
- <sup>33</sup> ORR, <http://dataportal.orr.gov.uk/displayreport/report/html/a201ed45-23cf-4785-8d71-881f93592314>
- <sup>34</sup> ORR, <http://dataportal.orr.gov.uk/displayreport/report/html/a201ed45-23cf-4785-8d71-881f93592314>
- <sup>35</sup> RDG, [https://www.raildeliverygroup.com/files/Publications/2018-06\\_rail\\_freight\\_working\\_for\\_britain.pdf](https://www.raildeliverygroup.com/files/Publications/2018-06_rail_freight_working_for_britain.pdf)
- <sup>36</sup> [https://www.raildeliverygroup.com/files/Publications/2018-06\\_rail\\_freight\\_working\\_for\\_britain.pdf](https://www.raildeliverygroup.com/files/Publications/2018-06_rail_freight_working_for_britain.pdf)
- <sup>37</sup> Freight & National Passenger Operators Route Strategic Plan, Network Rail, February 2018, <https://cdn.networkrail.co.uk/wp-content/uploads/2018/02/FNPO-Route-Strategic-Plan.pdf>
- <sup>38</sup> ORR, <http://dataportal.orr.gov.uk/displayreport/report/html/a201ed45-23cf-4785-8d71-881f93592314>
- <sup>39</sup> Rail Delivery Group, 'Rail Freight: Working for Britain' ([https://www.raildeliverygroup.com/files/Publications/2018-06\\_rail\\_freight\\_working\\_for\\_britain.pdf](https://www.raildeliverygroup.com/files/Publications/2018-06_rail_freight_working_for_britain.pdf))
- <sup>40</sup> RDG, [https://www.raildeliverygroup.com/files/Publications/archive/2014-05\\_keeping\\_the\\_lights\\_on.pdf](https://www.raildeliverygroup.com/files/Publications/archive/2014-05_keeping_the_lights_on.pdf)
- <sup>41</sup> Rail Delivery Group, [https://www.raildeliverygroup.com/files/Publications/2018-06\\_rail\\_freight\\_working\\_for\\_britain.pdf](https://www.raildeliverygroup.com/files/Publications/2018-06_rail_freight_working_for_britain.pdf)
- <sup>42</sup> ORR, <https://dataportal.orr.gov.uk/displayreport/report/html/64303365-7892-4967-9b08-d508fe2be64c> (freight trains are only considered to have failed FDM where the delay was caused by Network Rail.)
- <sup>43</sup> [https://www.raildeliverygroup.com/files/Publications/archive/2014-05\\_keeping\\_the\\_lights\\_on.pdf](https://www.raildeliverygroup.com/files/Publications/archive/2014-05_keeping_the_lights_on.pdf). This figure was extrapolated from the ORR's assumptions on lorry journeys avoided and Network Rail's estimate of 500 casualties avoided for 2013.
- <sup>44</sup> Agglomeration effects arise when transport links better enable individuals and firms to derive productivity benefits from locating in closer proximity to other individuals and firms. The benefits of effective co-location created by rail connectivity drive greater economic activity.
- <sup>45</sup> <https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/datasets/percentageofhouseholdswithcarsbyincomegrouptenureandhouseholdcompositionuktablea47>
- <sup>46</sup> Department for Transport, <https://www.gov.uk/government/publications/community-rail-development-strategy>
- <sup>47</sup> ORR, <https://dataportal.orr.gov.uk/displayreport/report/html/7de972cd-32ee-408e-80a8-01f774b8fcfc>
- <sup>48</sup> ORR, <https://dataportal.orr.gov.uk/displayreport/report/html/c35e0c28-324f-4168-81b9-be197963f251> (route km)
- <sup>49</sup> RSSB, <https://www.rssb.co.uk/RiskContent/Rail-Industry-Decarbonisation-Task-Force-Initial-Report-to-the-Rail-Minister-January%202019.pdf>
- <sup>50</sup> 2009 Guideline to Defra's GHG Conversion Factors: Methodology Paper for Transport Emission Factors, October 2009, Defra, [http://www.sthc.co.uk/documents/DEFRA-guidelines-ghg-conversion-factors\\_2009.pdf](http://www.sthc.co.uk/documents/DEFRA-guidelines-ghg-conversion-factors_2009.pdf)
- <sup>51</sup> <https://www.gov.uk/government/publications/rail-freight-transport>
- <sup>52</sup> <https://www.gov.uk/government/publications/rail-freight-transport>
- <sup>53</sup> RDG, [https://www.raildeliverygroup.com/files/Publications/archive/2014-05\\_keeping\\_the\\_lights\\_on.pdf](https://www.raildeliverygroup.com/files/Publications/archive/2014-05_keeping_the_lights_on.pdf)
- <sup>54</sup> RSG, <https://www.railsupplygroup.org/wp-content/uploads/2017/09/RSG-Brochure-Jan-2016.pdf>
- <sup>55</sup> ONS, <https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/timeseries/fjor>
- <sup>56</sup> Union des Industries Ferroviaires Européennes (UNIFE) World Rail Market Study 2016 (not public)
- <sup>57</sup> <https://www.gov.uk/government/publications/rail-sector-deal>
- <sup>58</sup> RSSB, <https://www.rssb.co.uk/innov-prog/documents/2016-07-innovation-railway-supply-chain-capability-report.pdf>
- <sup>59</sup> <https://www.gov.uk/government/publications/rail-sector-deal>

<sup>60</sup> [https://www.raildeliverygroup.com/files/Publications/2018-03\\_long\\_term\\_passenger\\_rolling\\_stock\\_strategy\\_6th\\_ed.pdf](https://www.raildeliverygroup.com/files/Publications/2018-03_long_term_passenger_rolling_stock_strategy_6th_ed.pdf)

<sup>61</sup> UK Rail Industry Financial Information (UKRIF), ORR, <https://orr.gov.uk/rail/publications/reports/uk-rail-industry-financial-information/uk-rail-industry-financial-information-2017-18>; Network Rail's Regulatory Financial Statements, <https://cdn.networkrail.co.uk/wp-content/uploads/2018/07/NRIL-Regulatory-Financial-Statement-for-the-year-ended-31st-March-2018.pdf>

<sup>62</sup> Network Rail regulatory accounts, <https://www.networkrail.co.uk/who-we-are/publications-resources/financial/>; DfT, <https://dataportal.orr.gov.uk/displayreport/html/html/a830de20-83bf-408d-9c22-7f3ec23999f9> (Table 1.6); ORR, <http://dataportal.orr.gov.uk/displayreport/report/html/a578fd7d-bd90-4e28-bfbc-da153157e196> (Table 12.8)

<sup>63</sup> The Network Rail Grant included support during the construction of the High Speed 1 route, to London and Continental Railways. Other elements of government support comprise central government expenditure on major projects, support to arm's length bodies including British Transport Police and Transport Focus, a grant to British Rail to finance its residual activities, and other ad hoc rail projects.

<sup>64</sup> Office of Rail and Road - Private investment in the rail industry (excludes Network Rail investment), <http://dataportal.orr.gov.uk/displayreport/report/html/a1bcb53b-9914-4d7d-9d57-0187cd27e59b> (Table 1.9)

<sup>65</sup> <https://www.gov.uk/government/collections/public-expenditure-statistical-analyses-pesa>

<sup>66</sup> A methodology note which sets out the definitions of what is included can be found here: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/761660/transport-expenditure-notes.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/761660/transport-expenditure-notes.pdf)

<sup>67</sup> <https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-october-2018-budget-2018>