Network Rail Limited
Annual report and accounts 2017

Working for you

Network Rail Limited's

Annual Report and Accounts 2017

Presented to Parliament
by the Secretary of State for Transport
by Command of Her Majesty

July 2017

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Any enquiries related to this publication should be sent to us at cosec@networkrail.co.uk

You can download this publication from www.networkrail.co.uk/annualreport

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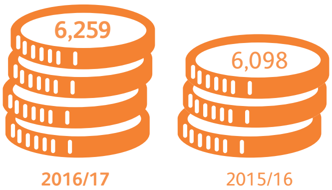
OUR YEAR IN NUMBERS

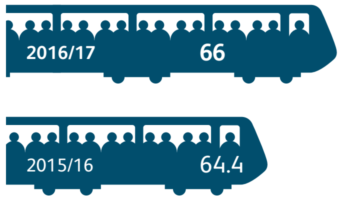
In this report we outline our performance during 2016/17, the third year of Control Period 5. Here is a snapshot of how we performed against a selection of key indicators.

£6,259m



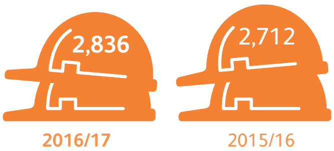
Revenue in the year
(2015/16: £6,098m)

66km



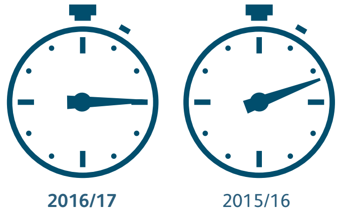
Passenger km traveled (bn)
(2015/16: 64.4km)

£2,836m



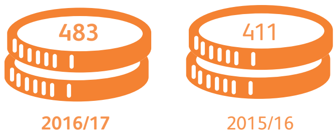
Operating costs*
(2015/16: £2,712m)

87.6%



Passenger trains on time
(2015/16: 89.1 %)

£483m

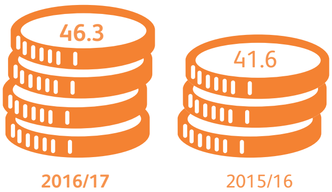


Profit before tax†
(2015/16: £411m)

17.2

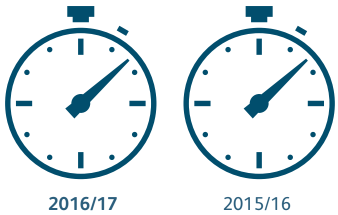
Freight moved
(2015/16: 17.8 bn net tonne km)

£46.3bn



Net debt
(2015/16: £41.6bn)

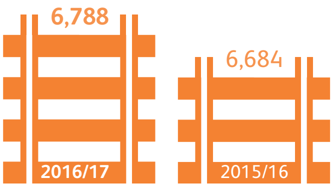
94.3%



Freight trains on time
(2015/16: 94.3 %)

£6,788m

Capital expenditure
(2015/16: £6,684m)



205,555

Number of workforce safety close calls made against our target of 120,000
(2015/16: 140,021)

*Before depreciation and amortisation.

†We operate on a not-for-dividend basis, so our profits are reinvested in the railway.

BUSINESS BRIEFINGS
PHOTOGRAPHY COMPETITION WINNERS 2017

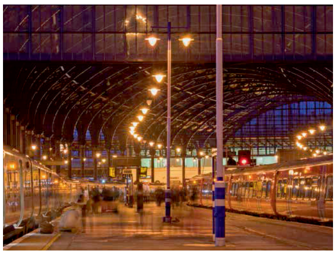
As part of this year's Business Briefings, a series of events that give colleagues the chance to hear from our chief executive and other senior leaders about the strategy and direction of the organisation, staff were encouraged to submit entries for a photo competition based around the theme of 'better every day'. Twelve entries made the shortlist, below, and colleagues having been voting for their favourites. The results are presented below.

1 © Daniel Tetstall, 2017

2 © Sean Penny, 2017

3 © Ioannis Toutoungi, 2017

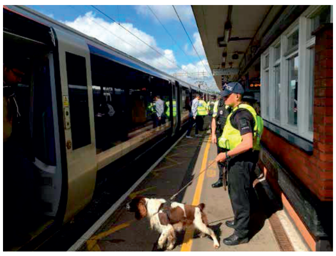
Daniela Cardoso



Adrian Backshall

James Montgomery

James Stockall



Mark Fenton

Owen Johns

Richard Scott

Chris Draper

Stephen Deaville

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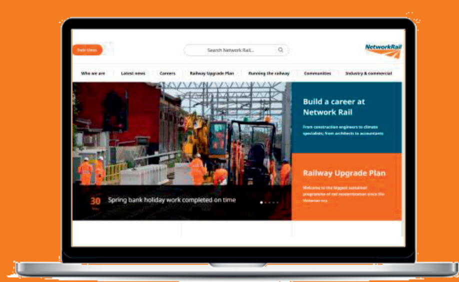


FOR FURTHER INFORMATION VISIT **NETWORKRAIL.CO.UK**

INTRODUCTION BY OUR CHAIR, SIR PETER HENDY, CBE

Britain's railways create jobs, growth and housing through connectivity; they are a remarkable success story. We have seen the greatest passenger growth over the last ten years of any European country. We are also the safest major railway, one of the most efficient, and receive some of the highest passenger satisfaction ratings.

2015/16 was the first year on record where no railway workforce fatalities were recorded, and the industry should be commended for their relentless focus on safety that has resulted in achieving the same outcome in 2016/17.

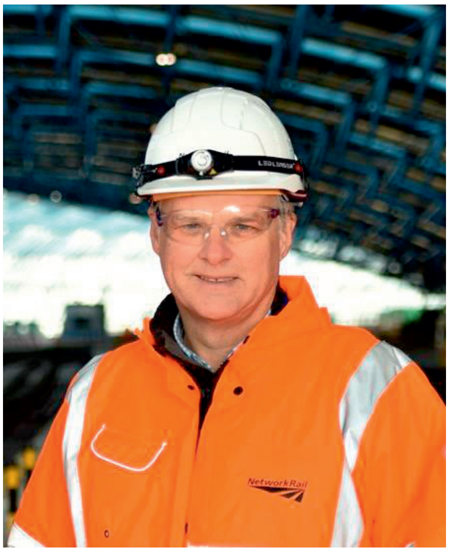
Of course, there are significant cost and performance challenges, which require us to continually improve and innovate. With the Board's full support, Mark Carne has been driving significant change in how Network Rail operates and behaves. This year, we published the 'Delivering for our Customers' transformation plan, which sets out those key areas of change and how the organisation is becoming more relentlessly customer focused, and making itself more competitive and attractive to investors. The Board is very pleased to see the first results of this policy of devolution.

The Secretary of State, the Rt Hon Chris Grayling MP, outlined his vision for the industry in December 2016, with plans to encourage more joined up working, bringing track and train closer together, as well as bringing more contestability to the funding and delivery of upgrade projects. We strongly welcome this, as it reinforces the direction of travel that Network Rail has been pursuing. Our job is to make his vision a reality.

This year has seen some changes to our board, with Malcolm Brinded, CBE and Janis Kong, OBE stepping down and Silla Maizey being appointed. I would like to thank all board members for their work and the important contributions that they make. It is a reflection of their calibre and status that two of my colleagues have been asked by the Secretary of State to work with Government on key rail issues – Chris Gibb reported on GTR and has now been appointed to head a new project board looking at Thameslink for 2018, and Rob Brighouse is chairing the new East West Rail organisation.

The Board and I thank Mark and the rest of the executive for their dedication throughout the year, and welcome David Waboso, who joined us as the managing director for Digital Railway. Thanks also go to the route managing directors, who have stepped up this year to take on the extra responsibilities that have come through devolution, and, of course, to all our staff and contractors who work so hard to help deliver a better railway for a better Britain.

Sir Peter Hendy, CBE
Chair
14 July 2017



A MESSAGE FROM OUR CHIEF EXECUTIVE, MARK CARNE

Rail is seldom out of the news or the headlines. This is because rail really matters. It makes a difference to the lives of the 4.5 million people every day that depend on us to help them get to work, to meet up with friends and families or to go on holiday. Our railways are the economic and social arteries of our country.

Network Rail is currently carrying out the biggest rail upgrade programme in generations. Last year alone we spent £3.9bn on railway enhancements, 10 per cent more than in any previous year. And we did this with much less access to the railway than we have had in the past because passengers now want earlier trains in the morning and later trains in the evening. So this has been a busy twelve months for Network Rail and there is much that we can be proud of.

We have successfully delivered some major feats of engineering:

- In August, we opened the first part of the new London Bridge station concourse, which will be the largest concourse in Britain, constructed whilst still keeping the station open for the 50 million passengers who use it every year.
- In September, we re-opened the Dover-Folkestone railway three months ahead of schedule. The sea wall at Dover, along with 250m of track, had collapsed in the Christmas Eve storms of 2015 and it took 200 people and more than 90,000 tonnes of rock to re-build.
- In December, we completed the first new rail link between a major British city and London in more than 100 years with the opening of the Oxford-Marylebone route.

But we also know that we have to improve the punctuality performance of the railway and become much more efficient in the way that we work. In July, we published ‘Delivering for our Customers’ – our plan for how we want to transform Network Rail into a public sector organisation that behaves much more like a private business:

- Being much more focused on our customers.
- Ensuring that we are cost competitive and that every penny we spend returns the maximum possible benefit.
- Enhancing our commercial capability in order to bring alternative sources of funding into the railway.
- Embedding a high performing, diverse and caring culture across the organisation.
- Addressing the biggest challenge facing the railway – the growth in passenger numbers and the lack of capacity to meet that demand.

That transformation is now well underway, most notably in the devolution of significant additional responsibility to route managing directors and their leadership teams. This is enabling more decisions to be made in response to, and in conjunction with, our customers. This report reflects the progress we have made in devolution, with specific reports provided by each of the route business managing directors.

Route performance targets are now developed in consultation with train operating companies, rather than being set by the Office of Rail and Road, and we have launched the first of our route supervisory boards, bringing track and train together to deliver for passengers.

We know that different parts of the country and different customers have different needs, and what works on one line may not work everywhere. Route devolution recognises that diversity, and allows leaders to make decisions at a local level about what are the best ways to deliver for our customers.

CHIEF EXECUTIVE'S REVIEW CONTINUED

In another important step on our transformation journey we commissioned an independent review, which has been chaired by Professor Peter Hansford, into the barriers that prevent alternative project delivery models. It is part of our commitment to identify and break down any barriers that currently discourage other project delivery models.

Whilst recognising the progress we have made in the last twelve months, we must also acknowledge that this has been a year when poor train performance has rarely been out of the headlines.

While the reasons for this are varied (and poor train performance is not true across the board – performance on some routes has been excellent) we must, and will, play our part in ensuring the experience for passengers improves.

We have reached a point where the rail industry must change the way it operates in order to meet the needs of passengers in the years ahead. This means both embracing new technologies and working ever more closely together to deliver the most effective and efficient outcomes for passengers. We have a plan to ensure we live within our means for the rest of Control Period 5 (our current funding period, which runs until 2019) and to ensure we become more efficient as we head into Control Period 6 (2019-2024).

The year ahead will be an exciting one for Network Rail, as we complete some of the major improvement projects we have been working on for the past few years, and I look forward to reporting on these in next year's report. I would also like to thank all of our staff for their hard work over the last twelve months, and for continuing to deliver for our customers.

Mark Carne
Chief executive
14 July 2017

ABOUT US

We own and operate the railway infrastructure in England, Scotland and Wales on behalf of the nation. Here we look at what we do, how we are organised, governed and funded and our strategy for how we are changing in order to deliver a better railway for a better Britain.

What we do

Network Rail owns and operates most of Britain's railway infrastructure, including tracks, signals, tunnels, bridges, viaducts and level crossings. We also manage rail timetabling and 18 of the largest stations in England, Scotland and Wales.

We operate on a not-for-dividend basis, which means that we do not pay dividends to shareholders. Instead, we reinvest any profits we make into improving the railway. Our aim is to provide a safe, reliable and efficient railway for passenger and freight trains.

How we are organised and operate

Responsibility for the operation and upgrading of the railway is devolved to our eight geographical routes. This enables operational control at a local level and close alignment with the companies that run trains on our infrastructure. Route managing directors are able to authorise 99 per cent of all maintenance and renewals work carried out. We are in the process of reviewing all services held at the 'centre' of Network Rail; a number of roles have been devolved, or are in the process of being devolved, and we aim to have 95 per cent of staff working either in a route or providing a service to it.

During 2016/17 the Freight and National Passenger Operators route was established as a ninth route, to look after those customers whose interests extend across our geographical route boundaries. These nine routes are at the operational heart of Network Rail.

At the same time as deepening devolution, with more power and decision making at a local and regional level, we also recognise that the railway needs to operate as a single interrelated system, operating to consistent technical and safety standards. The national system operator is a business unit within Network Rail that ensures the network is planned and managed fairly and optimised for the benefit of all, whilst our technical authority function is responsible for research and development, and for ensuring consistent technical and safety standards and competency frameworks are applied across the network.

We have three Route Support directorates:

- Route Services, which includes Group Business Services, National Supply Chain and Network Rail Consulting.
- Infrastructure Projects, who develop, design and deliver major projects on behalf of the routes.
- Digital Railway, which is leading an integrated strategy for the technological transformation of the railway.

In addition, Network Rail Property is a commercial division of Network Rail that manages our estate and property assets.

→ More information on the activities of the individual Routes during 2016/17 can be found on pages 15-32. Information on our Digital Railway programme can be found on page 33, and our Property division on page 34.

How we are governed and managed

As a public sector arm's length body, Network Rail retains the commercial and operational freedom to manage Britain's railway infrastructure within regulatory and control frameworks. Under our Framework Agreement with the Department for Transport, the Chair and Board are responsible to the Secretary of State for Transport for ensuring our policies and actions support the wider strategic policies of the Secretary of State and the Scottish Ministers. We are subject to independent regulation by the Office of Rail and Road (ORR). A diagram showing the governance framework within which we operate can be found on page 53.

→ Network Rail's board of directors provides the primary internal governance. For details of the directors, including their biographies, see pages 47-50.

The board has delegated some of its powers to five board committees (for details please see page 59-85).

The executive, comprising the chief executive, the chief financial officer and senior executives, manages the day-to-day running of Network Rail. The executive committee meets on a regular basis to consider strategic and operational matters. Its responsibilities include executing the objectives and strategy approved by the board, providing leadership on safety, health and environment matters and establishing, monitoring and coordinating internal controls and risk management throughout the business.

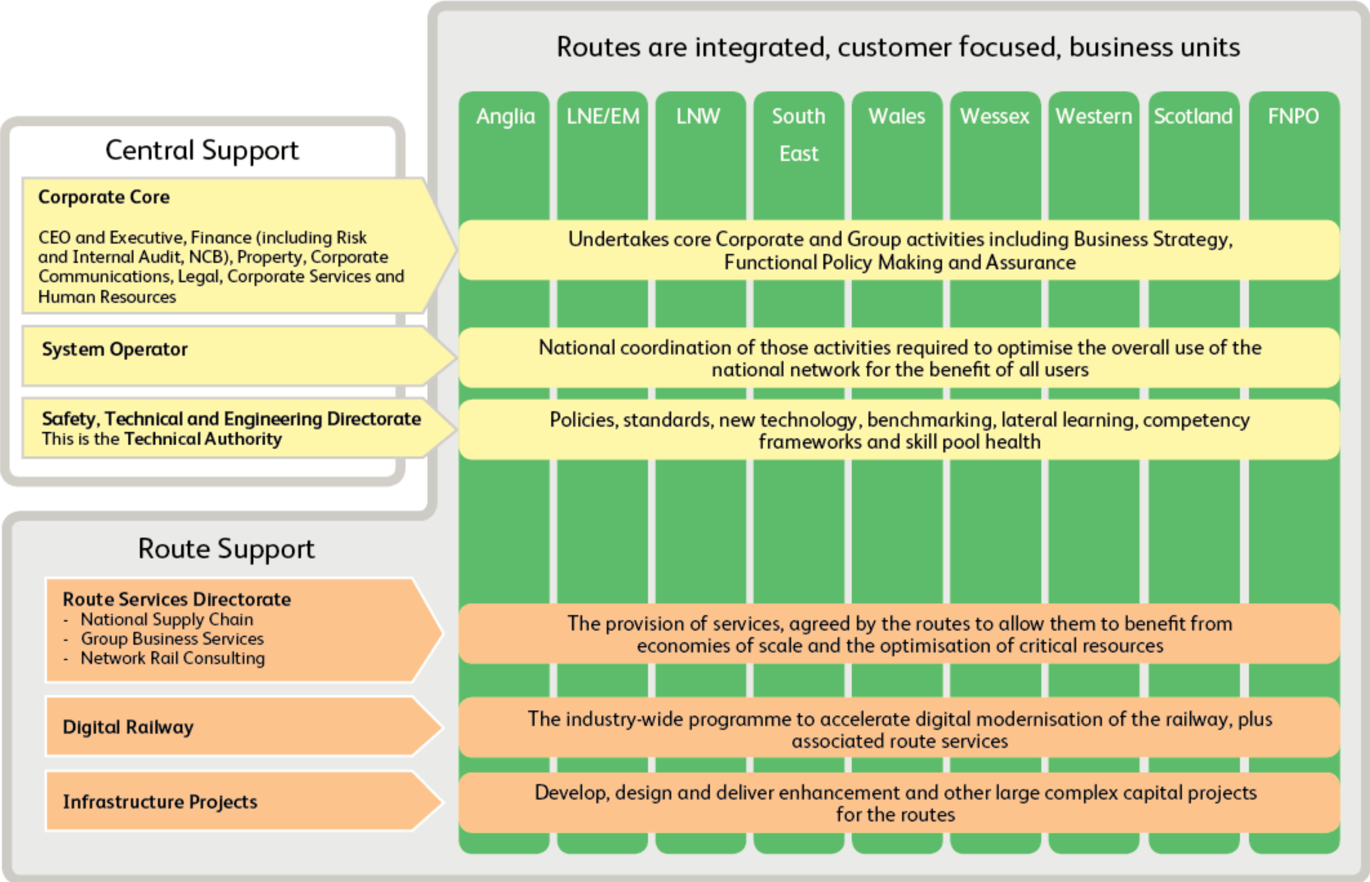
Our board is accountable to others in a number of ways:

- **Financial** - The ORR determines that we spend efficiently the income we receive from the Government and the outputs we must deliver during each five-year control period. Our chief executive Mark Carne is our accounting officer and so is personally accountable to Parliament for Network Rail's stewardship of the public funds it receives.

- **Regulatory** – We are subject to the ORR's regulation for our health and safety performance and for management of the network consistent with our network licence.

→ The board's corporate governance report starts on page 51.

ABOUT US CONTINUED



Our business model

We are a public sector company that operates as a regulated monopoly. Our income is a mix of debt and borrowing from the UK and Scottish Governments, charges levied on train operators that use our network, and income, mainly from our commercial property estate.

The Governments specify what they want from Britain's railway and how much they can afford to contribute. Our independent regulator, the ORR, sets a framework that specifies the level of fixed income we are allowed to charge, as well as the prices for recovering the costs of wear and tear to our infrastructure caused by the trains using it.

The framework also includes flexible funding mechanisms which allow the level of enhancements to the railway to be varied over time. The charges we are allowed to pass on to train operators are determined so that they are fair and allow us to maintain a safe and reliable network, and deliver good customer service.

How our revenue is determined

Network Rail is funded by Government in five-year blocks called control periods. This annual report covers the third year of Control Period 5 (2014 to 2019).

The ORR assesses the efficient level of expenditure that it believes we need to run our business and deliver the regulated outputs.

It determines how much revenue we need, including an allowed return on our regulatory asset base. This takes into account other income that we receive (such as commercial income from property).

Our regulatory agreements then allow us to determine the amount we are allowed to charge train operators for use of our network.

The ORR calculates our revenue based on:

- **Cost of service** – The ORR considers what costs an efficiently run business would incur to operate and maintain our network for each year of each control period. They vary and can include, for example, costs relating to employees, office rental, information technology systems and taxes. The regulator determines what it considers to be an efficient cost and this may be different to the actual costs we incur.

- **Expenditure on renewals and enhancements** – The regulator assesses the capital expenditure on renewals and enhancements that we need to undertake in the control period. This expenditure is added to the regulatory asset base in the year in which it is incurred.

- **Allowed return** – The ORR calculates the allowed return on the regulatory asset base and includes this in its determination of charges to rail users. This therefore covers, among other things, the cost of financing our capital expenditure programme.

- **Performance against incentives** – Our regulatory framework includes incentives that are designed to encourage specific actions. Failing to achieve certain minimum targets may lead to a reduction in our allowed revenue, and vice versa if we exceed targets.

ABOUT US CONTINUED

Our transformation strategy

In July 2016, we published 'Delivering for our customers', which set out how we would transform into a public sector organisation that behaves like a private sector business, based around five key principles:

Customer focused

We need to be much more focused on our customers – primarily train and freight operating companies and, through them, passengers.

In 2016/17, for the first time, we consulted with train and freight operating companies when developing our route performance scorecards. Between 40 and 60 per cent of each route scorecard, against which we measure business performance (and determine performance-related pay) is now based on what they have asked us to focus on, creating greater alignment between 'track' and 'train'. This is a significant step change, with targets now being agreed with customers rather than the ORR.

In October 2016, we significantly increased the financial authority of route managing directors, who can now authorise 99 per cent of purchasing decisions, 98 per cent of procurement spend and 96 per cent of all contractual claims for customers in relation to operations and renewals.

We have considered how best to meet the needs of our customers in the north of England, particularly in light of the development of Transport for the North as a sub-national transport body, and during 2017 we created a new managing director role to oversee planning, investment and delivery of projects across the North.

The sources of our income are:

70%

Network grants from the Department for Transport and Transport Scotland

70 per cent of our income for CP5 is in the form of network grants from government

25%

Track access income from train operating companies and freight operating companies

11 per cent of our income comes from fixed track access charges to operators, leaving 14 percent coming from variable charges to train operators.
Our income from operators can be increased for out-performance or reduced by compensation paid to them for under-performance.

5%

Income from commercial property
Five per cent of our income comes from our national property and station retail portfolio of over 6,500 properties

In broad terms, our enhancement investments of circa £4bn are funded by loans from the DfT, and renewals are funded through the above sources of income.

Cost competitive

Our route-based businesses will need to innovate and find new ways of working, while also benchmarking to help share best practice. Our Route Services directorate must demonstrate that its services are cost competitive in the open market, and must also prove to routes that it can provide services more cost effectively than the routes could achieve locally. This competitive environment encourages the 'better every day' mindset that we are embedding in our business as we seek to find new, innovative ways of delivering more efficiently.
This year we also established an independent review, chaired by Professor Peter Hansford, into the barriers to competition in railway project delivery.

Commercial

In this control period, 99 per cent of funding for enhancements was provided by the taxpayer in one form or another. In the future, we need to find ways of getting the businesses and communities that directly benefit from improved railways to help pay for them. We will explore commercial deals with developers, house builders and regional authorities. New, direct sources of funding will bring performance benefits because we will have partners with a real incentive to help us deliver. This is a fundamental change and will take time to develop.
We are also taking a more commercial approach in our decision to reduce our portfolio of assets and divest significant elements of our property estate so that we can reinvest in passenger benefits.

Culture

Key to our success in the future is creating a caring culture that believes that safety and performance go hand in hand. We are making progress but we have a long way to go. Our caring culture must extend to the way we interact with our lineside neighbours, the way we think about our use of resources and our impact on the environment. We must also become a more diverse culture, not just in gender and ethnicity but in the way we value and respect ideas. A diverse and inclusive culture, married to one with the relentless ambition to be better every day, will be one where everyone feels that they are achieving their full potential.

Capacity

The railway's biggest challenge is capacity. We are forecasting the number of people wanting to travel on our network will double in the next 25 years. Much of our network is already full and we need to look at ways of meeting this demand affordably. The speed with which we can utilise digital technology will be a large part of the answer.

This year we significantly strengthened and re-focused our Digital Railway programme. We have appointed a new managing director, and identified priority geographical areas for targeting deployment of digital technologies. We established an Early Contractor Involvement programme to increase collaboration with the global rail supply chain. And we are working with government to determine how the £450m allocated to trialling the deployment of digital signaling, that was announced in the 2016 Autumn Statement can best be utilised.

HOW WE PERFORMED IN 2016/17

Area	Actual performance	Year End Actuals		
Safety		Worse Than Target	Target	Better Than Target
Workforce safety – Lost Time Injury Frequency Rate (LTIFR)	0.450	0.470	0.4[illegible]7	0.425
Workforce safety – close calls raised	205,555	90,000	120,000	150,000
Workforce safety – close calls closed within 90 days (%)	77.2 %	70 %	80 %	90 %
Passenger safety	78.7 %	60 %	80 %	100 %
Level crossing risk reduction	60 %	60 %	80.0 %	100 %
Train Performance		Worse Than Target	Target	Better Than Target
Public Performance Measure	7/24	0 %	50 %	100 %
Cancelled and Significantly Late trains (CaSL)	4/18	0 %	50 %	100 %
Right Time Arrivals	1/14	0 %	50 %	100 %
FDM	7/8	0 %	50 %	100 %
Others	2/4	0 %	50 %	100 %
Financial		Worse Than Target	Target	Better Than Target
Financial performance measure (FPM) – Total efficiency generated (£m) excluding enhancements	-172	-£100m	0	+£100m
Financial performance measure - Enhancements (£m)	-28	-£70m	0	+ £70m
Cash Compliance	559	-12m	0	+47m
Investment		Worse Than Target	Target	Better Than Target
Top ten Infrastructure Projects IP renewals and enhancement milestones	8	6	8	10
All delivery plan enhancement milestones (%)	73 %	60 %	80 %	100 %
Asset Management		Worse than target	Target	Better than target
Composite reliability index (CRI)	15.8 %	13.7 %	15.0 %	16.3 %
Renewals (seven key volumes)	94.6 %	90 %	95 %	100 %
Locally Driven Measures		Worse Than Target	Target	Better Than Target
People Measure	8/8	0 %	50 %	100 %
Passenger Satisfaction	1/8	0 %	50 %	100 %
Reduction in Railway Work complaints	3/8	0 %	50 %	100 %
Others	6/8	0 %	50 %	100 %

Significantly missing target Close to target On or better than target Significantly better than target

OUR PERFORMANCE CONTINUED

Definitions and commentary

Safety

Lost Time Injury Frequency Rate (LTIFR): The number of injuries among staff and contractors leading to absence from work, per 100,000 hours worked. Although there was a slight reduction in the actual number of injuries (680 in 2016/17, compared to 684 the year before), we narrowly missed our target of 0.447 per 100,000 hours worked.

Close Calls: A close call is defined as anything that has the potential to cause harm or damage. We consider a higher number of close calls reported to be a positive indication that staff take their safety responsibilities seriously. 205,555 close calls were reported, significantly exceeding our target of 120,000.

Once a close call is reported, it is assigned to a 'responsible manager' to rectify and close down. 77.2 per cent of calls were closed within 90 days, narrowly missing our target of 80 per cent.

Passenger safety: This measures progress against a set of actions to reduce train accident risk. We completed 78.7 per cent of these actions, narrowly missing our target of 80 per cent.

Level Crossing Risk Reduction: This measures progress on our top ten milestones to reduce level crossing risk. We achieved six of our top ten milestones, missing our target of 8/10.

Train Performance

N.B. Train performance measures are agreed locally with train and freight operating companies (TOCs and FOCs); the national scorecard reflects the aggregate results for these measures.

Public Performance Measure (PPM): The percentage of all passenger train journeys that arrive on time (within ten minutes of the scheduled arrival time for long distance services, or within five minutes of the scheduled arrival time for commuter services). Only seven of the 24 TOCs achieved the target PPM, resulting in a national score of 19.5 per cent against a target of 50 per cent. Performance varied from route to route, with the LNW route performing best (four of their six TOCs achieved their PPM target).

Cancellation and Significantly Late: This measures the number of trains that are cancelled or that are more than 29 minutes late at their terminating station. We missed our national target for CaSL, with only four of our 18 sub-measures met. Again performance varied from route to route, with LNE&EM the best performing against this measure.

Right Time Arrivals: This measure looks at whether a specific set of passenger services arrive on time at specific stations. Only one of our 14 sub-measures were met, meaning we missed our national target.

Freight Delivery Metric (FDM): This measures how many freight services arrive at their destination on time. We exceeded our national target, with seven of the eight routes achieving their target.

Others: Any other performance measure that is not consistent across all routes is included in this category. Scotland met their Right Time Departure measure and Wales met their 'seasonal preparations' measure, but LNE&EM missed their Right Time Departures target for Virgin Trains East Coast and the South East route missed their target on reducing delay minutes.

Financial

Financial Performance Measure (FPM) - Total efficiency generated excluding enhancements: This measures how we are performing against our income, operational expenditure and renewals expenditure budgets. We failed to meet our target, ending the year at -£172m net (-£424 gross) against a target of £0.

Financial Performance Measure (FPM) – enhancements: This measures how we are performing against our enhancements expenditure budgets. We failed to meet our target, ending the year -£28m net (-£140m gross) against a target of £0.

Cash compliance: This measure aggregates all variances against budgets (income, capital expenditure and operating expenses). We comfortably met our target, coming in at £559m against a target of £0.

Investment

Top ten Infrastructure Projects (IP) renewals and enhancement milestones: We met our target, achieving eight of our top ten milestones.

All delivery plan enhancement milestones: This measures progress on all of our enhancement projects at two key points in the project lifecycle - option selection and commissioning. We achieved 73 per cent of our enhancement milestones, missing our target of 80 per cent.

Asset Management

Composite Reliability Index (CRI): This is a measure of the short-term condition and performance of our assets including track, signalling, points, electrification, telecoms, buildings, structures and earthworks. We achieved 15.8 per cent, exceeding our target of 15 per cent.

Renewals (seven key volumes): This measures delivery against budget for seven key types of renewals: plain line track, switches and crossings, signalling, underbridges, earthworks, conductor rail renewal and wire runs. We achieved 94.6 per cent, narrowly missing our target of 95 per cent. Performance varied between different types of renewals, with underbridges and earthworks performing well, while plain line volumes faced a number of challenges.

Locally Driven Measures

People Measure: Based on the results of our 2015 staff survey, all managers were tasked with creating action plans for their teams. This measure tracks completion of these actions. We achieved our national target, with all eight geographical routes achieving their target for the year.

Passenger Satisfaction: This is measured through the National Rail Passenger Survey, commissioned by Transport Focus. The survey runs twice a year, and we then average the result of the two surveys. We failed to meet our national target, with only one route (Western) achieving their satisfaction target.

Reduction in railway worker complaints: Each route had a target for the number of complaints we receive from members of the public about our work on the railway. To achieve the target, a route would need to have reduced the number of complaints compared to 2015/16. Only three routes – LNW, Wales and Western – achieved their target, meaning we missed our national target. Complaints about noise were the most common, followed by worker behaviour.

Other: This category contains all other measures agreed at a local level, and vary from route to route. 56 per cent of these were met, meaning we met our target of 50 per cent.

Glossary of other measures referred to in route scorecards:

Reduction in service affecting failures
Percentage reduction in the number of incidents that cause delays that were caused by track, signalling or electrification issues.

SPADs
Signals Passed at Danger – when a train passes a stop signal without authority to do so.

Right time departures
The percentage of trains departing their station of origin on time or early.

Freight track access income
Total revenue from charges paid by freight companies to run trains on the rail network.

Customer satisfaction
Measured through quarterly customer 'pulse check'.

CHIEF FINANCIAL OFFICER'S REVIEW OF THE YEAR

The last two decades has seen a renaissance in the rail industry. Decades of declining passenger numbers have been reversed. What we see today is a vibrant growing network with passenger numbers more than doubling in the last 20 years.

This growth provides challenges, not least in providing the growing infrastructure that Britain needs, in a manner that provides value to both the rail user and the taxpayer.

This year we have continued to deliver the Railway Upgrade Plan. Delivering vital improvements that will assist in providing the additional capacity required by rail users. This year we delivered £6.8bn of investment in enhancing and renewing the railway network.

Profit before tax increased to £483m from £411m last year. It is important to note that every penny generated by the operating surplus was reinvested in delivering the Railway Upgrade Plan. Lower profitability is assumed in the regulatory determination and the next two years will see significant declines in profitability.

In order to finance the huge levels of investment in the railway network operating surpluses need to be augmented by further borrowing, and by increasingly looking for other funding streams.

Network Rail is finalising plans to dispose of non-core assets, as set out in the Hendy Review 2015. In the year property sales receipts were £91m (2015/16: £75m). Looking forward, as well as non-core asset sales we are planning to increase other funding sources outside of central government. We are continuing to develop plans to work more closely with stakeholders and customers to release funding.

In addition, by focussing on efficiency and value for money, Network Rail will continue to deliver more for less. In advance of the beginning of this control period the Office of Rail & Road set ambitious efficiency challenges for Network Rail and built them into the determination of charges.

This challenge has proved much more difficult to meet than either the rail regulator or Network Rail's executive at the time had envisaged.

The level of efficiency challenge was set in the light of an extremely successful ten year period where this organisation met and exceeded efficiency expectations taking around 40 % out of the cost base in real terms. During this five year period (CP5) efficiencies have been made, but these have been offset by cost pressures: driven by the recovery from recession in the supply chain; shorter windows to carry out maintenance and capital investment as the network is so much busier; and the additional costs and diversion of resources to cope with extreme weather events and to improve network performance. As a result it was around 20 % or £1.7bn more expensive to operate, renew and enhance the railway network this year than assumed by the regulator (when setting charges 4 years ago).

Over that period the railway has continued to become busier, increasing wear and tear on the network, and increasing the cost of keeping the railway running to schedule. One way of taking into account the step changes in the outputs of the network is to measure running costs per passenger km. By this measure running costs have fallen by 8 % in the last three years.

The process of devolution continues to support efficiency initiatives by building strong customer-driven route-led businesses. The new business scorecards for 2017/18 will look to align infrastructure provider and train operators even more closely than before and will assist in further driving improved performance.

CHIEF FINANCIAL OFFICER'S REVIEW CONTINUED

Financial review of the year

This review will focus on the financial performance achieved by Network Rail in 2016/17. In particular focussing on:

- Operations – an analysis of revenue, operating costs, financing costs and tax in the year.
- Investment in new assets – the progress in delivering projects that improve the network's capabilities and reliability, and help to meet the growing demands on the railway.
- Efficiency measurement.
- Financial framework – demonstrating a robust and stable financial framework, to deliver the performance and investment required to drive the railway forward.

Operating Profit

Revenue

Revenue rose in the year, in line with that set out in the rail regulator's determination of charges. This year turnover was £6,259m (2015/16: £6,098m).

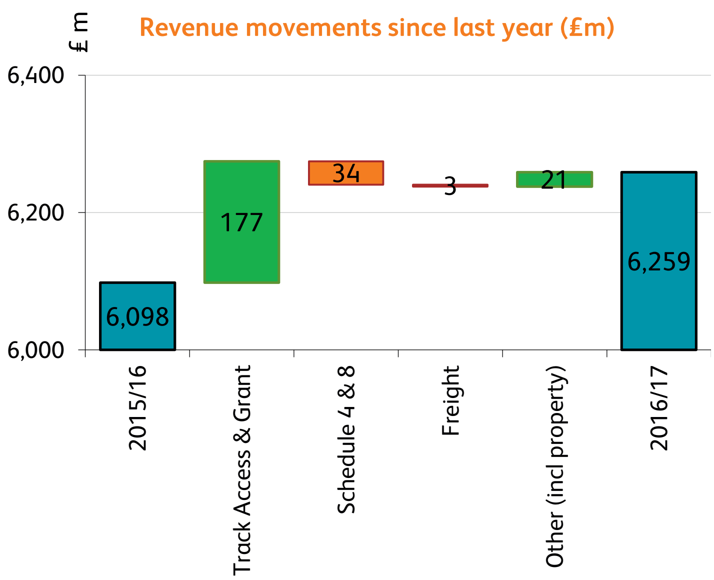
The long-term trend, after adjusting for general inflation, is that charges are at their lowest level for over 11 years, despite significant increases in passenger and freight traffic over that period.

This is as a result of passing on the benefits of increased efficiency to rail users and taxpayers. Over the same period Great Britain rail's passenger revenue, 'the fare box', has increased in real terms, by 44 % and now stands at over £9bn.

Performance and access regimes

Passenger and freight track access and network grants increased by £177m in line with the regulatory determination. However, not all Network Rail's income is fixed by the regulatory regime. Network Rail is at risk of reductions in receipts from train operators for worse than expected train performance.

When performance drops below the benchmarks determined by the ORR, Network Rail pays compensation to operators. Delays also include those for planned engineering work, required to maintain, renew and deliver record levels of enhancements to the network.



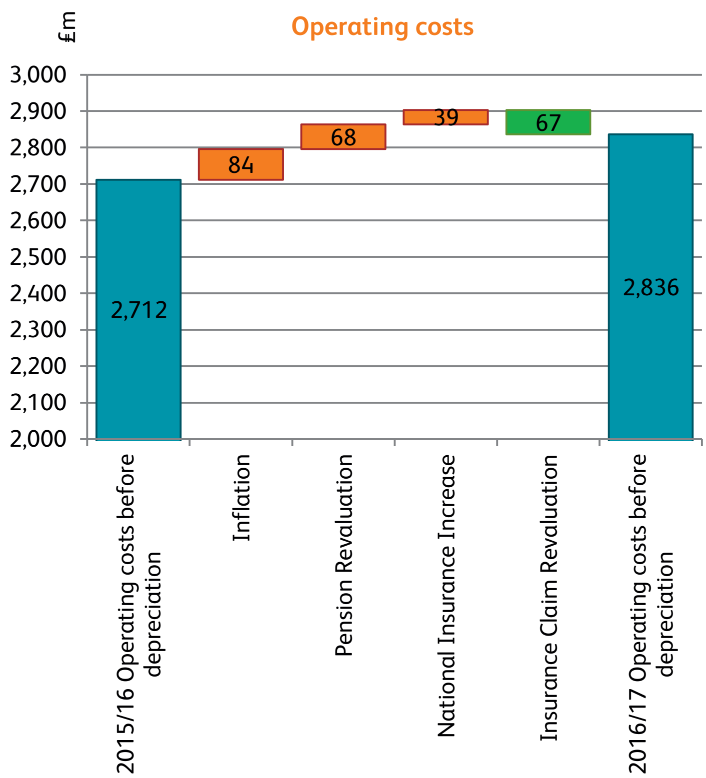
The performance benchmarks tightened in the year. Asset performance was good, but performance in the year was impacted by slower recovery times from incidents, a knock on effect of a more congested network, and severe weather events such as the flooding in the London area last June and Storm Doris in February. As a result compensation paid to train operators increased by £34m.

Network Rail also generated an additional £21m (8 per cent) of property & other revenue. The major drivers were property rental growth from increased retail sales at our managed stations and income growth from our commercial estate portfolio.

Freight income fell once again due to lower volumes of traffic, particularly in coal haulage.

Operating costs

Net operating costs this year decreased by £228m to £4,263m (£4,491m 2015/16) this included a £352m decrease in depreciation and grant amortisation as a result of reassessing the average network asset lives in the year. In the year operating costs before depreciation & amortisation increased by £124m. In real terms increases relate to national insurance changes and the actuarial measurement of pension costs, offset by reduced insurance costs. The costs of strengthening our maintenance teams were offset by other operating cost reductions.



CHIEF FINANCIAL OFFICER'S REVIEW CONTINUED

Employee costs
Cost increases arose from additional national insurance payments of £39m and additional accruals to provide for pensions of £68m.

In addition wages and salaries increased by £124m largely as a result of an increase in the average number of employees in the year to 38,529 (2015/16:37,481) This was the result of the recruitment of around 700 employees to infrastructure projects to deliver the next phases of the Railway Upgrade Programme, and including the insourcing of previously contracted work to deliver better overall value for money. In addition our Network Operations teams increased by around 300 employees, mainly by filling vacancies in the maintenance organisation, in part to reduce overtime costs and also to provide support for the maintenance of new electrification assets.
As a result employee costs were £231m higher than last year, increasing from £1,929m in 2015/16 to £2,160m in 2016/17.

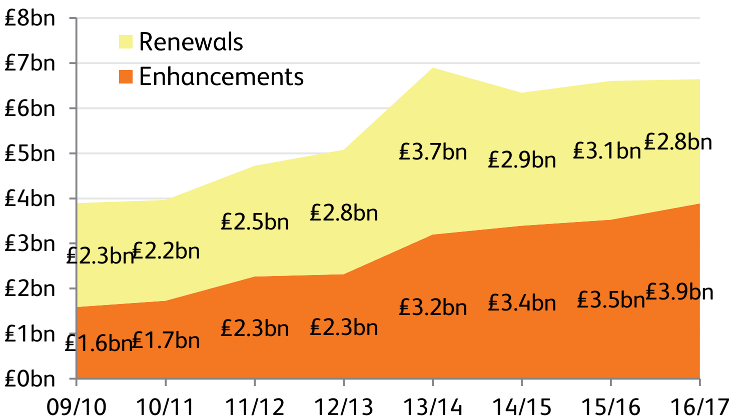
Financing Costs
Finance costs increased in the year from £1,322m last year to £1,692m. This increase in the year was due to higher debt levels and revaluation of RPI-linked bonds by an additional £228m due to higher inflation in the year.

Tax
Network Rail has significant brought-forward tax losses, not recognised as a tax asset in the accounts, and as it continues to invest heavily in the railway network it pays relatively small amounts of corporation tax.

As last year, the deferred tax provision has reduced due to changes in corporation tax rates. As a result a tax credit of £69m (credit of £306m 2015/16) is recorded in the income statement this year and the deferred tax liability has reduced to £2,385m (2015/16: £2,808m).

Investment in the railway network
Last year the Hendy Review set out the Railway Upgrade Plan with regard to how we would continue to transform the railway network. These projects will make a major difference to rail users across Great Britain and assist, through increased connectivity, in delivering economic growth.

Capital expenditure



In the year we continued to deliver historically high levels of investment at £6,788m in the network in the year (£6,684m 2015/16). This year we delivered £3,878m on enhancements that will increase the capacity of the network. This was another record year beating last year's record level in terms of work delivered, (£3,527m 2015/16). The portfolio includes major projects, such as the Great Western electrification, the Thameslink programme, work on our network for Crossrail, the Northern Hub, the Strategic Freight Network, and in Scotland, improving the network between Edinburgh and Glasgow.

We have also invested £2,774m (£3,077m 2015/16) renewing the assets that comprise the railway network, such as track, signalling and civils, and in information management and asset information technologies.

Efficiency Measurement
Network Rail's key performance indicator with regard to efficiency is its Financial Performance Measure which measures our performance against the regulatory determination and against our in year targets.

In the year we missed targets for turnover by £53m, operating costs by £35m, and renewals by £84m. More details on the performance in the year are set out on page 7.

The CP5 determination of charges, frames the funding agreement with Government for CP5, and included very challenging cost reduction assumptions. These were influenced by extrapolations of historic delivery (40 % reduction in previous 10 years, given the growth in traffic over the period, this equated to halving the operating costs per train mile) and influenced by the industry wide efficiency potential suggested by the McNulty report.

In addition many potential programmes that could drive efficiency were at an early stage of development and the benefits have not been delivered in the time frames envisaged.

As a result CP5 has been challenging. This year the difference between regulatory assumptions and actual performance was around 20 %.

The CP5 cost difference has been offset by deferral of renewals volumes to the next control period which has been assessed as acceptable within our asset management plans.

Headwinds
Our efficiency drive has been impacted by some significant headwinds, such as:

- The recovery from recession in supply chain resulting in real increases supply chain cost. UK construction price and tender price indices indicate that cost increases tracked below general inflation in the previous control period. However in this control period these indices have tracked significantly above general inflation.

CHIEF FINANCIAL OFFICER'S REVIEW CONTINUED

- We have shorter windows to carry out maintenance works, partially due to an increasingly busy network and partially because we have sought to reduce the risk of overruns causing disruption to passengers. We have halved the number of significant overruns over the past three years. This has been achieved in part by setting greater contingency time at the end of a possession. The result of this is a reduction of productive time within a possession for work to be completed.
- We have sought to improve network performance. The busier network has seen an increase in time delays caused per incident even though the quantum of incidents has been steadily reducing. To mitigate this we have strengthened teams to respond to incidents and delays better, and to work closely with customers in the devolved route businesses to deliver a more robust train service.
- Reconfiguring work banks, by allowing more local decision making, has led to more targeted interventions. In addition some works have been deferred to CP6. This is beneficial in overall costs terms but the unit cost is greater due to reduced economies of scale.

Improving efficiency

We will improve efficiency further through a number of initiatives. These include:

- Continuing the roll out and implementation of Lean techniques across all parts of the business;
- Utilisation of enhanced analytics to understand rates of degradation and asset health;
- Application of techniques from other industries such as aerospace and automotive industries in the use of Design for Reliability;
- Increased use of Intelligent Infrastructure such as eddy current shallow depth rail crack identification which replaces visual inspections to support the existing train-borne ultrasonic testing. Overhead line and track condition monitoring are being delivered using the Pendolino fleet which will be extended with the IEP and Crossrail trains as the fleets are introduced.
- Creating an executive led renewals recovery programme to improve our efficiency delivery over the next two years and create a solid platform to move into CP6. Initiatives include changes to engineering standards & policies, including greater use of decision support tools and value engineering; better worksite access management including collaboration with customers to reduce the level of contingency needed for the timely hand back of the network at the end of a possession; and improving work bank stability.

Financial framework

The railway network

The railway network that we own, and have a licence to operate, is included in the accounts at a value that represents what a third-party purchaser would pay for it, and this valuation underpins our financial framework.

The basis of this valuation is set out in note 12 (page 109) to the accounts and comes from an assessment of the cash flows that are forecast to arise from the asset. The starting point for this valuation is the regulatory asset base (RAB).

Subject to certain criteria established by the ORR, each year capital expenditure is added to the RAB and amortisation is deducted.
The ORR can make deductions from the RAB in the event that we do not achieve our required outputs, for example not meeting required train performance or breaching a licence condition, or where the ORR wishes to make a retrospective funding adjustment.

As the valuation of the railway network is based on projected cash flows, we have considered the potential for under performance in CP5, both in terms of the financial settlement and the required outputs. There is a growing gap between the trajectory of costs assumed in the CP5 determination and our forecasts.

As a result the valuation of the railway network was reduced by £1,075m (2015/16 £373m reduction). This is because we forecast to spend more per activity than the settlement allowed.

Borrowing

Since becoming a public sector body in September 2014 Network Rail borrows directly from government and no longer issues debt on capital markets. This applies to both the borrowing required for new investment and refinancing of existing debt.

The regulatory settlement provides strong security for future income and the Department for Transport (DfT) loan agreement provides a robust platform to refinance and borrow to invest in the railway network.

Network Rail plans to borrow significantly over the remainder of the control period to finance the investment programme. We plan to draw down a further £7.0bn from the agreed DfT loan facility to finance this investment, and a further £3.3bn to refinance maturing debt. As a result by March 2019 net debt will increase to around £53bn.

In addition to the DfT loan facility we have plans to potentially sell non-core assets, and find other ways to attract commercial partners in order to deliver more capital investment that will help increase the capacity of the railway network.

	2016/17 *£bn*	*2015/16* *£bn*
Borrowing to invest	3.7	4.4
Borrowing to refinance	2.4	3.1
DfT loan drawdown	6.1	7.5

During the year ended 31 March 2017 Network Rail borrowed £6.1bn from DfT. Part of this new debt was used to pay back existing bonds whilst the remainder was used to invest in the railway infrastructure. As a result net debt rose from £41.6bn to £46.3bn.

Managing interest and foreign exchange risk
Network Rail manages its interest and foreign exchange risk by using derivative financial instruments (hedges).

CHIEF FINANCIAL OFFICER'S REVIEW CONTINUED

The group measures its hedges for accounting purposes at their market value as required by International Financial Reporting Standards. A market value is determined by comparing the original value of the hedges against the current market rate.

We do not intend to trade these hedges, but use them to minimise our financial risks. As long as the hedges are economically effective (i.e., that they offset changes in the cost of existing and/or future loans), their value at any point in time should not be a key focus when assessing the group's performance.

By qualifying to use hedge accounting rules we match gains or losses in the market value of hedges to fluctuations in the hedged item (i.e. the loans). These losses on debt and derivatives valuations taken through the income statement were £21m (£65m in 2015/16). In addition £116m (£232m in 2015/16) of reduction in the value of interest rate swaps, used to control the cost of future borrowings was posted to the hedge reserve as statistically effective cash flow hedges.

Pensions

Network Rail is party to two shared-cost defined benefit pension schemes. Costs are shared with pension scheme members on a 60:40 basis. Pensions are measured differently for IFRS than for actuarial funding reports. IFRS discounts expected future liabilities to a present value, using 'risk-free' borrowing rate, and compares with current asset valuation.

This year the decrease in the risk-free rate, (expected yields on long-dated AA corporate bonds), and therefore the discount rate, by an unprecedented 0.9 %, whilst inflation expectations increased from 2.9 % to 3.2 % produced an extremely large increase in the defined benefit pension obligation. As a result of these changes Network Rail's accounting deficit at 31 March 2017 increased to £2,311m (2016: £1,420m). Although on a funding basis the schemes are not considered to be in a significantly worse position than at last year end. Assets held by the schemes increased by £856m in the year and that the latest actuarial valuation indicates the schemes are near 100 % funded.

Post balance sheet events

Except as disclosed above, there have not been any significant post balance sheet events, whether adjusting or non-adjusting.

Summary

This has been a year where Network Rail has delivered another huge part of the Rail Upgrade Plan whilst continuing its transition to route-led devolved businesses driven by customers' needs.

This coupled with the loan facility in place with DfT enabled Network Rail to deliver the highest level of enhancements to the railway network it has ever recorded. These enhancements are designed to improve performance and increase network capacity to assist in meeting the strong and increasing demand for rail travel.

To maintain this momentum in the investment programme Network Rail plans to raise additional funding through the sale of non-core assets and continues to look for additional funding from third parties and internally by delivering further cost efficiencies.

Improving performance and cost efficiency are areas given the challenges experienced in this Control Period. The business is working on a series of initiatives aimed at reducing delays per incident, improving the delivery of renewals and enhancements and improvements in planning and delivering safe work. Underpinning these initiatives are two cultural changes, Better Every Day through Lean practices and the Route Transformation Plan. The use of customer-aligned and agreed scorecards are providing the essential customer focus for the business.

In the next year we will be working with key stakeholders and the ORR to deliver our Strategic Business Plan for CP6. We will be using the lessons learned from the CP5 determination to achieve a settlement that incorporates robust efficiency and performance challenges and provides confidence to stakeholders and funders that we will meet the needs of the travelling public and the railway and provide excellent value for money.

Jeremy Westlake
Chief financial officer
14 July 2017

ROUTE PERFORMANCE

SCOTLAND

Scotland is one of the most geographically diverse routes in the British network. Domestic and cross border services fulfil a variety of travel needs, from leisure and short distance to daily commuter services. Since May 2015, we have worked with Abellio ScotRail under the umbrella of the ScotRail Alliance, with a single leadership team to manage Scotland's railway and improve services for customers, and we work closely with the devolved Government and other Scottish stakeholders to help deliver on their aspirations for rail.

Key stats

- 1,718 route miles
- 358 stations
- c. 2,500 employees
- £688m spent on renewals and enhancements on the route

Key scorecard targets for 2016/17

[for glossary of scorecard terms please see page 8]

	Target 2016/17	Actual 2016/17	Actual 2015/16
Abellio ScotRail PPM	92.0 %	90.3 %	90.6 %
Caledonian Sleeper PPM	89.7 %	89.2 %	86.0 %
Reduction in service affecting failures	4.2 %	-0.8 %	[new target for 2016/17]
LTIFR	0.400	0.464	0.543
Financial (Sum of both FPM measures)	0	£(17)m	£14.6
Railway worker complaints	842	867	[new target for 2016/17]

Train performance has been below target this year, and we are already taking steps to address this. We developed a performance improvement plan, which we began delivering on in September and which has led to better results in the last few months.

Whilst it is disappointing to have missed our LTIFR target, we did still achieve a 15 per cent reduction on the year before – a significant achievement; although we recognise that we need to improve further.

Equally, whilst we achieved a reduction in complaints compared to last year there is still work to be done. This will be a key focus for us as the volume and intensity of engineering work taking place across the network increases.

Financial performance was impacted by increased unit rates for the delivery of High Output Track Renewals, as well as increased costs on enhancement projects (including the Edinburgh Glasgow Improvement Programme and other electrification projects).

Highlights of the year

We are progressing the Scottish Government-funded Edinburgh Glasgow Improvement Programme, completing the 60th, and final, bridge to be replaced on the line between the two cities (the bridges have to be replaced to create the extra height required for overhead line electrification). When the programme is completed and the line from Edinburgh to Glasgow electrified, passengers will benefit from faster, longer and more reliable trains, as well as more frequent rail links between Scottish towns and cities.

In December, we also completed the Edinburgh Gateway tram-train interchange, improving travel options for passengers from Fife and the north of the country as well as providing easy access to the Edinburgh tram network and the city's airport.

The collaborative working that the formation of the ScotRail Alliance has generated has enabled us to plan our work in a way that minimises passenger disruption. The most obvious example of this was the 20-week upgrade of the Glasgow Queen Street Tunnel. With more than half a million staff hours, renewing 10,000 tonnes of slab track and installing 4,000m of new rails, this was the largest piece of engineering work undertaken since the Edinburgh-Glasgow railway was constructed. Given the importance of Glasgow Queen Street as a hub for trains from the central, north and west of Scotland, we focused on providing alternative routes that would allow services to continue to operate as well as an extensive joint awareness campaign to encourage people to check before they travelled.

In the year ahead

We will be working on a number of projects to deliver more trains, faster trains and better station environments for passengers. These include:

- Electrifying the Shotts line, and improving stations on the route.
- Electrifying the line from Grangemouth Junction through Falkirk Grahamston and Stirling to Alloa and Dunblane.
- Improving the lines into Aberdeen and Inverness, and supporting the development of new stations at Kintore and Dalcross.
- Improving the Highland Main Line.

David Dickson
Infrastructure director, Scotrail Alliance
14 July 2017

LONDON NORTH EASTERN AND EAST MIDLANDS (LNE&EM)

The route runs from the Scottish Borders to London, connecting major towns and cities in the north, north east and East Midlands, as well as serving commuters into London.

Key stats

- c. 2,600 train services per day
- 396 stations
- 2,125 miles of track
- c. 5,500 employees
- £861m spent on renewals and enhancements on the route

Key scorecard targets for 2016/17

[for glossary of scorecard terms please see page 8]

	Target 2016/17	Actual 2016/17	Actual 2015/16
Northern (east) PPM	92.6 %	93.0 %	90.7 %
East Midlands Trains PPM	93.0 %	92.0 %	92.8 %
Transpennine Express PPM	89.0 %	88.8 %	86.0 %
Govia Thameslink Railway Great Northern PPM	85.5 %	80.2 %	[not reported 2015/16]
Govia Thameslink Railway North PPM	85.0 %	77.3 %	[not reported 2015/16]
Grand Central PPM	85.0 %	85.0 %	86.6 %
Reduction in service affecting failures	2.0 %	0.6 %	[new target for 2016/17]
LTIFR	0.546	0.739	0.617
Financial (Sum of both FPM measures)	0	£(61)m	£11.4
Railway worker complaints	1,203	1,156	[new target for 2016/17]

Train performance on the route has been mixed this year. A number of significant incidents on the route (including a partial bridge collapse on the Midland Main Line and a number of dewirements on the East Coast Main Line) have offset the work we have been doing to improve the reliability of our infrastructure. We know how frustrating it can be for passengers when trains are delayed, and so we have increased our focus on maintaining the overhead line equipment on the East Coast Main Line.

Our LTIFR rate has been a challenge this year, and we have developed a strong internal safety campaign aimed at front line staff to address this.

Our financial performance has also not been good enough. This has been largely due to the level of compensation we have had to pay to train operating companies for delays, as well as increases in unit costs and less efficient track renewals. On a more positive note, I am pleased that our increased activity and improved communication with our lineside neighbours has resulted in a reduction in complaints received.

Highlights of the year

We have been working hard across the route on improvements that will improve passengers' experiences. We have:

- Begun work on the upgrade of the Midland Main Line from Kettering to Corby, which will reduce journey times and allow more and longer trains to run.
- Built new stations at Low Moor and Ilkeston, allowing those communities to travel from their home town for the first time in over fifty years.
- Built a new platform at Doncaster, which will reduce congestion and allow fast trains to pass slow ones.
- Started to upgrade the power supply on the East Coast Main Line, so the new Virgin Azuma trains can begin running in 2018 - providing more seats and faster journeys.

In the year ahead

We will be continuing our work on upgrading the Midland Main Line, including starting improvements at Market Harborough station and preparing for the electrification of the line between Kettering and Corby. We are also developing proposals for upgrading the Transpennine route, with the aim of allowing more trains, faster journeys and improved connections between the major cities of the north. We will be submitting our proposals to the Department for Transport in December 2017.

We know how important reliability is to passengers, so we will be re-focusing our asset management work to concentrate on predicting and preventing incidents as well as reducing the time it takes for services to return to normal after an incident does occur.

Rob McIntosh
Route managing director, LNE&EM
14 July 2017

ANGLIA

Anglia is an increasingly busy commuter route into London, but also includes rural and intercity routes. It serves two airports (Stansted and Southend) and is a key freight route for the ports of Felixstowe, Thameshaven and Tilbury. It also includes London Liverpool Street station, the capital's third busiest station, which is owned and managed by Network Rail.

Key stats

- 4,230 train services per day
- 235 stations
- 1,697 miles of track
- c. 2,400 employees
- £611m spent on renewals and enhancements on the route

Key scorecard targets for 2016/17

[for glossary of scorecard terms please see page 8]

	Target 2016/17	Actual 2016/17	Actual 2015/16
Abellio Greater Anglia PPM	90.1 %	88.8 %	89.3 %
c2c PPM	96.7 %	94.5 %	96.7 %
London Overground PPM	95.1 %	94.5 %	94.4 %
TfL Rail PPM	94.0 %	94.7 %	94.0 %
Reduction in service affecting failures	2.0 %	3.0 %	[new target for 2016/17]
LTIFR	0.524	0.6	0.824
FPM [sum of both measures]	0	£(28)m	£0.9
Railway worker complaints	563	830	[new target for 2016/17]

The targets we set ourselves for the year were challenging. I recognise that train performance has been mixed, and was impacted by events such as severe flooding of the Great Eastern Mainline in June 2016. TfL performance on the route is the best it has ever been. Whilst we missed our target for c2c, with performance affected by a timetable change, there are now signs of performance recovering and returning to previous levels.

We have been taking steps to improve performance, and have reduced the number of signalling-related delays and overrunning engineering work impacting on train services, but I recognise that we need to do more in the year ahead to help passengers reach their destinations on time.

Whilst we have reduced the number of infrastructure failures, 'delays per incident' have increased. In response, we now have a team dedicated to getting services back to normal after an incident has occurred.

Given the importance I place on keeping our workforce safe, I am pleased that we reduced our LTIFR by almost 30 per cent on the year before. That still was not enough to meet our target, however, and there can be no let-up in our efforts so that no-one is injured whilst working for Network Rail in Anglia. We have identified particular areas on which we need to focus next year, including slips and trips, manual handling, driving, mental wellbeing and track worker 'near misses'.

Financial performance was also mixed. Operations and maintenance costs were in line with budgets set, as were our enhancement projects (which saw £424m invested in the region). We failed, however, to meet our financial efficiency targets and this was largely owing to performance penalties we were required to pay to train operators for missing performance benchmarks, and requiring more disruptive access than originally planned to deliver renewals.

Whilst we were unable to reduce the number of complaints received, we did significantly reduce the time it takes to respond to complaints to well below our target and hope to build on this in the coming year.

Highlights of the year

This year, we have taken significant steps to improve public safety on the route, closing our highest-risk level crossing (Trinity Lane in Waltham Cross) and beginning the consultation process that could see another 113 closed or modified in order to improve safety. Wide-ranging public consultation has already taken place, to ensure that the views of local communities are taken into account.

We have been busy installing new overhead wires and signals, renovating station platforms and ticket halls, and upgrading power supplies in readiness for the new Elizabeth Line

(Crossrail) services that will see new trains start to operate from 2017. Once complete in 2019, passengers in the region will benefit from easier, quicker and more direct travel across London and to the west of England.

In response to the local community's need, we have built a new station in Cambridge to serve the science park and the suburb of Chesterton to the north of the city. This has been developed in partnership with Cambridgeshire County Council and will ease pressure on the existing Cambridge station as well as offering more choice for passengers. The station opened in May 2017.

In support of local regeneration plans, we have also begun work with the Mayor of London, Transport for London and local authorities to increase services in the Lee Valley on the West Anglia Main Line.

After a phased eight-month month closure to electrify the line between Gospel Oak and Barking, the route re-opened at the end of February as planned. However, the installation of all of the overhead wires was not completed on time and so further work will be needed to enable electric trains to run. A schedule is being finalised at the time of writing, as is a full review into what went wrong with the project.

In the year ahead

As well as completing the projects mentioned above, passengers will benefit from:

- Improvements at Hackney Wick station.
- The replacement of the overhead lines between Chelmsford and London Liverpool Street, improving reliability and reducing the risk of faults and delays to passengers.

We will also continue to build ever-closer relationships with the train and freight operators who use the route. With Greater Anglia, for example, we are building a team to jointly deliver better and more frequent services, and with Arriva Rail London we have created a new joint post, Director of London Rail, to drive improvements in safety, performance and efficiency on the London Overground.

Richard Schofield
Route managing director, Anglia
14 July 2017

SOUTH EAST

The South East route is the busiest and most congested in the UK, connecting London and its southern suburbs with Kent, Surrey, Sussex and Europe. Commuters make up the largest proportion of passengers, although leisure travellers to the south coast and people travelling to and from Gatwick – the UK's second busiest airport – are also key passenger groups.

Key stats

- 5,100 train services per day
- 361 stations
- 1,863 track miles
- c.3,000 employees
- £1,028m spent on renewals and enhancements on the route

Key scorecard targets for 2016/17

[for glossary of scorecard terms please see page 8]

	Target 2016/17	Actual 2016/17	Actual 2015/16
Govia Thameslink Railway PPM	83.9 %	74.3 %	81.5 %
Southeastern PPM	88.5 %	86.1 %	86.9 %
Reduction in service affecting failures	2.0 %	16.9 %	[new target for 2016/17]
LTIFR	0.527	0.505	0.812
Financial (Sum of both FPM measures)	0	£(28)m	£49.75
Railway worker complaints	900	957	[new target for 2016/17]

Performance on the route has been a significant issue this year. Although the reliability of the infrastructure is at a historically high level, we know that passengers have not been feeling the benefits of this because of the other issues on the route. Because of how heavily the route is used, the impact of any incident is high and will cause disproportionate knock-on delay.

Significant issues this year have included the ongoing constraints on the infrastructure caused by our work to rebuild London Bridge station, and one-off incidents such as a freight train derailment at Lewisham. The problems have also been exacerbated on part of the route by the highly publicised industrial action by train operating staff on Southern services.

Operational performance has also impacted on our financial performance, due to compensation payments to train operators for delays and cancellations and to additional spend to address performance issues.

More positively, we have seen a significant reduction in our LTIFR, following a concentrated effort to embed a safety culture and increase health and safety awareness amongst our employees.

Highlights of the year

I know that train performance issues have meant that this has not been a good year for many passengers on our route. We have been working on a number of projects, however, that will deliver real passenger benefits:

- In August 2016, the first part of the new concourse at London Bridge station opened. This is part of the Thameslink Programme, which will transform north-south travel through London with new, spacious trains running more frequently to ease crowding for passengers, as well as better connections and an improved London Bridge station.
- Our upgrades have meant ten-car trains can now run from Uckfield to London Bridge, doubling capacity at peak times on this busy route.
- Lengthening platforms and upgrading the power supply has meant that on Southeastern metro routes trains can now be extended from ten-car to twelve-car.
- We have built new stations at Rochester and Snodland, and improved existing stations at Horley and Leatherhead.

In the year ahead

Passengers will start to benefit from a £300m programme to bring our infrastructure up to the highest standards on some of the most critical parts of the route, in an effort to minimise disruption to passengers in the south east.

We are also continuing to lengthen platforms and upgrade power supplies so longer trains can run, renewing and upgrading signalling systems to make the railway more reliable, improving stations to make them better and more accessible and bringing in state-of-the-art digital technology to improve the capacity and performance of our network for the benefit of passengers and business.

John Halsall
Route managing director, South East
14 July 2017

WESSEX

The Wessex route is one of the busiest and most congested routes on the rail network. It includes the major commuter areas of south west London as well as long distance services from Waterloo to the south and south west of England. The route also has significant volumes of freight traffic, linking Southampton port and airport with the Midlands and north of England.

Key stats

- Over 2,000 passenger and freight services per day
- Around 1,300 miles of track
- Over 200 stations
- c. 1,800 employees
- £403m spent on renewals and enhancements on the route

Key scorecard targets for 2016/17

[for glossary of scorecard terms please see page 8]

	Target 2016/17	**Actual 2016/17**	**Actual 2015/16**
South West Trains PPM	90.8 %	87.1 %	90.1 %
Great Western (North Downs route) PPM	87.6 %	83.0 %	[not reported 2015/16]
Reduction in service affecting failures	3.5 %	-6.7 %	[new target for 2016/17]
LTIFR	0.449	0.702	0.789
Financial (Sum of both FPM measures)	0	£(21)m	£0m
Railway worker complaints	493	501	[new target for 2016/17]

Train performance has not achieved the level we would have expected over the last twelve months, as passenger numbers have increased and our ability to recover quickly from incidents has reduced. A considerable amount of work has been undertaken to turn performance around and we have worked with our main train operating company, Stagecoach South West Trains, to develop a number of joint improvement plans. These are starting to generate benefits.

Train performance impacts on financial performance, due to the compensation required to pay train operating companies for delays. We have been focused, however, on where we spend our money and have been investing in improvements that will deliver business benefits in order to ensure we remain cash compliant.

Safety is my number one priority and I am pleased that we achieved a five per cent reduction in our LTIFR this year. This still was not enough to meet our target, however, and we have developed a safety improvement plan which includes our Wessex Tidy Rail campaign. The campaign targets the removal of railway debris, as slips, trips and falls are the largest contributor to workplace accidents. There has been a reduction in these types of accidents since the campaign started. We have also held a series of safety workshops for frontline staff, which over 55 per cent of employees have attended, and held over 20 events across the route on a variety of safety topics as part of Trade Union Health and Safety Week.

Highlights of the year

We achieved all of our milestones related to level crossings, delivered all of our volume targets and exceeded our freight delivery performance target.

We have been working hard on schemes designed to improve train performance and passenger’s experience in the years ahead. This has included lengthening platforms at a number of stations to allow longer trains to run in and out of Waterloo, and measures to reduce the risk of flooding on the line between Fulwell and Shepperton.

Ultimately, passengers want trains that will reliably get them to their destination on time which is why we have been focusing on reducing the number of speed restrictions on the route. We have worked very hard to reduce the number of temporary speed restrictions from 30 to just nine.

In the year ahead

The main issue for the route is the need to provide increased capacity at peak periods, specifically to and from London. There are more than 230 million passenger journeys on the route each year, which includes 100 million journeys to and from London Waterloo, the UK's busiest railway station. Passenger numbers have more than doubled across the network in the last 20 years and are expected to grow by 40 per cent on the South West Main Line by 2043.

That is why we will be continuing work on our £800million upgrade programme for Waterloo and the south west. The work will result in:

- A bigger and better Waterloo station.
- Reductions in overcrowding and an improved passenger experience as new, longer trains are able to run.
- A thirty per cent increase in capacity during peak hours at Waterloo.

We are also redeveloping Twickenham station, as part of a joint venture with Kier Group that will see improved station facilities and the redevelopment of the surrounding area, with a new public plaza and 115 new homes. And we are building a new station at Reading Green to make it easier to travel to and from the business park and the Madejski stadium.

In August 2017, there will be a new train operator running the main franchise on the route. We are working hard to ensure a smooth transition and a continued focus on delivering on targets that put our customers at the heart of what we do.

Becky Lumlock
Route managing director, Wessex
14 July 2017

WESTERN

The Western route stretches across the Thames Valley to Oxford, Worcestershire, the Cotswolds, South Wales, the west and south west. It encompasses some of Britain's most important towns and cities, as well as one of Britain's busiest rail routes, the Great Western Mainline.

Key stats

- 2,100 train services per day
- 198 stations
- 2,400 track miles
- c. 2,500 employees
- £1,380m spent on renewals and enhancements on the route

Key scorecard targets for 2016/17

[for glossary of scorecard terms please see page 8]

	Target 2016/17	Actual 2016/17	Actual 2015/16
Great Western Railway PPM	90.0 %	88.4 %	89.5 %
Reduction in service affecting failures	4.2 %	-4.7 %	[new target for 2016/17]
LTIFR	0.495	0.609	0.579
Financial (Sum of both FPM measures)	0	£(13)m	£-69m
Railway worker complaints	1,258	1,145	[new target for 2016/17]

Whilst overall reliability on the route is good, performance on the lines into West London and Paddington remains a challenge. Even minor problems there can lead to significant delays for passengers because of the volume of trains using the route. We are working closely with Great Western and devoting additional resource to address this, including the introduction of 'rapid-response' units and additional maintenance activity.

The main issues have been road traffic accidents, minor injuries and aggravation of existing conditions.

We are installing safety equipment in our vehicle fleet and are providing additional training on manual handling and reducing slips, trips and falls.

Whilst financial performance has improved compared to previous years and many key areas of our work, including maintenance and renewals, have been delivered on budget, there has also been increased compensation paid to train operators due to performance issues (largely the infrastructure problems between Paddington and Maidenhead mentioned above).

On a positive note, our relationship with our lineside neighbours benefitted from our focus on improving worker behaviour, with a reduction in complaints despite the high volume of work carried out this year.

Highlights of the year

We are in the middle of one of the largest and most significant upgrades to the route in its 175 year history. New, more frequent, electric commuter trains are already running between Hayes & Harlington and Paddington, and will extend to Maidenhead in early summer, providing 6,550 extra seats per day in each direction. We are in the process of electrifying the main line from London to Cardiff and have made major improvements for passengers using Paddington station. There is much more to come in the years ahead (see section below).

As part of our formal Alliance with Great Western Railway and our close working relationships with the train operating companies on the route, we have established a joint route supervisory board. Independently chaired by former government rail advisor Dick Fearn, the board is made up of the managing directors of Great Western Railway and Heathrow Express, as well as myself and a representative from the passenger watchdog Transport Focus. They will oversee our progress against next year's targets, with the aim of ensuring our work is aligned with what our customers (train operating companies) and passengers want from us.

In the year ahead

We will be busy upgrading and electrifying our infrastructure to allow Elizabeth Line (Crossrail) services to run from Paddington to Heathrow and Reading from late 2018, offering new services and destinations in central and east London, faster journeys and improved connections.

Nearly every part of the route will benefit from the introduction of new Intercity Express trains in October 2017, of Paddington and Maidenhead in May, and the resulting cascade of newer rolling stock across the route.

The new trains will mean greater capacity and a better passenger experience. This has happened because of improvements we have made to signalling, track, stations and platforms across the route. This work continues: major resignalling in Bristol and Bath, returning the line between Bristol Parkway and Temple Meads to four tracks, and further electrification are all underway.

In addition to newer trains, the west will see continued resilience work at Exeter and Dawlish, and at the request of the Department for Transport we are continuing to develop proposals to link the Great Western Main Line directly from Reading to Heathrow.

Our Railway Upgrade Plan has taken the efforts of thousands of people over recent years, and we are now at the point where passengers start to see real benefits. This is an exciting time for the West.

Mark Langman
Route managing director, Western
14 July 2017

WALES

The Wales route links major towns and cities, and rural and coastal communities, in Wales and the Borders with half of all route passengers using the key commuter routes in Cardiff and the valleys. Devolution within Network Rail means more decisions are now being taken locally. This is strengthening our relationships with key stakeholders including the Welsh Government, elected representatives and our lineside neighbours; meaning we are more responsive to the needs of the people, businesses and communities who rely on rail.

Key stats

- 1,250 train services per day (around 50 % of which are Cardiff and Valleys)
- 1,487 track miles
- c. 1,500 employees
- £390m spent on renewals and enhancements on the route

Key scorecard targets for 2016/17

[for glossary of scorecard terms please see page 8]

	Target 2016/17	Actual 2016/17	Actual 2015/16
Arriva Trains Wales PPM (MAA)	92.5 %	91.9 %	92.2 %
Reduction in service affecting failures	7.3 %	14.2 %	[new target for 2016/17]
LTIFR	0.458	0.559	0.509
FPM	0	£0.3m	£18m
Railway work complaints	431	475	[new target for 2016/17]

Completing our landmark signalling renewals project in the Cardiff area, and opening an additional platform at Cardiff Central station has increased reliability, operational resilience and our ability to recover when incidents arise. This, alongside our continued joint focus with Arriva Trains Wales on service recovery and reducing incident delays, has delivered significantly improved service consistency for passengers with end of year performance levels the highest they have been for the last 4-5 years.

Although narrowly missing our PPM, LTIFR and complaints targets, we will enter 2017/18 in a strong position. Benchmarked across Network Rail, we were the best performing route this year in terms of our key financial performance metrics, thanks to strong financial controls and driving efficient delivery unit rates.

We have also achieved considerable success in reducing service affecting failures, with a 14.5 per cent improvement year-on-year, thanks to effective asset management and targeted reliability project work led by the route performance team.

We made significant progress reducing slips, trips and falls; the biggest cause of Lost Time Injuries overall this year. We reduced injuries throughout the year by 24 per cent excluding those occurring as Road Traffic collisions, although this was off-set by an increase in staff injured in road traffic accidents caused by third parties. Continuing to reduce these incidents will be a key focus in the year ahead.

Highlights of the year

I was delighted to join Network Rail as the Wales route's managing director in August 2016.

Keeping our workforce, passengers and the public safe is a continued priority. This year we delivered rail safety messages to over 13,000 young people, and closed eight level crossings to reduce risk. We also significantly improved our 'close call' performance, exceeded close calls raised target, increasing our closure rate for Close Calls from 65 per cent to 100 per cent.

As part of the flagship £300m Cardiff Area Signalling Renewals project, at Christmas 2016 we delivered the largest and most complex signalling phase to-date anywhere in Britain. Unlocking the potential to run 16 trains per hour - from 12 - into the heart of Cardiff, increasing operational resilience and our ability to recover when incidents do occur – will significantly improve the passenger experience.

In collaboration with our lead operator, Arriva Trains Wales, we launched 'Project Tiger' in September 2016, focussing on jointly identified initiatives to reduce delays per incident (DPI). We have made significant progress, improving a number of our processes, including introducing a Senior Incident Officer to ensure swift recovery when incidents occur. Our aim is to reduce DPI by 30 %, and the Welsh Government and ORR have complimented both our organisations on the initial outcomes of this work.

All this has resulted in us finishing the year with a PPM of 96.4 % on the Valleys network, with average passenger lateness at its lowest point in five years.

In the year ahead

This year we will deliver the final stage of a major upgrade between North and South Wales: unlocking the potential for faster and more frequent services between Holyhead and Cardiff.

We are building a more reliable and resilient railway, investing £55m in maintenance and upgrading signalling in North Wales and between Port Talbot and Swansea. Work to electrify the South Wales mainline continues, paving the way for the new twenty-first century electric trains that will benefit passengers long into the future.

We are developing a programme of enhanced joint working initiatives with Arriva Trains Wales to improve both performance and customer outcomes. Our joint operations board, supported by Welsh Government, bring 'track' and 'train' closer together for the benefit of passengers, with a focus on seasonal preparedness and issues affecting fleet availability. Our joint communications board will ensure we speak as one industry. We have also recently established a route supervisory board and commercial board to further strengthen our relationship with our lead operator.

With passenger demand continuing to grow, we must ensure the rail network supports the needs of passengers and future aspirations of our stakeholders. This will be achieved through collaborative working with our shareholder, the Department for Transport, the Welsh Government and Transport for Wales. We are also working with these key stakeholders to develop a robust five year plan for Control Period 6 building on lessons learned from CP5, with a focus on cost efficiency, delivery and value for passengers and taxpayers.

Andy Thomas
Route managing director, Wales
14 July 2017

LONDON NORTH WESTERN

London North Western (LNW) is the largest of Network Rail's route businesses, comprising 24 per cent of Britain's railway, with seven freight operators and 14 passenger operators. This includes the country's economic spine: the West Coast Main Line, Europe's busiest mixed-use railway.

Key stats

- 6,009 train services per day
- 571 stations
- 4,500 track miles
- c. 6,700 employees
- £1,258m spent on renewals and enhancements on the route

Key scorecard targets for 2016/17

[for glossary of scorecard terms please see page 8]

	Target 2016/17	Actual 2016/17	Actual 2015/16
Chiltern PPM	94.5 %	93.1 %	94.4 %
London Midland PPM	88.7 %	88.8 %	88.1 %
Merseyrail PPM	95.9 %	95.8 %	95.3 %
Virgin West Coast PPM	87.0 %	89.1 %	86.0 %
Virgin Anglo-Scot PPM	82.0 %	84.0 %	[not reported 2015/16]
Trasnpennine Express Anglo-Scot PPM	80.0 %	84.5 %	[not reported 2015/16]
Reduction in service affecting failures	2.0 %	1.2 %	[new target for 2016/17]
LTIFR	0.691	0.620	0.790
Financial (Sum of both FPM measures)	0	£(83)m	£156.5
Railway worker complaints	1,397	1,369	[new target for 2016/17]

Train punctuality on the West Coast Main Line hit its best ever level last year. London Midland and Virgin West Coast both exceeded target, with Virgin improving from 84 per cent two years ago to more than 89 per cent today. This has been achieved by great team work with train companies and by our continued 'better every day' focus – making small improvements in every area. While we missed our target for Chiltern services, performance is improving thanks to a strong joint action plan.

The success of our 'Take 5 for safety' campaign, encouraging staff to pause and consider risks, is reflected in our LTIFR performance.

Notifying line-side neighbours of potential disruption and close working with railway upgrade project teams reduced the causes of possible complaints, bringing us in under target.

Strong train performance led to us being broadly on target for revenue. Disappointingly, the shortfall was caused by unexpected disruption such as the Eden Brows landslip on the Settle-Carlisle line, and a cutting wall collapsing at Liverpool Lime Street. Both of these required major repairs, which are now complete. There was also some overspend in relation to staff costs, including increased pensions costs and the use of specialist sub-contractors. Whilst the level of overspend was less than the previous year, I recognise that greater cost control is needed in the year ahead.

Highlights of the year

It has been a year of big achievements on the route. In December, we and Chiltern Railways launched services from central Oxford to London Marylebone, giving train customers a great new alternative route to the capital. In February the HS2 Bill gained Royal Assent. The new high-speed line from London to Birmingham will bring much-needed additional capacity on the West Coast. Electrification of the Blackpool-Preston line began, paving the way for new trains with more seats, as did Wirral line upgrades to improve reliability for customers.

In the year ahead

We will complete the Ordsall Chord, centrepiece of the Great North Rail Project. Ordsall is a new stretch of track linking Manchester's three main stations for the first time.

Customer benefits include new direct links to Manchester Airport, more frequent trains through Manchester and reduced journey times for customers as far afield as Newcastle.

We are also building a new station at Newton-le-Willows and upgrading signals between Cheshire and Liverpool to enable more trains and reduced risk of delays. A key focus is keeping customers on the move while HS2 Ltd builds its new line.

On LNW our challenge is akin to delivering the railway equivalent of a new Wembley football stadium every six months while continuing to stage more and more matches. We have strong relationships with our freight and passenger operators. Great teamwork will ensure we continue to deliver for customers in the future.

Martin Frobisher
Route managing director, LNW
14 July 2017

FREIGHT AND NATIONAL PASSENGER OPERATORS (FNPO)

During 2016/17 Freight and National Passenger Operators (FNPO) was established as the company's ninth operational route, to look after nationally focused customers whose interests extend across our routes.

Our customers include Freight Operating Companies (FOCs), CrossCountry, Caledonian Sleeper, charter operators and aspirant open access passenger operators. We do not physically operate infrastructure like the other routes, but are accountable for the delivery of performance and other outputs for our customers and provide them with a single point of contact.

Key scorecard targets for 2016/17

[for glossary of scorecard terms please see page 8]

	Target 2016/17	Actual 2016/17	Actual 2015/16
SPADs*	52	40	52
Derailments*	15	13	13
FDM – National	93.5 %	94.3 %	94.3 %
Right time departures – Freight	78 %	81.3 %	81.2 %
Freight track access income	£60m	£52m	£53m
PPM - CrossCountry	90.0 %	89.7 %	89.5 %
Right time arrivals – Caledonian Sleeper	75 %	79.9 %	73.8 %
Customer satisfaction	69 %	69 %	59 %

*SPAD and derailment figures for 2016/17 include both freight and national passenger operators; 2015/16 is freight only.

Compared to last year, the number of signals passed at danger (SPADs) was 20 per cent fewer, which is in part testament to the focus we have been driving in our regular safety meetings with FOCs and also the developing work of the National Freight Safety Group. We have also outperformed our freight derailment target and plan to do further derailment risk management work on freight-only infrastructure.

We have comfortably achieved our regulatory target of 92.5 % FDM and will continue to focus on implementing performance improvement plans to support achievement of our scorecard target for 2017/18 of 94.0 %.

We continue to work with FOCs and with ports and terminals across the network to increase the number of trains that depart on time. We have established a performance control room at Felixstowe Port, for example, which includes both freight operators and port staff.

Financial performance (freight income) was a major challenge due to the continued decline of coal moved on the network. We have established a business development team to identify new growth and income opportunities.

We just missed our PPM target for CrossCountry. To address key issues affecting performance, including fatalities on the line, lineside vegetation management and fencing, we are working closely with the seven Network Rail routes that CrossCountry operate across.

We have achieved our right time arrival target for Caledonian Sleeper. Since FNPO has taken on responsibility, our Freight Service Delivery Team has taken on monitoring and support to the Caledonian Sleeper, helping to deliver more robust right time performance.

We achieved our customer satisfaction target and are looking to build on our customer focus in the year ahead.

Highlights of the year

We have delivered a number of improvements to the network to help meet our customers' needs, including enabling longer trains to run between Southampton Port and the West Midlands, and work on the routes into and out of Yorkshire freight terminals to allow for the transportation of larger containers.

Our strong collaboration with the rail freight industry resulted in freeing up 4,702 allocated freight paths to provide further capacity on the rail network.

In March 2017 we published the Freight Network study, which outlined the industry's view of priorities for future investment. The priorities highlighted in the study are around capacity and capability enhancements to support access to the major ports, as well as gauge clearance to allow a wider range of containers on the Channel Tunnel route to London.

The route had a strong focus on attracting private investment to increase freight traffic levels and grow income. We are working with developers of about a dozen new rail freight terminals which are being developed on our vacant land that are wholly funded by freight end users for loading and unloading their goods.

In the year ahead

Our plans for 2017/18 are to:

- Continue to deliver safe and reliable performance
- Improve our customer focus and continue our positive collaborative approach with the sector and stakeholders
- Embed and develop the new FNPO organisation as part of wider Network Rail transformation
- Develop and deliver Strategic Freight Network schemes – for example work to enable an extra ten trains per day each way to/ from the Port of Felixstowe
- Undertake business development to generate traffic growth for the sector and income for Network Rail
- Produce a robust CP6 plan including proposals for sustainable access charges.

We are also working with our charter customers and stakeholders to improve the planning, delivery and safe and effective operations of charter and preserved trains on the network – in particular in terms of capacity planning and gauging.

Paul McMahon
Managing director, FNPO
14 July 2017

DIGITAL RAILWAY

Our cross-industry Digital Railway programme looks at how we can use new technology to run more trains, improve connections and improve performance, cost and safety.

Increasing demand means parts of the rail network are running out of capacity, leading to congestion for passenger and freight services. Digital technology - including in-train signalling that can enable trains to run more closely together and traffic management systems that use modern analytics to timetable trains in the most effective way – can ensure we get the most out of the network.

This year (2016/17) has been an important year for the programme:

- Whilst led by Network Rail, the whole of the rail industry is now fully involved in order to maximise the benefits of digital railway solutions. We have been working with train and freight operating companies on an integrated approach and have established an Early Contractor Involvement group to ensure we are engaging with the supply chain.
- We have identified five geographical areas that we feel would benefit the most from digital railway technology and have developed strategic outline business cases for each of these. We are also working with the Department for Transport and Transport for London on a number of other routes where digital solutions have the potential to add value.
- The Thameslink core (between Blackfriars and St Pancras) will be one of the first areas to benefit from digital train control and traffic management. 24 trains per hour will be able to run in each direction at peak time, transforming north-south travel through London, and in November 2016 we began testing the system with full automatic operation of trains, in preparation for it to come into use in December 2018.
- The House of Commons Transport Select Committee conducted an inquiry into rail technology and concluded that the intelligent use of digital signalling and traffic management technology could bring substantial benefits to the UK's rail network. And in the Government's 2016 Autumn Statement, they committed £450m to trial digital signalling technology. The increasing recognition of the potential value of these solutions, and the benefits they could bring to passengers, are very welcome and we are working closely with the Department for Transport on shortlisting which projects to include in the Government trial.
- I participated in a Ministerial Advisory Group established by the Secretary of State to advise him on the best way to accelerate rail modernisation.

David Waboso
Managing director, Digital Railway
14 July 2017

PROPERTY

We are experts in developing railway-owned land and property assets to help fund the railway and reduce the financial burden on the taxpayer. We play a key role in contributing to railway investment, housing and economic growth while creating great places for businesses and communities.

Helping shape our towns and cities while contributing to the Railway Upgrade Plan

Railway investment plays a fundamental role in shaping our towns and cities, and ultimately, contributes to the prosperity of Britain through economic growth and regeneration. The strategic and long-term stewardship of the land, station and property assets associated with this investment is vital to help deliver a safe, reliable, affordable and growing railway for Britain.

In our stations, we create world-class customer experiences through our retail, commercial and advertising assets. In the past year, we have recorded our 19th straight quarter of like-for-like sales growth from our station retailers, increasing our like-for-like sales in the period October – November 2016 by 3.7 %.

Our development activities, where we partner with developers, Councils, and sector stakeholders, to develop or release railway owned land that is not required by the railway, allows us to generate income for reinvestment in the railway and create housing, jobs and growth. In the past year we have delivered £62.3m in development income, an increase of £37.8m from last year (excluding Grand Central of £62.2m).

We are also one of the largest providers of small and medium enterprise spaces in the UK, and our commercial estate business is delivering value in the local communities in which we operate, supporting regeneration, local economies, businesses and jobs.

Furthermore, our planning and land services, and property services teams work alongside the routes to ensure the future expansion of our network.

Key initiatives we have underway

As we pass the half way mark in CP5, Network Rail Property is transforming our operations to act and operate like a private business in a public company.

In April 2016, Network Rail established a stand-alone Property Board which approves and makes recommendations about investments in and disposals of Network Rail's estate and property assets.

At the same time, we are placing increased focus on national issues such as releasing land for housing. We have boosted our resources and accelerated our processes committing to deliver land for around 12,000 homes by 2020. In 2016 we released land from the railway to deliver over 1,500 new homes across Britain. We have a plan in place to accelerate this in 2017.

We have also begun to look at the way stations are managed in the long-term, and have embarked on a project to consider better management models for stations. At the same time we have begun to dispose of some of our land and property assets that do not affect the safe and efficient operation of the railway, and we will accelerate these activities in 2017.

Key stats

- +7 % - Increase in income from Network Rail Property
- £1,231m - Value of our investment property portfolio
- £293m - Commercial property income
- 95.6 % - Occupancy rates at our business space estate - Last year 96 %
- 676,235 sqft - Rental space at our managed stations - Last year 628,390 sqft
- +2.43 % - Network Rail managed stations Like-for-like retail sales growth.

David Biggs
Managing director, Property
14 July 2017

GREAT PEOPLE

The rail industry has a proud heritage in the UK, and an exciting future. Rail journeys are expected to double in the next 25 years, major new engineering projects like HS2 are just getting started and the Rail Delivery Group estimates that there will be 100,000 jobs created in rail and its supply chain in the next ten years. There are fantastic opportunities for people who want to help build a better railway for a better Britain

At Network Rail, we know that our people are critical to our success. We want to be an organisation that can attract the best talent, and is an open, diverse and inclusive business. We want to benefit from the innovation and creativity that diversity brings, where structured continuous improvement and lean approaches help us all to be 'better every day' and where everyone plays their part in our safety vision to get 'everyone home safe every day'.

Did you know?

- We employ over 38,000 people, offering a wide range of career opportunities across the UK.
- We have trained more than 2,000 apprentices since 2005, and more than 75 per cent are still working with us today.
- We aspire to an average of 822 apprenticeships a year by 2020, representing 2.3 per cent of our workforce.
- We continue to increase our graduate intake, especially graduate engineers. Numbers having risen from 89 in 2014/15 to 160 in 2017/18, helping ensure we will have the skills we will need for the future.

Highlights of the year

- We were proud to come first in the transport and logistic category for Times Graduate Recruitment Awards.
- We are developing an ambitious plan to increase our number of female employees to 20 per cent by 2020. Diversity is a challenge for the whole industry, with far fewer women than men choosing to study STEM (science, technology, engineering and mathematics) subjects at university and gender stereotypes about careers in engineering persisting. We want to play our part in changing that, and so we have been out and about giving talks in schools to promote the importance of STEM subjects and promoting our graduate and apprenticeships schemes to women.
- Our LGBT employee network 'Archway' won the network group category of the Natwest British LGBT awards and our Black, Asian and Minority Ethnic employee network 'Cultural Fusion' was highly commended at the Race for Opportunity awards. These networks, along with our disability, carers, faith and woman's networks play an important role in helping recruit and retain a more diverse workforce – from attending careers fairs, to advising on how we can make Network Rail more inclusive.

GREAT PEOPLE CONTINUED

Workforce diversity	2016/17	2015/16
Female	16.07 %	15.38 %
Black, Asian and Minority Ethnic	7.39 %	6.71 %
Disabled	2.78 %	1 %
Lesbian, gay or bisexual	4.15 %	0.69 %
Graduate in-take		
Female	21 %	28.67 %
Black, Asian and Minority Ethnic	33 %	11.19 %
Apprenticeship in-take		
Female	5 %	8.04 %
Black, Asian and Minority Ethnic	6 %	3.57 %

- We launched 'Career Tracks' – a careers portal for engineers, providing advice on career development. This will be expanded to other professions in 2017, including those in safety, health and environment. We hope that this will help attract, retain and develop our employees for the longer term.
- We completed the building of seven new training centres, creating the capacity to deliver 270,000 training days a year. This is part of an industry-wide programme to ensure our workforce has the skills they need to work safely and effectively on the railway.
- More than 26,000 employees took part in sessions on safe driving. Driving is one of our biggest safety risks, and we are continuing to take positive action to keep our people safe.
- We received four British Safety Council 'Swords of Honour', which are awarded to companies that have demonstrated excellence in the management of health and safety risks at work. We believe that outstanding safety performance and outstanding business performance go hand in hand, and are continually seeking to improve workforce safety. We also launched our Home Safe Strategy, which includes 24 projects to continually improve the safety of everyone working in the industry.
- We ran a 'you said, we did' campaign to highlight action taken as a result of our most recent employee engagement survey. Based on sample surveys taken before and after the campaign, we saw a 26 per cent increase in the number of colleagues who believe that action is taken as a result of the survey.

BEING RESPONSIBLE

The railway touches almost every community in Britain - 22 million people live within 500 metres of the rail network. That means we have a responsibility to consider the impact we have on those communities, the wider society, the environment, and the economy

Environmental impact

Biodiversity

We are one of the largest land owners in Britain, managing 20,000 miles of railway and the line either side of the track. That includes Areas of Outstanding Natural Beauty, Sites of Special Scientific Interest, and other areas that are important to local communities and home to a wide range of flora and fauna. We have to balance our moral responsibilities for these sites with the need to run a safe and efficient railway.

We employ ecologists and work with national and local conservation groups to survey animals, plants and insects and plan how and when to do our work so it will have the least impact. This year we launched a new app for our staff and contractors to help them identify the wildlife they come across and check if it is protected. We are also testing a 'net positive' approach on our major projects, where we aim to replace more natural habitat than is lost as part of our work, and we are working with Highways England, Natural England and the Wildlife Trusts on their Green Transport Corridors project – looking at how we use the land alongside the railway to both create greater biodiversity and improve the resilience of the rail infrastructure to climate change. Two pilot projects (in the Humberhead Levels and Morecambe Bay Nature Improvement Areas) are due to report in summer 2017.

Waste management

Waste diverted from landfill	95 %
Re-used	666,438 tonnes
Recycled	1,173,179 tonnes
Recovered (converting waste material into energy e.g. composting)	206,661 tonnes
Waste sent to landfill	109,484 tonnes
Total waste	2,155,761 tonnes

At a recent project in Farnley Haugh, near Newcastle, the team worked collaboratively with local landowners and the Environment Agency to reuse over 50,000 tonnes of soil, reducing waste to landfill and making significant cost savings.

Energy use

We are committed to reducing our carbon footprint and our energy usage.

Our target is to reduce our carbon dioxide equivalent emissions, the standard unit for measuring carbon footprints, by 11.2 per cent in this control period (2014-2019), and we are on-track to deliver this.

	2013/14	2014/15	2015/16	2016/17
CO_2e emissions (tonnes)	298,450	301,378	281,987	262,623

We have a clear energy management strategy and policy in place to provide strategic direction for the organisation, combined with devolving accountability for energy to the routes in order to make more decisions locally at the point of use.

At Glasgow station, for example, we have concluded a three year programme of energy saving projects and replaced almost all lighting with LED fittings. This has helped to reduce the station's total energy consumption by 19 per cent.

We are also working with the Rail Safety and Standards Board to look at how the rail industry can measure, and reduce, its 'capital carbon' - the emissions associated with the building, maintaining and demolishing of rail infrastructure.

Climate change adaptation

Our new Weather Resilience and Climate Change Adaptation Strategy 2017–2019 builds on work undertaken by the programme to-date and provides a framework within which all work relating to weather resilience and climate change adaptation will be undertaken in the future. The primary focus of the strategy is analysis and research to support our understanding of the impacts and costs of climate change on the railway. This will help us identify and prioritise resilience measures and develop frameworks for reporting on resilience.

Each route has now developed their own weather resilience plans, which are available on our website. These are being updated in light of the 2018 UK Climate Change Projections.

→ www.networkrail.co.uk/communities/environment/climate-change-weather-resilience/weather-resilience/

Social performance

'Social performance' is how Network Rail's operations, activities and decisions impact people – be they employees, suppliers, rail users, communities or other groups affected by Network Rail.

Community engagement

We know that our work can cause disruption to local communities. This year we have piloted a new process for how we notify local people that we will be working in their area. Reducing complaints about our work is one of our key scorecard targets, which means senior leaders across the business have weekly discussions about volumes of complaints and speed of responses.

Some of our projects have also chosen to 'give back' to the communities they have been working in, getting involved in school art projects, community garden schemes and other local initiatives.

In 2016 we worked with the Sussex Community Rail Partnership on improving London Road Station in Brighton. This included helping with litter clearing, gardening and maintenance work as part of the community rail 'Adopt a Station' initiative.

BEING RESPONSIBLE CONTINUED

In Banbury, we invited members of the public, local schools, rail enthusiasts and local businesses to visit the Banbury North signal box before it was closed as part of upgrading the signalling in the area. Over 3,500 visitors joined the tours, which were used to explain railway history, signalling, railway safety and to promote careers in the rail industry.

Volunteering

All our staff have the opportunity to take five days' volunteer leave to help a charity or community group. This year we saw a significant increase in the number of staff taking up this opportunity, engaging in activities as varied as volunteering in a local hospice to using their technical skills to support a railway heritage project.

	2016/17	2015/16
Total number of employees participating in volunteering	2,226	825
Number of hours of volunteer leave used	27,265	11,512

Charity of choice

Our two and a half year partnership with cancer charity CLIC Sargent came to an end in 2016/17. During that time, £817,000 was raised for the charity through staff fundraising, rising to £4.5 million when sponsorship, gifts in kind and volunteering support are factored in. In October 2016 staff voted for Barnardo's to be our next Charity of Choice. As well as a payroll giving scheme which allows employees to donate easily and tax-free to Barnardo's, we are working with Barnardo's on a range of opportunities to fundraise and volunteer.

Keeping communities safe

We take our responsibility to keep the public safe very seriously. Trespass is a key concern, with one person an hour risking their lives by trespassing on the railway. We run national media campaigns, and local activities with schools and youth groups, aimed at reducing trespass. This year we also began a pilot project looking at causes of antisocial behaviour that commonly drive trespass (such as graffiti, drug and alcohol misuse and fare evasion).

Level crossings are one of the biggest safety risks on the rail network. As well as campaigns to raise awareness of how to use crossings safely, we have a rolling programme of closing or altering crossings in order to reduce the safety risk. We have closed a further 67 crossings this year.

Suicide prevention

4.5 per cent of suicides take place on the railway. As well as attempting to prevent people from accessing the tracks, building fences and gates, we want to play a role in reducing the number of people who take their own lives. We have partnered with the Samaritans to train staff in suicide intervention techniques, and in the last year alone staff made 1,593 interventions – potentially saving 1,593 lives.

Economic impact

Did you know?

- We support an estimated 155,750 jobs, with c.38,000 people directly employed and a further 117,750 through our supply chain.
- This year we worked directly with over 3,850 suppliers, 64 per cent of whom were SMEs, spending over £7.359bn.
- We are a major purchaser of UK steel. Of the 119,384 tonnes of steel we bought last year, 93 per cent came from UK suppliers.

At Network Rail we are committed to doing business in a sustainable and responsible way. This includes a commitment to do all that we reasonably can to prevent all forms of modern slavery in any part of our own business and our supply chain. We expect our customers and suppliers to do the same.

In 2016/17 we raised awareness of modern slavery throughout our business by:

- Updating our Code of Business Ethics and other policies to include a clear statement of our stance on modern slavery
- Producing and publishing our Anti-Slavery and Human Trafficking policy
- Amending our procurement contracts to include a modern slavery clause and reviewing the procedures for new suppliers, to make sure they have implemented adequate provisions to prevent modern slavery in their own businesses
- Identifying key risk areas to us and our supply chain
- Issuing guidance to our people on how to recognise the signs of human rights violations and how to report concerns
- Creating a webpage on our company intranet dedicated to modern slavery. This contains information and resources for employees wanting to know more about modern slavery and human trafficking.

In 2017/18, we plan to provide training to employees in high risk areas of our business. This will give them the knowledge and skills to help prevent human rights violations and acts of modern slavery. We will also communicate our approach on modern slavery to our labour and material suppliers.

An updated modern slavery statement for 2017/18 will be published on our website: **networkrail.co.uk** in due course.

OUR APPROACH TO RISK MANAGEMENT

Our approach to risk management across Network Rail balances the risks associated with our operational environment with identifying opportunities to improve performance through careful acceptance of some risk.

Introduction

We recognise our status as a regulated rail network infrastructure provider and the importance of maintaining essential service provision.

The operational railway is continuously susceptible to changing environmental conditions. The success of the railways in the UK, measured by the growth in passenger numbers, and the continued drive for efficiency means that we must be both flexible and innovative in our risk mitigation strategies. Our enterprise approach to risk management provides multiple opportunities to review, monitor and enhance mitigations depending on the changing conditions and challenges.

Our principal risks are outlined in the 'Key strategic risks' section on page 40.

Embedded risk management processes

We take an enterprise-wide approach to risk management and have an ERM framework in place for the identification, analysis, management and reporting of all risks to strategic objectives. The purpose of our ERM process is to identify and mitigate risks to the delivery of a safe, reliable, efficient service to our customers. Our ERM framework supports all areas of the business to recognise both threats and opportunities early. Early recognition of risk allows us to work collaboratively and proactively with customers, stakeholders and suppliers to manage our extensive portfolio of works better. Being Better Every Day requires us to look at areas where we can improve our service. By careful consideration of risk we can focus on those opportunities that have the highest potential to increase efficiency and provide a better experience for our customers.

Our ERM framework takes account of operational risk and recognises the need for specialist approaches in areas such as safety, project management and information security. The use of a standard risk assessment matrix and defined risk appetite supports and enables intervention, prioritisation and the integration of the strategic and operational risk management approaches. Clear escalation criteria and the use of business assurance committees throughout the business provide structured governance, challenge and assurance. Visibility of the systemic nature of principal risks is provided through our award winning risk visualisation approach. We have introduced the concept of risk trajectory to enable more informed challenge on the effectiveness of risk mitigations. The establishment of early warning indicators provides the ability to continuously monitor how effective our controls are at managing the root causes of our principal risks.

By using current reporting and monitoring techniques such as visualisation boards and periodic reviews we can better link risk with performance.

Whilst the ultimate responsibility for risk management rests with the board, it delegates the more detailed oversight of risk management and internal control principally to the audit and risk committee, which reports the findings of its reviews to the board. The audit and risk committee receives regular reports from the internal and independent auditors and reviews progress against agreed action plans to manage identified risks. Detailed oversight of safety related risks is delegated to the safety, health and environment committee.

Categories of risks (i.e., safety, performance, value) and who manages them

All principal risks are mapped to performance reporting and strategic objectives. The assessment of risk is informed by the performance targets and the company's risk appetite statements. Each risk is appointed an executive committee owner.

Network Rail has defined its risk appetite as follows:

Network Rail has no appetite for safety risk exposure that could result in injury or loss of life to public, passengers and workforce. Safety drives all major decisions in the organisation. All safety targets are met and improved year on year.

In the pursuit of its objectives, Network Rail is willing to accept, in some circumstances, risks that may result in some financial loss or exposure including a small chance of breach of the loan limit. It will not pursue additional income generating or cost saving initiatives unless returns are probable (85 % CI for income and 60 % CI for cost reductions where potential returns are high).

The company will only tolerate low to moderate gross exposure to delivery of operational performance targets including network reliability and capacity and asset condition, disaster recovery and succession planning, breakdown in information systems or information integrity.

The company wants to be seen as best in class and respected across industry. It will only tolerate low to moderate exposure that may result in short term negative impact on reputation and stakeholder relationships and is easily recoverable, i.e. minimal negative local or industry media coverage, and/or minor employee experience and political impact. This will continue to be balanced by regular positive media coverage at national and local level.

KEY STRATEGIC RISKS

Risk Area: **Safety**

Britain's railways are the safest in Europe, however we are not complacent. Network Rail continues to assess and monitor all areas of safety and continues to invest in preventive measures to keep likelihood of safety incidents to a minimum.

Risk	Risk Owner	Current Actions	Planned
Failure to safeguard our workforce resulting in single and/or multiple fatalities to Network Rail staff (employees and contractors).	Group director of Safety, Technical and Engineering	• We are introducing a vehicle tracking system to our 7,500 fleet vehicles to enable our drivers to get immediate support to drive within the speed limit. This will reduce the risk of road traffic accidents. • We have updated our arrangements for staff accessing the track side environment. Specifically we are bringing accountability for safety and productivity into one person, that person will be involved in planning their work and will incorporate task risk controls. • We have introduced the Industry Common Induction within Infrastructure Projects. To date over 75,000 staff across our Supply Chain have gained the competence. • Sentinel has been upgraded to enable staff to gain authorisation for work via smart phone technology, reducing the risk of double shifting, enhancing fatigue management and capturing better competence usage. • Review of Work Activity Risk Assessment (WARA) and Task Risk Control Sheets to get clearer, simpler, and more effective risk assessments.	• Implement the revised standard Safety of Staff at Work on or Near the Line as a critical element for Planning and Delivering Safe Work. • Implement an electrical safety delivery programme focusing on improved isolation methods, better test equipment, accountabilities and competence/training. • Establish a fatigue risk management programme aligned to a new policy and deliver a fatigue risk tool kit for line managers. • Safer Trackside Working programme - High integrity protection and Signal controlled warning technology. • We will develop the next phase of our Occupational Road Risk Programme to further reduce the risk to our staff from driving.
Failure to prevent a major avoidable train accident (collision, derailment etc.) which results in multiple injuries/fatalities to members of the public passengers resulting in loss of reputation, finance and reduced performance.	Managing director, England and Wales	• Corporate Scorecard measure for risk reduction changed allowing for targeted measurement of key activities. • National Earthworks Manager (EWE1) competency assessment completed allowing Route Asset Managers to review competencies and training needs. • 1,072 point ends, 2,248 tubular stretcher bars installed. • Trials continue for key technology interventions such as remote failure monitoring for earthworks. • Plain Line Pattern Recognition operational for 6,090 miles. • Targeted action at level crossings through the Level Crossing Risk Reduction programme. • Targeted removal of lineside vegetation that could present a risk to train derailment/collision. • Targeted reduction in the number of high risk road vehicle incursion sites. • Targeted reduction in the number of high risk scour sites. • Working with key stakeholders to reduce railway crime including	• Continued roll-out of new control framework in the form of Business Critical Rules. • Development and roll out of the Civils Strategic Asset Management System to provide better asset information. • Continued focused measurement through the train accident risk element of the corporate scorecard. • Targeted reduction in the number of very poor condition fences that could present a risk to train derailment/collision. • Increased coverage trainborne track testing. • Revision of the signalling design handbook. • Targeted User Worked Crossing communication campaign launched. • Targeted Automatic Half Barrier level crossing communication campaign launched. • Plain Line Pattern Recognition operational for 15,002 miles. • Continued targeted removal of lineside vegetation that could present a risk to train derailment/collision. • Continued targeted reduction in the number of high risk road vehicle incursion sites. • Continued targeted reduction in the number of high risk scour sites. • Continued roll-out of new control framework in the form of Business Critical Rules.

		diversionary arrangements with local communities and suppliers. • Implementation of drainage objectives set out in section ten of the drainage policy. • NR Standard on the Application of the Construction (Design and Management) Regulations published • Prevention through Engineering and Design Policy published.	• Continued development and roll out of the Civils Strategic Asset Management System to provide better asset information. • The Engineering Capability Steering Group work to drive the completion of a Network Rail Single Competency Framework for professional Engineers and Asset Managers.
Failure to have suitable and sufficient infrastructure, systems and controls in place to safeguard passengers and public at the interface with trains and the railway (excluding train accident risk), resulting in a fatal or major injury.	Group director of Safety, Technical and Engineering	• 70 Level Crossings permanently closed for Year 3 (264 during CP5). • Seven crossings have been reduced in status during year 3 (20 during CP5) • 68 crossings temporarily closed, removing risk whilst permanent risk reduction measures are developed. • Adjustment of the Night Time Quiet Period to better align with level crossing usage trends. • Development of "Transforming Level Crossings, 2015 – 2040" - a vision-led long-term strategy to improve safety at level crossings. The strategy, endorsed by NR's SHE Committee, is to inform our safety-led asset management activities and the development of new level crossing technologies. • Support and input into RSSB's research paper T936, which focuses on enhancing the All Level Crossing Risk Model's (ALCRM) algorithms and accuracy of calculated risk. NR is a key stakeholder and customer for the new risk engine that will replace the existing ALCRM tool. The work stream is well advanced and on target to complete in Spring 2017. • Roll out and deployment of the Platform Train Interface (PTI) risk assessment tool at Network Rail Managed stations. • Community safety strategy developed and key initiatives delivered including the appointment of a new delivery partner to run a sports themed railway safety educational programme in schools located near sites with high levels of trespass and vandalism. • Better communication with level crossing users through a series of risk based community safety campaigns focused on the hazards created by intoxication, distractions from using mobile devices, impaired mobility, and trespass in the vicinity of crossings. • Development of new materials to support community safety interventions with vulnerable groups such as young offenders and those	• Closure of an additional 50 Level Crossings (subject to feasibility studies and liabilities negotiations). • Development of a user interface for the new ALCRM risk engine, together with full impact assessment of changes to the national risk profile, in preparation for CP6 activation. • Refresh the ALCRM to improve the accuracy of risk modelling and calculations of level crossing risk. • Supporting RSSB to educate other Station Infrastructure Managers about how to use the PTI risk assessment tool across the railway stations estate. • Revision of the Community Safety Strategy, including development of metrics to help measure the reach and impact of our Community Safety Campaigns. • Targeted local campaign for addressing the issue of trespass at stations. • Delivery of the next cycle of the railway safety educational programme in schools located near sites with high levels of trespass and vandalism during academic year 2017/18. • Further delivery of community safety campaigns and interventions directed towards ▶ Public education and engagement ▶ Trespass prevention ▶ Suicide prevention ▶ Level crossings risk reduction ▶ Trial and implementation of novel level crossing technology

<table>
<tr><td></td><td></td><td>with special educational needs.
• Community safety awareness campaigns were delivered on topics ranging from youth distraction at Level Crossings, to intoxication and trespass.</td><td></td></tr>
<tr><td colspan="4">Risk Area: Value</td></tr>
<tr><td colspan="4">Network Rail is committed to delivering value for money through robust planning and where possible supplementing funding through selling non-core assets.</td></tr>
<tr><td>Failing to produce credible forward projections resulting in less funding than required and/or unachievable targets.

Failure to achieve net receipts from asset sales to support shortfall funding and failure to deliver efficiency savings programme</td><td>Chief financial officer</td><td>• Facilitation, co-ordination and tracking of the NR business plan
• Route milestone plans and glide paths linked to the Corporate dashboard
• Change portfolio group ensures the business is delivering the right portfolio of change
• Enhancement portfolio board set up to ensure enhancements costs are in line with Hendy Review
• Business performance management framework outlined business function accountabilities
• Creation of a central register of assets being disposed of
• Agreed clearance process and protocols with the routes including involvement at all levels of the portfolio organisation
• LC7 process agreed with ORR Delivery of receipts that score in Public Sector Net Borrowing for the government through option analysis without compromising value for money.</td><td>• Improve planning capability within the routes through implementation of corporate rostering
• Develop clear quantifiable programme milestone plans split by route/region/function linked to the corporate dashboard
• Engagement with routes to clarify the route to close clearance and adaptation or relaxation of existing process to facilitate additional volumes
• Ongoing engagement with Government to ensure all options are explored regarding asset disposals.</td></tr>
<tr><td colspan="4">Risk Area: Performance</td></tr>
<tr><td colspan="4">Delivery of our extensive enhancement and renewals portfolios is a key priority for us. New controls and governance arrangements have proved successful over the last 12 months and seen us deliver our largest ever portfolio of works with no major possession overruns.

By investing in our staff and attracting young talent to the rail industry we are managing risks to recruitment and retention and have low staff turnover. We understand change is unsettling and will continue to work closely with staff and unions to minimise any adverse impact.

We are investing in our recovery and business continuity planning to reduce long-term impact of business interruption. This includes further controls in areas of information governance and cyber security.

Managing train performance to meet ORR targets remains extremely challenging with likelihood higher than we want. Mitigations in this area remain a priority over the next 12 months. We remain confident that over the longer term we will reduce risks in this area to within acceptable levels.</td></tr>
<tr><td>Failure to deliver the enhance-ment portfolio to time and cost</td><td>Managing director, Infrastructure Projects</td><td>• Affordability and deliverability review of the CP5 enhancements portfolio as part of the Hendy Review.
• Implementation of the Enhancements Improvement Programme (EIP).
• Ongoing integrated planning processes to assign critical resources at times of peak demand, e.g. bank</td><td>• Complete the full implementation of Business Assurance Committees across all divisions of Infrastructure Projects.
• Delivery of the balance of efficiencies to meet the affordability constraints set during the Hendy Review.
• Implementation of a tri-partite integrated assurance framework across Network Rail,</td></tr>
</table>

		holidays. • Continued focus on delivery governance adherence (e.g. GRIP, DWWP) and assurance resulting in 99.5 % safe, on time hand back at bank holiday possessions. Continue to implement the IP change programme, referred to as One Vision One Way, which aligns risks to strategic objectives.	Department for Transport and ORR which further develops independent peer reviews that have already been embedded into the business. • Continuation of the peer review process, as embedded last year, with full alignment to the milestones and key outputs in the Enhancements Delivery Plan. • Completion of actions associated with Network Rail's 'Must Wins' as they relate to enhancements.
Failure to deliver the renewals portfolio to time and cost	Managing director, Infrastructure Projects	• Introduction of an improved planning process (GRIP 4 Track) throughout the project life cycle • Embedment of GRIP 4 Track across all elements of the programme • Understanding various access regimes and impact on cost • Improved governance across the programme including Programme Board, Assurance panel and Route Track Governance panels. • Improvements in reporting of risks through Track & Signalling Business Assurance Committees.	• Completion of actions associated with Network Rail's 'Must Wins' as they relate to renewals. • Further focus on renewals related delivery risks as part of the ongoing management of risk led by the IP Executive Team. • Escalation of risks associated with the smoothing of the workbank and transition from CP5 to CP6, to provide assurance to the industry supply chain.
Failing to attract, retain and develop the full potential of our pipeline of talent for key roles; resulting in sub-optimal leadership capability, worse business outcomes and a compromise of our ability to deliver a better railway for a better Britain	Group human resources director	• Developed a strategy for Network Rail to be an employer of choice to emerging talent • Development and engagement of a Network Rail professions programme which includes career pathways • Ongoing support and engagement with talent groups.	• Implement and communicate Network Rail's strategy to be an employer of choice to emerging talent. • Delivery of professions programme identifying and implementing career pathways within each profession • Deliver further cohorts of accelerated leaders programme • Development of networks and alumni for roles in NR professions
Failing to secure employee and Trade Union support for our forward change agenda	Group human resources director	• Regular and positive engagement with Trade Unions providing opportunity for bargaining groups to meet early • Development of Industrial Relations learning programme to upskill key frontline managers.	• Continue positive engagement with Trade Unions providing visibility of major change programmes • Deliver and roll-out industrial relations learning programme to key frontline managers.

Failure to recover from a business interruption to pre-defined output levels and within agreed recovery timescales	Chief financial officer	• Central Business Continuity (BC) team funded to support the delivery of the Business Continuity Management (BCM) framework and provide expertise and advice. • Implementation of cyber security awareness programme, training and development • Established cyber security governance structure • Weather Resilience and Climate Change Programme Board to continually assess vulnerability of assets	• Supported implementation of the BCM framework • Completion of tactical Business Impact Assessments within routes/supporting functions • Completion of priority BC Plans • Further Strategic and tactical investment to provide a more resilient network and systems landscape that will perform effectively under increased stress
Unable to achieve passenger and TOC/ FOC performance expectations for the control period	Managing director, England and Wales	• Timetable Rules Improvement Programme to focus on improving the timetable and unlocking further operational performance. • Performance strategies developed collaboratively by Routes and Train Operators. • Strengthening of monitoring and delivery of engineering work to reduce performance impact of overruns. • National Joint Disruption Taskforce to strengthen service recovery and contingency plans: working with British Transport Police (Fusion Team) and improved systems and processes for controls. • Focus on delivery of improvement in South East/GTR performance • Delay per incident must win plans in place for each Route. • Route Asset Management Plans (RAMPs) underpinning the Composite Reliability Index and supporting a reduction of PPM failures.	• Work to understand the impact of increasing passenger growth and action to mitigate any risk to performance. • Delivery of Risk Based Maintenance and further roll out of On Train Infrastructure Monitoring and Remote Condition Monitoring programmes. • Development of Scorecards to drive joint ownership of performance targets. • Development of CP6 metrics to better reflect local passenger and freight priorities. • Initial Industry advice and High Level Output Statement (HLOS) setting out the Industry's performance agenda to CP6. • Digital Railway, in particular, the Traffic Management Programme to support the operational delivery and recovery of service. • Train Location Services to improve the industries understanding of performance issues.

Viability statement

The Directors have assessed the viability of Network Rail to maintain the UK's rail infrastructure over a three year period, taking account of Network Rail's current position and the potential impact of defined scenarios on its principal risks and financial viability. The Board considered three years to be an appropriate timeframe. There was certainty over the remaining two years of CP5, and reasonable certainty that Network Rail would continue into the first year of CP6. However as the Final Determination for CP6 had not yet been finalised, the Board did not feel able to confirm NR's viability beyond three years at this stage. Based upon this assessment, the Directors have a reasonable expectation that the company will be able to continue in operation and meet its liabilities as they fall due over the period to March 2020. This longer-term assessment process supports the board's statements on both viability, as set out below, and going concern, made on page 87.

Network Rail is funded in five-year blocks called control periods. This five year block runs from 2014-2019 and the next runs from 2019-2024.

The Office of Rail and Road (ORR) determines charges and outputs before the start of each five-year period. In doing so the ORR has statutory obligations with regard to producing a settlement that is equitable to the license holder, Network Rail. This allows Network Rail a high degree of certainty with regard to funding for its operations and investment activities.

The regulatory process towards setting charges and outputs allows stakeholders to define their required outputs from the network, and governments in Westminster and Holyrood to set out the funding they have available. These are built into Network Rail's strategic business plan. Once the ORR has determined outputs and charges, Network Rail produces a Delivery Plan. This plan is refreshed by bottom up forecasts on a quarterly basis in order to manage outputs within the resources available. Network Rail has secured a £30.875bn loan facility with the Department for Transport (DfT), which it intends to draw upon to specifically support its investment activities in the period to March 2019. This facility remains within its parameters. Network Rail is also investigating various methods of attracting third party capital to finance enhancements to the railway network including potential disposal of non-core assets.

Business plans and financial models are used to project cash flows and monitor financial risks and liquidity positions, forecast future funding requirements and other key financial ratios, including those relevant to our network licence.

Analysis is undertaken to understand the resilience of the group and its business model to the potential impact of the group's principal risks, or a combination of those risks. This analysis takes account of the availability and effectiveness of the mitigating actions that could realistically be taken to avoid or reduce the impact or occurrence of the underlying risks. In considering the likely effectiveness of such actions, the conclusions of the board's regular monitoring and review of risk management and internal control systems, as described on pages 39-44, is taken into account.

In addition, as Network Rail is a central government body and a member of the DfT Group for consolidation purposes its creditors can rely on Her Majesty's Government security, and the statutory obligations on the Secretary of State for Transport, with regard to settling liabilities.

We have set out the details of the principal risks facing Network Rail on pages 40 to 44 described in terms of our ability to meet our strategic objectives. We identify our risks through a robust assessment that includes a continuous cycle of bottom up reporting and review.

In making this statement the directors have considered these principal risks and Network Rail's ability to withstand severe but plausible scenarios based on them. This included consideration of the political environment, industrial relations and the safety of the rail network. The process considered those combinations of risks which were most likely to lead to severe but plausible scenarios. The scenarios were considered in terms of the impact on the financial resources of Network Rail and the impact on delivery of future improvement work.

The assessment took into account Network Rail's current financial position and any headroom in its current forecasts, it also considered other sources of funding or actions such as deferral of improvement work.

A number of mitigating actions were identified including insurance arrangements, re-planning exercises and management of industrial relations.

The time period of 3 years was selected even though it runs into the next Control Period, as the impact of some scenarios may be felt beyond the current Control Period.

The approach was to assess three severe but plausible scenarios covering seven of the principal risks:

Scenario 1	**Non-delivery of planned efficiencies, scheduled cost slippage does not occur and failure to achieve the expected income from the asset sales within the anticipated timelines leads to a deferral of projects, a shortfall of cash to deliver the CP5 business plan and a request for more money with corresponding reputational damage.** Risks: Programme and Schedule Cost Slippage and NR Asset Divestment
Scenario 2	**A large amount of organisational change either nationally or in a given organisational area, further restrictions on senior pay and reward options from HMG, and/or specific disputes arising from pay negotiations or other business consultations adversely impacts employee relationships and engagement. A national rail strike leads to significant UK economic consequences, loss of talent and disengaged staff results in reduced operational performance and difficulty in maintaining and improving safety, business continuity issues are also created.** Risks: Destabilising Effect of Change, Industrial Relations Management, Talent Management and Business Continuity Management Risk
Scenario 3	**Train accident occurs as a result of an attributable error to Network Rail which leads to injuries and fatalities to members of the public, reputational damage and ORR intervention.** Risks: Train Accident, Business Continuity Management and Destabilising Effect of Change Risk

On the basis of this robust assessment of the principal risks facing the group and on the assumption that they are managed or mitigated in the ways disclosed, the board's review of the business plan and other matters considered and reviewed during the year, and the results of the sensitivity analysis undertaken and described above, the board has a reasonable expectation that Network Rail will be able to continue in operation and meet its liabilities as they fall due over the period to March 2020.

Directors' approval statement

The strategic report has been signed on behalf of the board of the company.

Sir Peter Hendy, CBE
Chair
14 July 2017

CORPORATE GOVERNANCE REPORT

OUR BOARD OF DIRECTORS

Sir Peter Hendy, CBE
Chair (64)

Appointed to the board: 2015

Skills and experience

Sir Peter was previously Commissioner of Transport for London (TfL) from 2006 to 2015, having served since 2001 as TfL's managing director of Surface Transport. He led, and played a key role in preparing for, the successful operation of London's transport for the 2012 Olympic and Paralympic Games. He was formerly deputy director UK Bus for FirstGroup plc and previously managing director of CentreWest London Buses. Sir Peter was president of the International Association of Public Transport (UITP) from 2013 to 2015.
He started his career in 1975 as a London Transport graduate trainee. Sir Peter's experience in successfully leading urban transport in a world city is critical to understanding Network Rail and managing its complex relationships with stakeholders.

Sir Peter is a vice president of the Chartered Institute of Logistics and Transport, a fellow of the Chartered Institute of Highways and Transport and a fellow of the Institution of Civil Engineers. He was knighted in the 2013 New Year's Honours List, having been made CBE in 2006 for services to public transport and the community in London.

Current external appointments

Chair of London Freight Enforcement Partnership; Trustee of London's Transport Museum; Vice President of the London Bus Museum

Committee membership

Safety, health and environment committee; nomination committee; remuneration committee.

Mark Carne
Chief executive (58)

Appointed to the board: 2014

Skills and experience

Mark was appointed in 2014 and has been instrumental in driving change in the organisation turning it into a devolved group of cost-competitive and customer-focused businesses. Network Rail is now delivering almost a quarter of all infrastructure investment in the UK. This is the biggest investment programme in generations – £110m every single week – and it does this in a few hours at night so that the railway can keep serving 4.5m passengers, safely, every day. Mark has been a driving force behind the Digital Railway revolution which will see more trains running faster, more reliably and at lower cost on our existing infrastructure. Mark previously worked for Royal Dutch Shell plc, BG Group plc and Shell.

Mark is a fellow of the Institution of Mechanical Engineers.

Current external appointments

Independent governor of Falmouth University.

Jeremy Westlake
Chief financial officer (51)

Appointed to the board: 2016

Skills and experience

Jeremy was formerly senior vice president for finance at Alstom Transport in France, responsible for, investor management, financial performance and control and project finance. Previously he spent 14 years at Rolls-Royce in a range of senior finance and supply chain roles in the UK and the United States.

Jeremy is a fellow of the Institute of Chartered Accountants in England and Wales and has a master's in manufacturing from Cambridge University.

BOARD OF DIRECTORS CONTINUED

Rob Brighouse
Non-executive director (59)

Appointed to the board: 2016

Skills and experience

Rob has 40-years' experience in the rail industry and was formerly managing director of Chiltern Railways where he was responsible for the operation and safety of the passenger rail service between London and the West Midlands. Rob first joined the rail operator in 2000 as projects director, where he led the Evergreen 1 and 2 infrastructure projects and also the building of Chiltern's Wembley depot. Rob brings rail industry experience to the board and understands the complexities facing the train operating companies.

Rob is a fellow of the Institution of Civil Engineers and the Institute of Directors and is a chartered director. Rob holds an MBA from Aston Business School.

Current external appointments

Chairman of the Shadow East West Rail Company; chairman of the Advisory board at Aston Business School; honorary trustee of LIFE Trust; trustee of the Railway Children charity.

Committee membership

Safety, health and environment committee; audit & risk committee; treasury committee.

Richard Brown, CBE
Special director and non-executive director (64)

Appointed to the board: 2015

Skills and experience

Richard was chief executive of Eurostar UK from 2002 to 2011, and the chair until June 2013. He was previously commercial director and main board member of National Express Group plc, where he set up its trains division, at the time the largest UK passenger franchise operator. Richard has 40 years' experience in the rail industry and was a director of Intercity before privatisation. Richard brings wide experience of planning and operating railways.

Richard has honorary doctorates from the Universities of Derby and Westminster. He was appointed CBE in 2007 for services to transport.

Current external appointments

Non-executive director at the Department for Transport; chair of Catalyst Housing Limited; deputy chair of HS2 Ltd; vice president of the Chartered Institute of Logistics and Transport.

Committee membership

Nomination committee; remuneration committee.

Sharon Flood
Non-executive director (52)

Appointed to the board: 2014

Skills and experience

Sharon has experience in a number of senior finance and strategy roles, most recently as a group chief financial officer of Sun European Partners LLP, an international private equity investment advisory firm. From 2005 to 2010 she was finance director of John Lewis department stores. Sharon therefore strengthens the finance experience and customer focus on the board.

Sharon holds an MBA from INSEAD and is a fellow of the Chartered Institute of Management Accountants.

Current external appointments

Non-executive director of Crest Nicholson Holdings plc; trustee of the Science Museum Group; présidente du conseil de surveillance of S.T. Dupont; board member of British Gymnastics.

Committee membership

Chair of audit & risk committee; chair of treasury committee; remuneration committee.

BOARD OF DIRECTORS CONTINUED

Chris Gibb
Non-executive director (53)

Appointed to the board: 2013

Skills and experience
Chris has worked in the rail industry for 36 years. After a career of operational roles in England, Scotland and Wales he became managing director, Wales & Borders Trains. He joined Virgin Trains as managing director, CrossCountry, before becoming chief operating officer in 2007, responsible for Virgin's West Coast safety, operations, stations and customer service. He retired from this role in November 2013. Chris brings broad industry-specific experience to the board.

Current external appointments
Chairman of Thameslink 2018 Industry Readiness Board; member of HS2 Independent Assurance Panel; member of Transport Strategic Advisory board, Welsh Government; visiting lecturer at Birmingham University.

Committee membership
Chair of Safety, Health and Environment committee; chair of Network Rail Property Board.

Silla Maizey
Non-executive director (59)

Appointed to the board: 2016

Skills and experience
Silla has extensive experience in the aviation sector, built up over 34 years' working. Silla was most recently British Airways' (BA) Managing Director of Gatwick. She was part of BA's executive leadership team. Previously, Silla was BA's Customer Director.

Silla brings a range of experience and insights to the board, from operations to procurement, the shaping of the customer proposition and business reorganisations.

Silla is a fellow of the Chartered Association of Certified Accountants and a fellow of the Chartered Institute of Purchasing and Supply.

Current external appointments
Non-executive director of John Menzies plc; NHS Business Services Authority; Crown Commercial Services and Saffron Solutions Limited.

Committee membership
Audit & risk committee; treasury committee.

Michael O'Higgins
Non-executive director (62)

Appointed to the board: 2012

Skills and experience
Michael has significant public sector and commercial experience. Michael has been chair of the Pensions Regulator, the NHS Confederation and the Audit Commission, managing partner at PA Consulting Group and a partner at PriceWaterhouse. He was also chair of Centrepoint, the youth homelessness charity. Michael was previously a non-executive director and chair of audit at HM Treasury. He has held visiting academic appointments at the London School of Economics, the Australian National University and Harvard University. The board recognises that Network Rail's people are its major asset, and Michael brings his experience in this area and also of government relations to the board.

Current external appointments
Chair of Local Pensions Partnerships, of Channel Islands Competition and Regulatory Authorities, and of Calculus VCT plc; member of advisory board of Liaison Financial Services Limited and of JustAccounts Limited.

Committee membership
Nomination committee; chair of remuneration committee.

BOARD OF DIRECTORS CONTINUED

Bridget Rosewell, OBE
Non-executive director and senior independent director (65)

Appointed to the board: 2011

Skills and experience
Bridget is an economist by background and senior adviser of Volterra producing economic analysis across a range of sectors, especially for major infrastructure projects. Past roles have included being chief economist and chief economic adviser to the Greater London Authority and executive chair of Business Strategies Ltd, which was subsequently sold to Experian. She has chaired Audit and Risk Committees for the DWP, Britannia Building Society and Ulster Bank. She is Chair of Audit for Atom Bank and a commissioner for the National Infrastructure Commission. Bridget brings financial and economic expertise to the board.

Bridget was awarded an OBE in 2013 for her services to the economy and is a Fellow of the Institution of Civil Engineers.

Current external appointments
Senior adviser of Volterra; non-executive director of Atom Bank; member of the With Profits Committee for the Royal London Group; Chair of the Driver and Vehicle Standards Agency.

Committee membership
Chair of nomination committee; audit & risk committee; treasury committee.

Stuart Kelly
Group general counsel and company secretary

Skills and experience
Stuart is responsible for the Legal and Corporate Services function. Stuart has extensive in-house legal and corporate governance experience gained within the listed environment having joined the company from Severn Trent plc where he held the position of deputy general counsel.

Prior to that, Stuart started his in-house career as a commercial legal advisor at Network Rail. In his early career he was a solicitor in private practice.

- Malcolm Brinded stepped down as a director and chair of the safety, health and environment committee on 20 July 2016.
- Janis Kong stepped down as a director and senior independent director (SID) on 28 September 2016.
- John Mogford stepped down as a director on 31 January 2017.

CORPORATE GOVERNANCE

CORPORATE GOVERNANCE REPORT

Effective corporate governance is an essential component of successful management of the company and of the devolved route businesses.

I, and my colleagues on the Network Rail board, continue to believe that good corporate governance is essential to the ongoing success of the business and its performance. During 2016-17 we have further enhanced our governance processes as set out below.

Business Plan Committee

During the year NR established a Committee comprising non-executive and executive directors and senior executives to oversee the development of the strategic business plan for CP6. This Committee provides additional rigour and governance to the business planning process, by challenging and debating the assumptions made.

Network Rail Property Supervisory Board

Network Rail's asset disposal programme was targeted with generating circa £1.8bn by 2019 by selling non-core Network Rail assets. Where feasible due to accounting regulations, the proceeds would be used to fund the Railway Upgrade Plan.

The Network Rail Property Supervisory Board was established in April 2016 primarily to provide greater oversight and governance of the property asset disposal programme, and the release of land to help deliver the Government's housing targets. That board has the delegated authority to approve transactions up to £150m value, beyond which it makes recommendations to the main Network Rail board.

The Property Supervisory Board comprises executive and non-executive directors, two of whom, Neil Sachdev and Steve Smith, are property experts, who have significant experience in the commercial and residential property market and in leading complex property disposal and acquisition transactions.

The role of the Supervisory Board is set out in its terms of reference, but its responsibilities include:

- monitoring progress on delivering the disposal proceeds target;
- agreeing the long-term strategic priorities for the property function and ensuring they are aligned with Network Rail strategic objectives and external stakeholder needs; and
- reviewing and assessing the property function's key risks and the mitigation of those risks.

Route devolution

During 2016/17 Network Rail continued with the devolution of the business to the eight geographical routes and the FNPO route. A key part of that devolution was the introduction for the 2016-17 financial year of route-based performance scorecards, developed in conjunction with train operating companies. This has strengthened our ability to focus on the needs of our customers.

To further embed this focus on the customer, Network Rail has joined forces with Great Western Railway (GWR) and Heathrow Express, and Transport Focus, to create the Western Route Supervisory Board.

This board is independently chaired by experienced former government rail advisor Dick Fearn.

The Western Route Supervisory Board will oversee the joint performance of Network Rail and its customers; holding them jointly to account for delivery against the route based performance scorecard which is designed to bring 'track and train' closer together, in order to create an ever-more joined up service for the passenger.

This supervisory board model is being piloted in the Western Route with the expectation that it will be replicated across other routes during the coming year.

Secretary of State for Transport

In July 2016, the Rt Hon Chris Grayling MP was appointed as Secretary of State for Transport. In December 2016 he outlined his vision for the industry and his plans to encourage more joined up working, to bring track and train closer together.

The Network Rail board

During 2016/17 the board focused much of its time on:

- The Control Period 5 (CP5) programme of enhancement works and its funding.
- The enhancements improvement plan.
- Disposal of non-core assets.
- Further devolution to the routes and closer working arrangements with train and freight operating companies.
- Safety performance.
- Developing the industry advice for control period 6 (2019-2024).

During 2017/18 it is anticipated that the board's focus will be on:

- Safety.
- Operational and financial performance, with a particular emphasis on cost control and efficiencies
- The introduction of third party funding into the business with regard to enhancements.
- Ongoing oversight of the disposal of non-core property assets.
- Development of detailed business plans for control period 6 (2019-2014).
- Further implementation of devolution, better project governance and other outcomes of the Bowe, Hendy and Shaw reports.

Sir Peter Hendy, CBE
Chair
14 July 2017

CORPORATE GOVERNANCE REPORT CONTINUED

Compliance with corporate governance requirements

The board has decided to apply the principles of the UK Corporate Governance Code 2016 (Code) proactively. It considers the company has complied with the Code throughout the year, other than the provisions it cannot comply with due to its status as an arms-length government body. These include:

- B.2.4 and B.3.1 as to the appointment of the chair. The chair's appointment is a decision made by the Secretary of State in accordance with the Commissioner for Public Appointments' principles. All other elements of this provision are complied with.
- C.3.2, C.3.7, C.3.8 as to the appointment, re-appointment and removal of the independent auditor. Under the terms of the Framework Agreement (FA), between the company and DfT, the National Audit Office (NAO) and Comptroller and Auditor General acts as the independent auditor of the company. All other elements of these provisions are complied with (where applicable).
- D.2.2 under the terms of the FA between the company and DfT, the remuneration of the chair is agreed by the Secretary of State.

In addition, the board is mindful of compliance with the Corporate Governance in Central Government Departments: Code of Good Practice (Government Code).

Leadership and effectiveness

As an arm's length government body, Network Rail retains the commercial and operational freedom to manage Britain's railway infrastructure within effective regulatory and control frameworks. The board is accountable to the Secretary of State for Transport.

The FA between the company and the DfT outlines this relationship in terms of financial management and corporate governance. Whilst the FA is applicable to the whole of the network, additional arrangements are in place with the Scottish Government on delivery of specified outputs on the Scottish railway network. The FA is available on Network Rail's website: networkrail.co.uk

Corporate culture

We believe in creating a caring culture (see page 6 for more details) that recognises that safety and performance go hand in hand, coupled with the relentless ambition to be better every day.

Our board is instrumental in shaping this culture, leading by example and embedding it across Network Rail.

The board's strategy

Network Rail works with the DfT and the Office of Rail and Road (ORR) to agree what Network Rail must deliver during each five year control period, and the amount of money available for it to deliver its commitments.

The board is responsible for establishing the strategy to deliver the outcomes required in each control period and for appropriate human and financial resources being in place.

In setting the strategy, and monitoring progress against delivery, the board is also responsible for approving the group's risk management strategy (including the internal control policy and other major corporate policies, such as health and safety).

The Seven Nolan Principles of Public Life

1 Selflessness
Holders of public office should act solely in terms of the public interest.

2 Integrity
Holders of public office must avoid placing themselves under any obligation to people or organisations that might try inappropriately to influence them in their work. They should not act or take decisions in order to gain financial or other material benefits for themselves, their family, or their friends. They must declare and resolve any interests and relationships.

3 Objectivity
Holders of public office must act and take decisions impartially, fairly and on merit, using the best evidence and without discrimination or bias.

4 Accountability
Holders of public office are accountable to the public for their decisions and actions and must submit themselves to the scrutiny necessary to ensure this.

5 Openness
Holders of public office should act and take decisions in an open and transparent manner. Information should not be withheld from the public unless there are clear and lawful reasons for so doing.

6 Honesty
Holders of public office should be truthful.

7 Leadership
Holders of public office should exhibit these principles in their own behaviour. They should actively promote and robustly support the principles and be willing to challenge poor behaviour wherever it occurs.

The board's remit

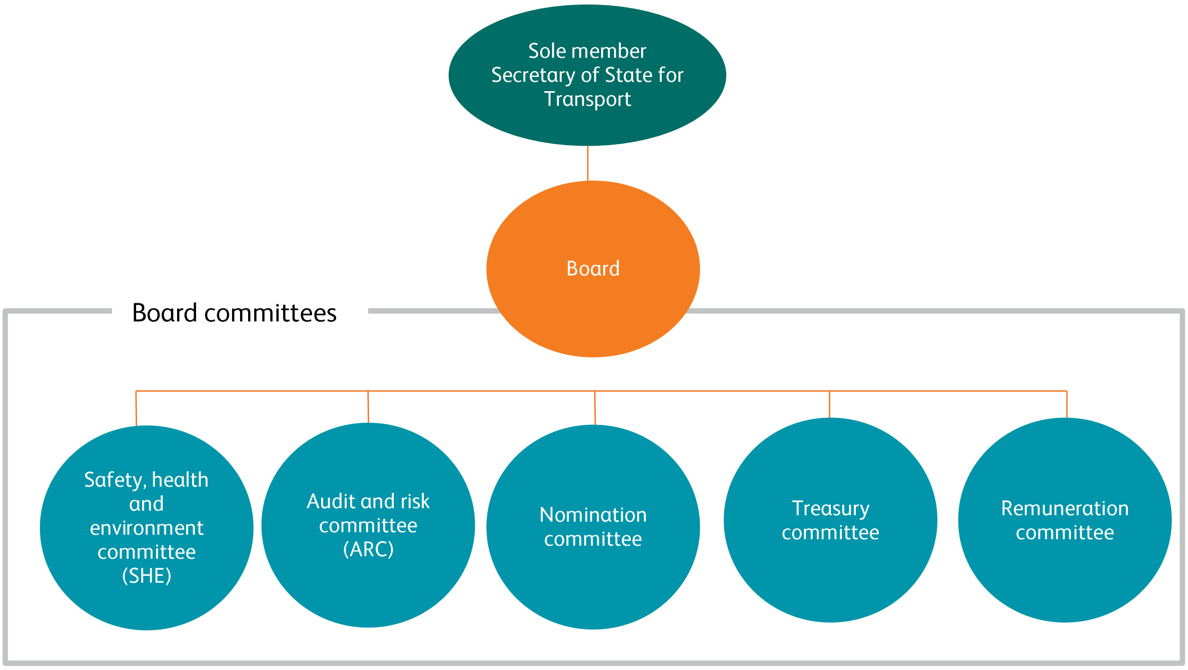
The board is mindful of the Code of Conduct for Board Members of Public Bodies, the 7 Nolan Principles of Public Life, the Civil Service Code and the importance of delivering value for money in its decision-making process.

The remit of the board is set out in the Matters Reserved for the Board document. This document is regularly reviewed by the board. Matters only the board may decide upon include:

- The group's overall strategy and key performance indicators;
- The financial statements of the group and company;
- Material changes to the network licence;
- Key pension matters;
- Adequacy of internal control systems;
- Major capital investments and expenditure;
- Risk management strategy; and
- The appointment and removal of executive directors and the company secretary.

CORPORATE GOVERNANCE REPORT CONTINUED

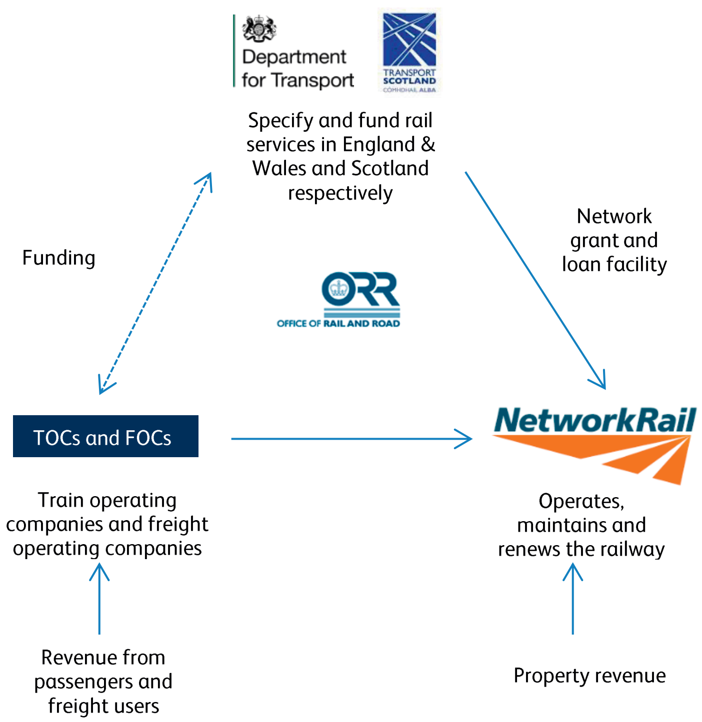
Network Rail board and committee structure



The Matters Reserved for the Board document can be found on Network Rail's website: networkrail.co.uk
There are also a number of powers that the board has delegated to its committees, and those delegated powers are set out in committee terms of reference and also the delegation of authorities policy. Committee terms of reference are available on the Network Rail website.

→ As part of Network Rail's transparency commitment, minutes of the company's board meetings are provided to the Secretary of State, and are available on Network Rail's website: networkrail.co.uk

Network Rail's relationship with the DfT and ORR



Board composition

During the year the following board changes occurred:

Appointments: Silla Maizey and John Mogford were both appointed as non-executive directors (NEDs) on 22 November 2016.

Resignations: Malcolm Brinded stepped down as a director and chair of the safety, health and environment committee on 20 July 2016. Janis Kong stepped down as a director and senior independent director (SID) on 28 September 2016. John Mogford stepped down as a director on 31 January 2017.

Information on the recruitment and induction processes for the directors appointed during the year can be found in the nomination committee report on page 66.

At the date of this report, the board consisted of one non-executive chair, two executive directors and seven non-executive directors.

→ Photographs and biographies of the board can be found on pages 47-50.

CORPORATE GOVERNANCE REPORT CONTINUED

Attendance at meetings

The board typically meets nine times each year, and did so during 2016/17. Two strategy meetings were also held.

Directors' attendance at board meetings is referenced in the table below. NEDs are also required to attend various committee meetings, and their attendance is indicated in the board committee reports starting on page 59.

Board meeting attendance for the year ending 31 March 2017

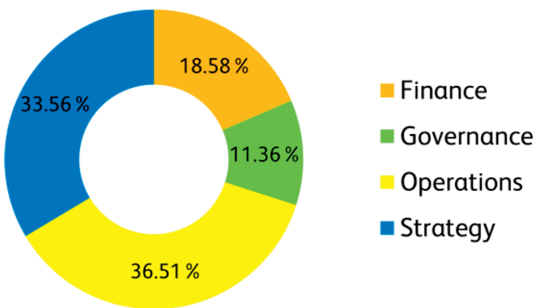
	TOTAL
Rob Brighouse	9/9
Malcolm Brinded[1]	2/3
Richard Brown	8/9
Mark Carne	9/9
Sharon Flood	9/9
Chris Gibb	9/9
Sir Peter Hendy	9/9
Janis Kong[2]	4/4
Silla Maizey[3]	3/4
John Mogford[4]	1/2
Michael O'Higgins	9/9
Bridget Rosewell	8/9
Jeremy Westlake	9/9

[1] Malcolm Brinded stepped down from the board on 20 July 2016
[2] Janis Kong stepped down from the board on 28 September 2016
[3] Silla Maizey was appointed to the board on 22 November 2016
[4] John Mogford was appointed to the board on 22 November 2016, and stepped down from the board on 31 January 2017

Board time allocation

The chart below shows how the board allocated its time during meetings:

Board allocation of time for the year-ending 31 March 2017



Election and re-election of directors

All directors are subject to (re-)election at the 2017 AGM. All directors act in good faith, for the long-term benefit of Network Rail and continue to perform effectively.

Directors' conflicts of interest

Directors have a continuing obligation to update the board immediately on any changes to their potential or actual conflicts of interest.

Relevant disclosure is considered at the beginning of each board meeting and directors are also required to complete an annual disclosure of interests using a questionnaire. Where a director has such a conflict of interest, procedures are in place to prevent the director from being involved in any decision-making process in relation to that interest. At the date of this report, there were no conflicts of interest.

It is appropriate to disclose that:

- Rob Brighouse has been appointed chair of the East West Rail project;
- Richard Brown is deputy chair and a non-executive director of HS2 Limited and is a non-executive director of the DfT; and
- Chris Gibb has been appointed chair of the Thameslink 2018 Industry Readiness Board.
- Bridget Rosewell is a commissioner at the National Infrastructure Commission.

Directors and officers (D&O) liability insurance

Network Rail maintains D&O liability insurance. Network Rail did not have to indemnify any directors during 2016/17.

Role of the chair

Sir Peter Hendy leads the board and is responsible for its effective functioning and promoting the highest standards of corporate governance. As chair, Sir Peter encourages all directors to actively contribute to board meetings and sets the conditions for constructive relations between the executive directors and NEDs. He represents Network Rail at its highest level and works with Mark Carne, the chief executive, to develop strategic relationships with the customers of Network Rail, DfT, HM Treasury, the Cabinet Office, Governments and other stakeholders.

The chair's commitment

The chair's contractual commitment to Network Rail is four days per week. Sir Peter Hendy has confirmed that his other activities can be achieved without detriment to his duties to Network Rail.

Role of the chief executive

Mark Carne's role as chief executive is to lead and manage. He keeps the board informed as to Network Rail's performance and brings to its attention all matters that materially affect, or are capable of materially affecting, the achievement of Network Rail's strategy.

The chief executive provides clear and visible leadership in business conduct and promotes the requirement that all executive committee members and employees are exemplars of the company's values.

Mark Carne is accountable to the board for all elements of Network Rail's business, and specifically for safety performance. Additionally, he is the accounting officer.

CORPORATE GOVERNANCE REPORT CONTINUED

Managing Public Money – accounting officer
Mark Carne, as chief executive, is Network Rail's accounting officer. In this role, he is personally accountable to parliament for safeguarding the public funds available to Network Rail, for ensuring propriety, regularity, value for money and feasibility in the handling of those public funds, and for the day-to-day operations and management of Network Rail. In addition, he is required to ensure that Network Rail is run following the principles, rules, guidance and advice set out in Managing Public Money (the government's guidance on how to handle public funds).

Additional responsibilities of the accounting officer, as set out in Managing Public Money, include:

- Signing the accounts, the annual report and the governance statement.
- Ensuring regularity and propriety, affordability and sustainability, value for money, control, management of opportunity and risk, learning from experience and accounting accurately for the organisation's financial position.

The board supports Mark Carne in his position as accounting officer, for the discharge of his obligation in Managing Public Money, for the proper conduct of business and maintenance of ethical standards.

Internal audit guidance
The accounting officer is supported by Network Rail's internal audit function. The director of risk and assurance provided his audit opinion to both Mark Carne, in his position as accounting officer, and the audit and risk committee. The opinion detailed the overall adequacy and effectiveness of Network Rail's framework of governance, risk management and control.

Role of the chief financial officer (CFO)
Jeremy Westlake, the CFO, is responsible for leading Network Rail's finance function which includes treasury, internal audit and risk, planning and regulation, and long-term planning and funding.

The executive committee
An executive committee, comprising the chief executive, the CFO and ten other senior executives, is responsible for the day-to-day management of the company. The committee meets on a regular basis to consider strategic and operational matters. The committee's responsibilities include:

- Executing the objectives and strategy approved by the board;
- Approval of contracts up to a financial value of £750m;
- Providing leadership on safety, health and environment matters;
- Reviewing the organisational structure of Network Rail;
- Establishing and monitoring the control and co-ordination of internal controls and risk management throughout the business.

The biographies of the executive committee can be found on Network Rail's website: networkrail.co.uk

Role of the senior independent director (SID)
Bridget Rosewell took over the role of SID from Janis Kong on 28 September 2016. Bridget is available to the Secretary of State if he has concerns where contact through the chair has failed to resolve an issue or for which such contact is inappropriate.

The SID acts as a sounding board for the chair and serves as an intermediary for the other directors when necessary. The SID is responsible for the chair's performance review.

The special director
The Secretary of State has the power to appoint a special director to the board, and has appointed Richard Brown to fill this position. The special director is responsible for communicating the views of the Secretary of State and the DfT's wider strategic statutory and fiduciary interests to the board, whilst acting in accordance with his duties as a non-executive director.

Role of the non-executive directors (NEDs)
The NEDs combine broad business and commercial experience from both rail and other industry sectors. They bring independence, external skills and challenge to the board. This is critical for providing assurance that the executive directors are exercising good judgement in the delivery of strategy and decision-making.

Information on the skills and experience of the NEDs can be found in the board biographies on pages 47-50.

→ Links to the statements of responsibility for the chair, chief executive, SID and the NEDs can be found on the Network Rail website.

Non-executive meetings
The chair holds regular scheduled meetings with the NEDs to discuss the performance of Network Rail under the executive leadership.

Non-executive independence
The board considers that each of the NEDs is independent of the company. With regard to the guidelines on the meaning of 'independence' as set out in the Code, it is appropriate to disclose that Rob Brighouse, Richard Brown and Chris Gibb are beneficiaries of the Railway Pension Scheme (RPS). Over 100 companies from the rail industry participate in RPS. The scheme is run by independent trust managers, with trustees drawn from across the membership of the scheme.

Given this structure, the board considers that Rob Brighouse, Richard Brown and Chris Gibb are independent, as Network Rail is only one of many contributing companies to RPS.

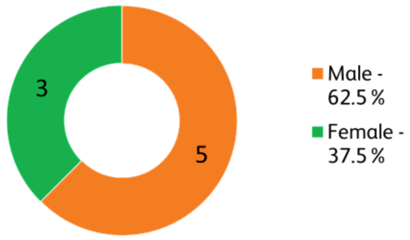
Sir Peter Hendy receives health care benefits from Network Rail. Further information can be found in the remuneration report on page 76.

Board diversity
With regard to gender diversity, the board of Network Rail is working towards the voluntary target of 33 percent of female board representation by 2020. It also noted the broadening of voluntary gender diversity targets to executive committees and the layer immediately below.

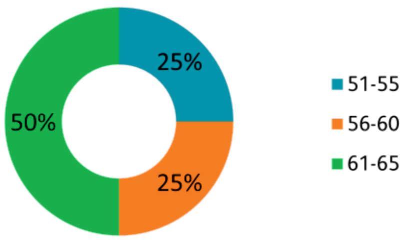
The board is keen to broaden diversity in terms of ethnicity and disability and is working to develop specific targets in this regard. Diversity is considered important at all levels of the organisation; page 35 provides further detail.

The below charts show the composition of the NEDs by gender, age, and length of service

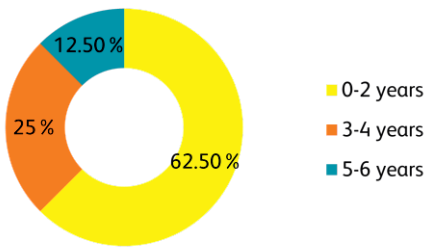
NED diversity by gender as at 31 March 2017



NED diversity by age as at 31 March 2017



NED length of service as at 31 March 2017



Board recruitment and induction

The board has delegated authority to the nomination committee to lead the process for board appointments (other than for the chair and special director) requiring that committee to make recommendations to the board. This committee's report can be found on pages 66 to 67 which provides detail on the appointment process for Silla Maizey and details of her induction.

Board training and development

The board as a whole participates in a range of training and development sessions each year. Since October 2015, at each board meeting a route managing director has briefed the board on their route. Representatives from Digital Railway and Infrastructure Projects have also presented to the board on their strategy and key projects. In addition, directors regularly receive relevant corporate governance and legal updates as appropriate.

Succession planning

The board received progress reports from senior management on the succession planning process with particular focus on senior key roles in the business. The board recognises that effective talent management programmes and the enhancement of diversity and inclusion across all levels of the organisation are essential for the delivery of the company's long-term strategy and objectives.

To support the board's succession planning work, members of the executive committee and the Route managing directors attended board meetings more frequently to update the board on their areas of the business. This not only assisted the board's understanding of the business, but provided development opportunities for those presenting to the board.

Provision of advice to directors

The directors have access to the advice and services of the group general counsel and company secretary, who is responsible for compliance with board procedures and provision of adequate information to the directors in a timely manner. Directors have the right to seek independent professional advice at Network Rail's reasonable expense.

Independent board effectiveness evaluation 2016

During 2016, external consultancy Independent Audit (which incorporated IDDAS) undertook an independent light touch review of the board, to complement and build upon the full board evaluation undertaken by IDDAS in 2014.

The process involved one-to-one interviews with the board members and company secretary. Independent Audit also attended one board meeting as an observer and another meeting at which the outcome from the review was discussed.

Overall, board effectiveness was found to have improved since the 2015 review. Directors remained committed to their roles and to the improvement of overall performance of Network Rail. The boundary between the executive and non-executive roles had been more clearly defined. Furthermore, accountabilities between the executive directors and management had been enhanced.

The board have agreed that a review of board effectiveness will be undertaken during 2017.

Directors' personal performance reviews

Both executive directors and NEDs, including the chair, have an annual performance review. The process for executive directors is the same as that for other employees.

Performance objectives are set following discussion with their line manager. There are regular review meetings throughout the year. A formal performance review at the end of the year results in a performance rating.

Regarding NEDs, the chair meets with each NED throughout the year to discuss their performance, as well as having a more formal performance review meeting annually. While no specific objectives are set for NEDs, their performance is measured against the statement of responsibilities of NEDs, available at: networkrail.co.uk

The chair's performance is assessed by the SID in consultation with the other directors.

CORPORATE GOVERNANCE REPORT CONTINUED

Independent Audit's key findings 2016/17	Recommended actions
1. The chief executive, chair and government need to be clear on the role of the board.	• Meeting structures between board members and the government are largely in place and work well. • This topic would be kept under review, but no other specific action is needed currently.
2. The board should revisit how it allocates its time both inside and outside the boardroom to enable a shift to a more strategic and challenging position.	• The focus on long term strategy is always driven by the next control period; we are currently working on the CP6 (2019-2024) strategic business plan. • The longer term strategic review will flow from CP6 discussions, as a matter of course, where it touches on CP7 matters. • The SID would reflect on the quality of discussions at board meetings, help to eliminate any groupthink and improve the quality of board challenge.
3. Talent management and succession could be more strategic and requires greater attention at the top level.	• This is scheduled for discussion by the board in November 2017. • By rotation, executive committee members and route managing directors meet with the board to discuss their areas of the business, and to provide development opportunities for senior executives.
4. The board should grasp the transition to a high performance culture.	• Corporate culture as a topic is to be covered as part of routine reporting under the topic "Must Wins" during board meetings. • Consideration will be given to having a 'culture' discussion at one of its Strategy Day sessions.

Accountability

Fair, balanced and understandable

The board is accountable for ensuring that the annual report and accounts is 'fair, balanced and understandable'. Having reviewed the content as a whole of the annual report, the board believes this to be the case and allows assessment of Network Rail's performance and prospects. See page 87 for further information.

Going concern

The board considers that it is appropriate for the 2016/17 group accounts to be prepared on the going concern basis. See page 87 for further information.

Viability statement

The viability statement can be found on page 44.

Determination and delivery of group strategy

The board is responsible for determining and delivering the business strategy of Network Rail and its subsidiaries.

→ Further information on this can be found in the strategic report on pages 1-45.

Key risks – how they are identified, assessed and monitored

The board is responsible for approving Network Rail's risk management strategy including an appropriate internal control policy and other major corporate policies such as health and safety, sustainability and business ethics.

On behalf of the board, the audit and risk committee reviews Network Rail's risk profile, risk assessment processes, risk exposure and future risk strategy against the group's risk appetite, proposals for testing risk mitigation and control and management's responsiveness to audit findings.

The audit and risk committee reports to the board on its activities after each meeting, and recommends proposed strategies and policies to the board for approval. More information on Network Rail's approach to risk management can be found on pages 39-44.

Other accountabilities

The board of Network Rail is accountable to a number of external bodies. Further information on our governance structure can be found on page 53.

Remuneration

The board's obligation is to ensure that Network Rail's remuneration policy is designed to attract and retain leaders of the necessary calibre, while fairly reflecting market rates for the skills and experience of the individual and recognising the need to ensure value for money for the funders of the railway.

The board has delegated powers to meet this obligation to the remuneration committee. That committee's report can be found on pages 70-85.

Stakeholder engagement

The nature of Network Rail's business requires it to engage with multiple stakeholders in a variety of different ways.

CORPORATE GOVERNANCE REPORT CONTINUED

Membership

Network Rail's sole member is the Secretary of State for Transport. The Secretary of State is accountable to Parliament for the activities and performance of Network Rail. The Secretary of State is responsible for holding the board to account for its management and leadership of Network Rail by:

- Monitoring the performance of the board against high standards of governance, regulatory, operational and financial targets alongside public and taxpayer interest;
- Engaging with the board, in an informed and objective manner, on its performance;
- Seeking assurance that governance procedures are designed to facilitate the delivery of strategic objectives; and
- Entering into dialogue on matters that are the subject of votes at general meetings.

As the Special Member, the Secretary of State has specific rights in relation to the company's articles of association (Constitution). The table below summarizes these rights..

The DfT also provides credit support in relation to the debt funding of the Network Rail group and has certain rights in that capacity.

Engagement with the Secretary of State

The relationship and engagement with the Secretary of State, in his capacity as Special Member, is managed by the group general counsel and company secretary and overseen by the chair.

A representative from UK Government Investments attends board meetings, enabling the directors to develop a balanced understanding of Government objectives.

The Annual General Meeting (AGM)

The formal business of the AGM is set out in a number of separate resolutions to be considered at the meeting. The Secretary of State is provided with a copy of the notice of meeting, alongside the annual report and accounts (as is the National Audit Office). The Secretary of State has the option to vote either for or against a resolution, or to withhold his vote (although a withheld vote is not considered to be a vote in law). Final voting figures are announced to the London Stock Exchange.

Sir Peter Hendy, CBE
Chair
14 July 2017

Mark Carne
Chief executive,
in his role as accounting officer
14 July 2017

CORPORATE GOVERNANCE

Special member rights

Rights	Detail of these rights being exercised in 2016/17
To appoint and remove the chair of Network Rail.	N/A
To approve the board's suggested candidate for chief executive of Network Rail.	N/A
To appoint a special director of Network Rail.	During the year the Special Member decided to appoint Richard Brown as special director for a further year.
To be consulted on non-executive director appointments.	Network Rail consulted with the DfT in relation to the appointments of Silla Maizey and John Mogford.
To hold regular meetings with the chair, to discuss corporate strategy and raise concerns.	The chair regularly meets with the Secretary of State and Permanent Secretary of the DfT.
To approve the three-yearly Remuneration Policy for executive directors of the company.	To be approved at the AGM in 2017.
To set the pay for the chair and non-executive directors.	The remuneration of the chair of Network Rail was agreed by the DfT. Page 76 provides further detail.

SAFETY, HEALTH AND ENVIRONMENT COMMITTEE REPORT

Having been appointed chair of the safety, health and environment committee in July 2016, I am pleased to present the committee's report on its activities over the past year, alongside its anticipated activities for 2017/18.

Overall there has been continuing improvement in safety performance over the past year, although the rate of improvement has meant that some of the corporate targets have not been fully met. In terms of train accident risk, ten years have now elapsed since the last passenger or workforce fatality as a result of a train derailment or collision, sustaining the UK's position as one of the safest railway networks in Europe. The level of risk monitored through the industry precursor indicator model is also at its second lowest level. Significant progress has been made in implementing the volume-based risk reduction work streams although several of the milestone targets were not achieved. Despite good progress being made the incidents involving the partial collapse of the bridge at Barrow-on-Soar on 1 August 2016 and the train derailment on the approach to Watford Tunnel on 19 September 2016 continue to act as a reminder of train accident risk potential and the importance of implementing effective risk-based controls.

In terms of workforce safety (within which we include our contractors) there has been a further reduction in lost time injury frequency rate, almost achieving the 10 % target reduction. There has however been an increase in more serious injuries compared to 2015-16, and furthermore a serious road traffic accident on 5 June 2016 resulted in the death of a contractor. The original suite of workforce safety improvement initiatives has been rationalised and are detailed in a risk-focused portfolio of projects known as the Home Safe Plan which enables progress towards their implementation to be monitored throughout the control period. Two examples of recent achievements include: fitting over 5,000 road vehicles, with vehicle monitoring systems which alert the driver if the speed limit is being exceeded, and publishing the revised company standard in support of the planning and delivering safe work programme which is expected to reduce workforce safety risk for those working on or near the line.

The reporting of close calls continues to highlight where action can be taken to address unsafe conditions or acts, with over 200,000 reported throughout the year. The true value, however, is only achieved when prompt action is taken to effectively close out those calls.

Over 65 level crossings have been closed in the past year and a small number have been downgraded in legal status. Six of the top ten targeted crossings based on potential risk reduction were closed, and stakeholder discussions continue regarding the remaining four.

The committee met four times in 2016/17, including one site visit to the Basingstoke area which included meeting with frontline staff to gain greater insight into their roles and see the key challenges that they face, such as the level crossing at Farnborough North.

We have recently undertaken a review of the effectiveness of the committee and its supporting governance structure, with a view to broadening its oversight of the key risks relating to safety, health and environment and their corresponding controls over the coming year.

Chris Gibb
Chair, safety, health and environment committee
14 July 2017

Committee members

Member	Formal appointment to the committee	Number of meetings attended during the year
Chris Gibb*	November 2013	4/4
Rob Brighouse	January 2016	4/4
Sir Peter Hendy	October 2015	4/4
Previous members during the year		
Malcolm Brinded**	April 2013 – July 2015	1/1
John Mogford	November 2016 – January 2017	1/1

**Chair since 20 July 2016*
*** Previous chair since 2013*

CORPORATE GOVERNANCE REPORT CONTINUED

Committee attendees

The chief executive, the managing director for England and Wales, managing director for Infrastructure Projects, director of Risk and Assurance and the Safety, Technical and Engineering director and some of his direct reports attend meetings by invitation.

Mick Cash, general secretary of the RMT Union is invited to attend committee meetings and participates in discussions. This aids scrutiny and challenge and enhances transparency of the work of the committee.

Ian Prosser, both chief inspector of railways and director, Railway Safety at the ORR, attends committee meetings twice a year to present the regulator's view on Network Rail's safety performance.

Role of the committee

The committee's role is to monitor the integrity of the methods of discharge of the safety, health and environmental responsibilities of Network Rail and to satisfy itself as to the adequacy and effectiveness of the safety, health and environmental policies and strategies within the group.

The committee's activities include:

- Considering significant corporate and individual safety, health and environment risks and whether management is managing these effectively
- Reviewing the scope and results of any safety, health and environment audits, and their effectiveness
- Considering the major findings of internal and external investigations and management's response to them.

Following each committee meeting, the chair provides a summary of the committee's activity to the next board meeting, and makes recommendations as appropriate.

→ The full terms of reference of the committee can be found on our website: networkrail.co.uk

The committee's terms of reference were reviewed and revised during the year, and were approved by the Board in May 2017. The key changes were to update them to reflect organisational changes and industry developments.

Principal activities during the year 2016/17

Matters considered by the committee during the year included:

- The progress on initiatives to eliminate the flushing of toilet waste onto the infrastructure
- The electrical safety delivery programme and its leading key performance indicators and milestones
- Safety, health and environment-related incidents within Network Rail and contractor operations, including lessons learned from incidents such as the Bavarian collision, Lamington Viaduct failure and the Watford derailment
- The progress of the planning and delivering safe work programme
- Enhanced deployment of Train Protection Warning System to improve safety performance surrounding level crossings
- Assurance that the governance and processes surrounding safety leadership and close call reporting and close out delivered the required outcomes
- Findings from corporate-level audits and agreed action plans
- The sustainability and social performance strategy and its impact on the group and wider stakeholders.
- Deep dive reviews into, amongst other things:
  - Safety performance surrounding level crossings
  - Train accident risk reduction, including reviews of lessons learned from historical and more recent incidents
  - Improving safety in Infrastructure Projects
  - National Supply Chain Approach to Safety, including influencing positive change through collaborative working with our suppliers.

Planned activities during the coming year 2017/18

During the coming year, the committee will continue to monitor the progress of the initiatives already underway to improve workforce safety, health and wellbeing, and passenger safety.

Particular areas of focus for 2017/18 will include:

- the safety management procedures across the company as devolution of responsibilities to the routes matures and develops, including attendance at the committee of the route teams
- train accident risk reduction through delivery of the risk-based programme of milestones and volumes
- workforce safety performance and progress with key risk reduction work streams monitored through the Home Safe Plan such as the planning & delivering safe work programme, installation of vehicle monitoring systems in company road vehicles, the electrical safety delivery programme and updating the suite of work activity risk assessments
- station safety performance and future plans to mitigate the risk of increasing passenger numbers
- level crossing risk reduction including further closures and improving risk at passive crossings
- public safety including measures to reduce trespass incidents and suicides
- actions planned to promote and improve health and wellbeing
- progress being made towards achieving the objectives of the environment and sustainability strategy, both in the short and longer term
- continual improvement of the effectiveness of the committee and its supporting governance structure.

AUDIT AND RISK COMMITTEE REPORT

I am pleased to present Network Rail's annual Audit and Risk Committee Report, having assumed chairmanship of the Committee when Bridget Rosewell stepped down from that role in September 2016. I am pleased that Bridget remains a member of the Audit and Risk Committee, allowing us to continue to benefit from her extensive knowledge and experience. I would also like to thank Janis Kong, who resigned from Network Rail's board and the committee in September 2016, for her extensive knowledge and experience/contributions to the effective working of the Committee.

Silla Maizey joined the committee in November 2016. Bridget Rosewell, Rob Brighouse and I look forward to working with her.

During 2016/17 the committee continued to focus on the Group's financial reporting, risk management and internal audit's work. The committee also received executive updates on the most significant risks. The executive deep dives provided the committee with an understanding of the business' challenges and aspirations. They also helped the committee to understand the effectiveness of risk management and mitigation throughout the organisation and whether progress is being made towards the company's strategic objectives.

Sharon Flood

Sharon Flood
Chair, audit and risk committee
14 July 2017

Committee members

Member	Date appointed to committee	Number of meetings attended
Sharon Flood*	September 2014	5/6
Bridget Rosewell**	July 2012	5/6
Rob Brighouse	January 2016	6/6
Silla Maizey***		1/2

**Chair since September 2016*
*** Sharon Flood has relevant financial experience*
**** Silla Maizey was appointed on 22 November 2016.*

Previous members during the year

Janis Kong****	April 2013 – September 2016	2/3

***** Janis Kong stepped down from the board in September 2016*

Committee attendees
The chair of the board, the chief executive, chief financial officer, director of risk and internal audit, head of group risk and the group general counsel & company secretary attend meetings of the committee by invitation. Representatives from the National Audit Office (NAO) also attend each meeting and periodically meet with committee members without executive management present. Periodically the director of risk and internal audit meets with the committee without executive management present.

Role and responsibilities of the committee
The terms of reference (ToR) of the committee provide the framework for the committee's work in the year. The ToR were reviewed and updated during 2016/17, to ensure the activities of the committee reflect current regulatory, governance and best practice. A proposal to implement changes to the committee's ToR was presented to the Board and approved. The full ToR can be found at networkrail.co.uk.

The role of the committee falls into the following broad areas:

Financial Reporting
- Monitoring the integrity of the annual report and accounts of the company, major subsidiary undertakings and the group as a whole
- Reviewing significant accounting judgements and policies and compliance with accounting standards
- Considering whether the annual report and accounts as a whole is fair, balanced and understandable
- Reviewing the consistency of accounting policies both on a year-to-year basis and across the Company; the methods used to account for significant or unusual transactions; applicable accounting standards followed or reconciled in the financial statements; and any other significant financial reporting judgements made by management

Internal controls and risk management
- Reviewing Network Rail's risk management processes, risk identification and reporting any issues arising from such reviews to the board
- Making recommendations to the board on the level of risk appetite acceptable to Network Rail

CORPORATE GOVERNANCE REPORT CONTINUED

- Reviewing the Company's overall risk assessment processes that inform the Board's decision making
- Reviewing the process undertaken and associated work required to complete the viability statement
- Keeping under review the adequacy and effectiveness of the Group's financial reporting and internal control procedures (including financial, operations and compliance controls and risk management) prior to endorsement of such procedures by the Board
- Monitoring and overseeing the Group's compliance with accounting and regulatory requirements

Internal audit

- Agreeing internal audit plans and reviewing internal audit reports on the effectiveness of systems for internal financial control, financial reporting and risk management
- Reviewing the progress of the internal audit plans
- Monitoring status of audit actions
- monitoring outstanding actions

Independent Auditor

- Overseeing the relationship with the NAO as the independent auditor
- Approving the Company's Independent Auditor's appointment, terms of engagement and reviewing the management letter and management's response
- Considering the results of external audit work and resolution of identified weaknesses; enquiring about and considering the Independent Auditor's planned audit approach
- Assessing annually, and reporting to the Board on, the independence, objectivity, qualification, expertise and resources of the Company's Independent Auditor

Whistleblowing and fraud

- Reviewing the policy and procedures whereby employees can raise, in confidence, concerns about possible improprieties
- Assuring that such arrangements allow proportionate and independent investigation and appropriate follow-up action on such matters

Following each meeting, the chair provides a summary of the committee's activities to the next board meeting and makes appropriate recommendations.

Principal activities during the year

The committee received detailed updates from the business at each meeting. Business updates are planned on a 12-month basis and if any matter is identified by internal audit as in need of discussion sooner than in 12 months, it is added to the agenda of a future meeting. Some of the topics discussed during 2016/17 are outlined below:

Financial reporting

IFRS 16 "Leases"

The committee received a report on the new accounting standard, which will remove the distinction between an operating lease and a finance lease for accounting purposes. Further assessments of the impact of the changes will be undertaken by management and the committee in 2017/18, and the committee will review the group's implementation of IFRS 16 once fully understood.

Depreciated Replacement Cost (DRC)

The Committee received a detailed report on valuation of the railway network for inclusion in DfT's group accounts, using the DRC method of valuation preferred by the DfT. The Committee considered the financial impact of the change in asset lives on Network Rail's own accounts. The asset lives have no impact on the valuation method so have no impact on net assets in the balance sheet. However, the asset lives determine the depreciation charge and impact the gains or losses in the revaluation reserve. As the depreciation charge declines so will the revaluation gains. As a result the carrying value of the revaluation reserve will be lower than previously assumed and earnings in the income statement will be higher.

Viability Statement

The committee had oversight of the process and assessment of Network Rail's prospects to carry on its business under severe but plausible scenarios. Seven out of the 17 most serious risks were quantified and stress-tested; and the potential combined impact of two or more risks happening simultaneously or in close succession was assessed and analysed. Further mitigations to strengthen the group's resilience and risk management framework were identified. Following these analytical assessments, the committee and the board are able to confirm that they have a reasonable expectation that the group will be able to continue in operation and meet its liabilities over the next five years.

Fair, balanced and understandable

The directors are obliged to confirm whether the annual report and accounts, taken as a whole, is fair, balanced and understandable and provides the information necessary to assess the company's position and performance, business model and strategy. The assessment of such a confirmation drew on work of the Disclosure Committee, a working group of the Annual Report and Accounts project responsible for coordination of content submissions, verification, detailed review and challenge. Senior management confirmed that the content in respect of their areas of responsibility was fair, balanced and understandable.

Network Rail manages devolved businesses accounting through reporting hierarchies that enable each routes results to be established in turn. Each business is set its own targets which the management team are responsible for delivering. These are measured through devolved scorecards.

The committee is required to review any correspondence from regulators in respect of financial reporting. There has been no correspondence from the FRC in relation to Network Rail's financial reporting during the 2016/17 financial year.

→ See page 65 for break out box

Significant accounting judgements, key assumptions and estimates

With the support of the NAO, the committee assessed whether suitable accounting policies had been adopted, whether management had made appropriate estimates and judgements and disclosures were balanced and fair. The main areas of focus during the year are set out overleaf.

CORPORATE GOVERNANCE REPORT CONTINUED

Accounting judgements	How the committee addressed these judgements
Valuation of railway network and compliance with regulatory requirements The revaluation model used to measure the value of the railway network consists of a number of estimates and judgements made both by the company and the Office of Rail and Road (for example anticipated financial and operational outperformance in the control period).	Detailed reports from management were considered by the committee and the methodology applied to the revaluation model was also reviewed and agreed. The committee also challenged management and the independent auditors on: • The reasonableness of key judgements and estimates in respect of the forecast for the remainder of CP5. • The appropriate level of disclosures in the annual report and accounts around the valuation process and the related assumptions and judgements.
Risk of management override of internal controls	Reports on management's approach to implementing, operating and monitoring the system of internal control are considered by the committee on a regular basis. The committee considered a letter of responsibility from the chief executive regarding the standard of internal controls and integrity that has prevailed in the business during the financial year. The independent auditors have also focused attention on this area and provided satisfactory reporting to the committee on this matter.
Deferred tax It was considered whether it was still appropriate that Network Rail continued to derecognise its deferred tax assets with regard to losses carried forward.	Reports indicated that the reclassification of Network Rail as a public body, when taken together with continued high levels of investment in the railway network, meant that it was hard to judge that Network Rail would return within a predictable period to the level of taxable profits that would allow for the utilisation of tax losses. It was agreed to derecognise deferred tax assets.
Valuation of investment properties Investment properties are stated at fair value. The valuations are based on assumptions and estimates that require judgement.	The committee agreed the appropriate methodology had been used. The methodology was consistent with prior years and included valuations and additional assistance from external valuation specialists. The valuations were reviewed by management and the external valuation specialists.
Hedge accounting and derivatives Forward starting interest rate swaps are accounted for as cash flow hedges where it is believed that future sterling issuances are highly probable.	The committee agreed with the assessment that it is highly probable that Network Rail will borrow more than required to utilise all the forward starting interest swaps. The borrowing agreement in place with the DfT is greater than the value of the interest rate swaps. Network Rail's CP5 capital investment programmes will use substantially all of the borrowing facility.
Pension assumptions The group operates defined benefit and defined contribution pension schemes. Valuation of these schemes is dependent on certain key assumptions and complex calculations. External actuaries are engaged to assist in advising on key assumptions and determining the value of the pension obligations.	The committee discussed the key assumptions, including the degree to which these were supported by professional advice from the actuaries. The independent auditors also focused attention on this area and provided reporting to the committee on this matter, following consultation with their own actuarial experts.

Risk management and internal controls

The board assumes ultimate responsibility for the effective management of risk across the group, determining its risk appetite and implementation of appropriate internal controls across all departments/business units. The board has delegated responsibility for reviewing the effectiveness of risk management and internal controls to the committee.

This covers all material controls including financial, operational and compliance controls and risk management systems. The risk management systems and internal controls are designed to manage rather than eliminate the risk and can only provide reasonable but not absolute assurance that the group's risks are being appropriately managed and mitigated.

During 2016/17, the committee focused on a number of in-depth reviews of some of the most significant areas of corporate risk. These were: (1) readiness to deploy digital railway; (2) the destabilising effect of change; (3) the enhancement improvement programme; (4) the asset divestment portfolio; (5) the business plan governance and control; (6) cyber risk; (7) train service reliability and (8) the London train timetable and operation post 2018.

→ Further information on Network Rail's approach to risk management can be found on pages 39-44.

CORPORATE GOVERNANCE REPORT CONTINUED

Internal audit
The committee approves the annual Internal Audit plan. The director of Risk and Internal Audit provides at each meeting updates on any changes to the plan and reasons for the deviations; notable audits; overdue actions; themes and key issues arising from audits. Reports on major findings of internal investigations (and management's response to them) are also discussed on a regular basis. Internal audit provides reasonable assurance that internal controls across the organisation are effective. Based on the updates received, the committee considers that internal controls operated effectively throughout the 2016/17 financial year.

External audit
Independent auditor
As outlined last year, the Comptroller and Auditor General (C&AG), supported by the NAO, was appointed as Network Rail's independent auditor in 2015. In addition to providing an opinion on the group accounts, the C&AG also audits the individual accounts of Network Rail Infrastructure Finance PLC, Network Rail Infrastructure Limited and Network Rail (High Speed) Limited. PricewaterhouseCoopers, the previous independent auditors, continued as the independent auditors for the remaining subsidiaries in 2016/17.

The obligation to appoint the C&AG as NR's independent auditor is a direct impact of the reclassification of Network Rail as a central government body and is in line with standard arrangements for central government bodies.

The company is, therefore, unable to comply with the Competition and Markets Authority's Order and the Code that requires listed companies to undertake a competitive tender process prior to the appointment of the auditor. This will remain the company's position for a foreseeable future.

Objectivity and independence of the independent auditor
The committee has put in place safeguards to maintain the independent auditor's objectivity and independence. To enhance independence and in line with established auditing standards, a new senior statutory auditor of the independent auditor is appointed every five years, with other key audit principals within that firm rotated every seven years. The committee has also established a policy whereby employment of the independent auditor on work for the company is prohibited without prior approval by the committee, other than for audit services or tax compliance services.

Such requests are now unlikely in practice as the NAO does not offer non-audit services. The NAO does carry out Value for Money work on Network Rail, but this does not represent a service to Network Rail as it is performed under statute and on behalf of Parliament.

In 2016/17 the fee for audit services was £0.5m (£0.5m in 2015/16). This includes the NAO's cost of auditing Network Rail Infrastructure Limited, Network Rail Infrastructure Finance plc, Network Rail (High Speed) Ltd and the Regulatory Accounts, and excludes the cost of the audit of some smaller subsidiaries which continue to be performed by PwC.

A VfM Report on Modernising the Great Western Railway
During the year, the Committee considered the NAO Report on Value for Money (VfM) in respect of the modernising of the Great Western railway. The committee noted the contents of the report including its key findings: the impact of delays, improving programme and project management, future risks and their conclusion on value for money. Following the consideration, the committee agreed that it would hold the business to account for implementing and recommendations made in the VfM and following up on lessons learnt.

Speak Out
Network Rail's confidential reporting service and 'Speak Out' whistleblowing policy has been in place since 2012. Our Speak Out line is run by an external company on behalf of Network Rail and all reports are investigated by our independent Business Integrity team.

Mandatory companywide ethics training, which includes whistleblowing, has been fundamental in raising awareness of the Speak Out line. Since the training was launched to the business in October 2015, over 38,000 employees and contractors have been trained. As a result, use of the service has continued to rise throughout 2016/17. This year a total of 345 reports were submitted, compared to 253 reports in 2015/16, an increase of 36%. 60% of all reports made have been substantiated and appropriate action taken.

In 2016, we amended our Speak Out policy to further highlight the types of concerns that should be reported through the service. These include suspected criminal activity, corruption, misuse of resource, breaches of our Code of Business Ethics or other company policies, as well as suspected acts of modern slavery in our business, following the introduction of the Modern Slavery Act 2015.

In 2017/18, we will continue to raise awareness of Speak Out in the roll out of our refreshed ethics training, and through awareness raising activity to help prevent modern slavery and human trafficking in our business.

Planned activities for the coming year
During the coming year, the committee will remain focused on the audit, assurance and risk processes within the business, and maintain its oversight of financial and other regulatory requirements.

Particular areas of focus for 2017/18 will include:

- Internal Audit and other assurance plans
- Integrity of internal controls and effectiveness of risk management across the group
- Oversight of the specific business presentations relating to the most significant risks within the group
- Monitoring and oversight of new accounting and regulatory developments.

The committee considers that the annual report for 2016/17 is fair, balanced and understandable and provides the information necessary for an informed reader to assess Network Rail's performance, business model and strategy.

The committee considered the following questions:

Is the annual report fair?

- Has the whole story been presented and has any sensitive information been omitted that should have been included?
- Is the messaging in the front-half of the annual report consistent with the financial disclosures?
- Is the score card disclosed at an appropriate level based on financial reporting?

Is the annual report balanced?

- Is there an over-emphasis of matters that are not material?
- Is the narrative report in the strategic report consistent with the financial reporting in the accounts, and does the messaging reflected in each remain consistent when read independently of each other?
- Is there an appropriate balance between statutory and non-statutory measures and are non-statutory measures are clearly defined?
- Are the risks in the narrative consistent with the committee's risks and issues and key areas of uncertainty and judgments?
- Are the key risks aligned with the audit report?

Is the annual report understandable?

- Is the document designed to suit the needs of the Department for Transport in its capacity as a member?
- Is the report understandable to a reasonably informed reader?
- Are new messages and themes clearly articulated?
- Has all undue complication been removed?

NOMINATION COMMITTEE REPORT

The following report provides an overview of the committee's activities in the past year, and looks ahead to our anticipated activities during 2017/18.

During 2016/17 the committee focused on:

- the company's practices and approach to board and committee governance
- the appointment of non-executive directors (NEDs) to replace Malcolm Brinded and Janis Kong who retired as NEDs during the year
- the associated changes that were required to the composition of board committees, and
- the 2016 'light-touch' board effectiveness review undertaken by an independent third-party provider.

More information on each of these focus areas is provided below.

Bridget Rosewell
Chair, nomination committee and Senior independent director
14 July 2017

Committee members

Member	Date appointed to committee	Number of meetings attended
Bridget Rosewell (chair)*	September 2016	2/2
Richard Brown	October 2015	3/4
Sir Peter Hendy	October 2015	4/4
Michael O'Higgins	September 2014	4/4

**Chair since September 2016*

Previous member during the year

Janis Kong**	July 2010 – September 2016	2/2

*** chair of nomination committee, and senior independent director, until she stepped down from the board on 28 September 2016*

Committee attendees

The chief executive, the group Human Resources director and the group general counsel and company secretary attend meetings by invitation.

Role and responsibilities of the committee

The committee's role is to assess, review and monitor board composition and evaluation. Following each committee meeting, the chair provides a summary of the committee's activity to the next board meeting, and makes recommendations as appropriate.

Principal activities during the year

The principal matters considered by the committee during 2016/17 were:

Board and committee governance – practice and approach

During the year the committee reviewed the board's approach to board and committee governance. The outcome of that review was a board governance strategy document, which covered the size and skills of the Board, board diversity policy, selection process, non-executive directors' fees, committee structure and the board effectiveness review process. That document was shared with the DfT and UKGI - which acts as the government's centre of excellence in corporate finance and corporate governance.

Recruitment of non-executive directors

- Silla Maizey was appointed as a non-executive director on 22 November 2016.
- John Mogford was appointed as a non-executive director on 22 November 2016. He subsequently stepped down from the board on 31 January 2017.

Silla Maizey will be seeking election as a director of the board for the first time at the 2017 AGM.

Silla Maizey's and John Mogford's appointments were managed internally by the committee with support from the group general counsel and company secretary. An independent executive search firm, Korn Ferry, conducted the search, which included placing an advertisement in a national newspaper. Other than providing executive search services to Network Rail, Korn Ferry provides no other services to the business.

CORPORATE GOVERNANCE REPORT CONTINUED

The appointments of two non-executive directors followed the retirement from the board of Malcolm Brinded and Janis Kong. Having regard to the knowledge, skills and experience that would be lost, as well reviewing the board skills matrix, the committee identified the key talents and qualities that they thought would complement and enhance the composition of the board. Potential candidates were identified and interviewed by the search firm. A short list of candidates was interviewed by Sir Peter Hendy, Michael O'Higgins and Bridget Rosewell.

Following recommendation by the committee the board sought and obtained the Secretary of State for Transport's approval for the appointments of Silla Maizey and John Mogford as non-executive directors. Following his appointment, John Mogford decided to step down from the board on 31 January 2017.

An induction programme was created for Silla Maizey, taking into account her prior experience, knowledge and skills. She has met with all directors and the executive committee members. Silla has also met senior managers from the internal audit and risk, safety and property teams and visited London Bridge station.

Composition of board committees

The committee reviewed and adjusted the membership of each of the board committees. The committee considered the knowledge, skills and experience of each of the non-executive directors, and determined the most appropriate people to serve on each board committee.

The following changes were made:

- Bridget Rosewell was appointed senior independent director and chair of the nomination committee. Bridget relinquished her chairmanship of the audit and risk committee and the treasury committee, but remains a member of both those committees.
- Sharon Flood was appointed chair of the audit and risk committee and the treasury committee. She remains a member of the remuneration committee.
- Chris Gibb was appointed as chair of the safety, health and environment committee. He continues to chair the Property function supervisory board. Chris stood down from the remuneration committee.
- Silla Maizey was appointed as a member of the audit and risk committee and the treasury committee.

Board evaluation

The UK Corporate Governance Code requires companies to undertake external board evaluation at least every three years. In 2014/15 Network Rail initiated an independent review by IDDAS of the effectiveness of its board and committees.

IDDAS undertook a further 'light-touch' review of the board's effectiveness in 2015 and Independent Audit undertook a similar review in 2016.

The outcome of the 2016 'light-touch' review was considered by the committee and by the board as a whole. An action plan has been developed to address the outcomes of the review. The committee periodically monitors progress against that action plan.

→ Further detail can be found in the corporate governance report on page 57.

Directors' personal performance reviews

During the year the committee managed the process of directors' personal performance reviews. Further information on this process can be found in the corporate governance report on page 56.

Planned activities of the committee during the coming year

During 2017/18, the committee will:

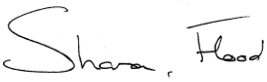
- Undertake a search for one non-executive director to replace John Mogford who stepped down from the board in January 2017
- Review the 2017 board and committee effectiveness reviews being undertaken internally by Network Rail, and subsequently make recommendations to the board regarding any key findings, and
- Further consider the company's strategy and approach towards improving gender and ethnic diversity across Network Rail, having regard to the recommendations of the Hampton-Alexander Review and the Parker Review.

TREASURY COMMITTEE REPORT

I am pleased to present Network Rail's annual Treasury Committee Report, having assumed chairmanship of the Committee in September 2016. When Bridget Rosewell stepped down from that role, she agreed to remain a member of the Committee and to continue to provide her expert knowledge.

Silla Maizey joined the committee in November 2016. The remaining Committee members and I look forward to working with her.

Since reclassification in 2014, Network Rail's sources of borrowings have been limited to a Department for Transport loan facility. During 2016/17 NR has proactively started work to attract third party investments into the business and the Committee has been overseeing/reviewing these activities. The committee also increased its focus on the company's capital and financing structure/framework for the next Control Period (CP6 starting in April 2019) as well as having oversight of the Asset Disposals Programme.



Sharon Flood
Chair, treasury committee
14 July 2017

Committee members

Member	Date appointed to committee	Number of meetings attended
Sharon Flood*	September 2014	5/5
Bridget Rosewell	July 2012	4/5
Rob Brighouse	January 2016	5/5
Silla Maizey**	November 2016	1/2

* *Chair since September 2016*
** *Silla Maizey was appointed on 22 November 2016*

Committee attendees
The chair of the board, chief financial officer, group treasurer, and the group general counsel and company secretary also attend meetings by invitation.

Role and responsibilities of the committee
The terms of reference (ToR) of the committee provided the framework for the committee's work in 2016/17. The full ToR can be found on Network Rail's website, networkrail.co.uk

The committee's role is to:
- Review and satisfy itself as to the appropriateness of proposed treasury transactions including banking, cash management, debt management investment management and treasury risk management
- Approve or recommend strategies and policies in relation to areas of treasury management, including liquidity management and forecasting, risk management and bank relationships
- Review the Treasury function's financial reporting and internal control procedures
- Approve specific transactions in the areas of treasury responsibility.

Principal activities during the year
The committee receives detailed updates from the Treasury department at each meeting. Those updates are planned on a 12-month basis although if any matter is identified by Treasury as being in need of discussion sooner than in 12 months, it is added to the agenda of a future meeting. Some of the topics discussed during 2016/17 are outlined below:

Future capital and financing structure (CP6 financial framework)
The Committee discussed emerging views and the key issues that would affect NR's ability to secure sustainable funding and financing arrangements for CP6 and beyond. The committee approved the proposed framework, and the first draft of the proposal was submitted to the ORR.

Asset disposal update
Network Rail announced as part of the Hendy review in autumn 2015 that it was expecting to raise £1.8bn to partially fund the increased cost of major projects upgrades and renewals in Control Period 5 (CP5).

CORPORATE GOVERNANCE

CORPORATE GOVERNANCE REPORT CONTINUED

Accordingly Network Rail has an active asset disposal programme and the committee has been receiving regular updates on the progress of this.

Funding and financing of enhancements

The committee reviewed progress on work regarding funding and financing of enhancements through third party contributions and private sector capital. The principal objective of third party financing is to achieve 'value for money' through innovation, efficiency savings and knowledge transfer. In particular, the committee considered what Network Rail needed to do in order to look, and be seen to be behaving, like a private sector business in order to attract third party investment. Identification of sources of new funding and financing will continue to be reviewed regularly by the committee in 2017/18.

Further matters considered by the committee during the year included:

- Review of existing debt issues, trading volumes and associated maturities
- Regular review of cash flow forecasting, including: actual cash performance versus budget, analysis of variances and review of the company funding and liquidity position in the light of DfT loan limits
- Annual review of the adequacy and effectiveness of treasury policies and approving the annual update of the Treasury Policy Manual
- Review of the weighted average debt maturity policy with respect to its impact on CP5 financing costs
- Review of the utilisation of interest rate pre-hedges against DfT Loan Facility drawdowns to manage cash financing costs
- Review of existing collateral arrangements
- Considering the benefits of a number of potential strategic finance opportunities, particularly in relation to potential asset disposals, and recommending that they continue to be explored further.

Planned activities during the coming year

During the coming year, the committee will continue to monitor the progress of the initiatives already under way.

Particular areas of focus for 2017/18 will include:

- Reviewing and overseeing of the programme of work designed to raise cash via the disposal of non-essential railway assets, to contribute funding towards enhancements and renewals projects in CP5
- Exploring alternative approaches to raising capital to fund enhancements and the digital railway in future Control Periods
- Future capital and financing structure through the CP6 financial framework
- Assessing the impact of any strategic finance opportunities that may be proposed to the board.

DIRECTORS' REMUNERATION REPORT

ANNUAL STATEMENT FROM THE REMUNERATION COMMITTEE CHAIR

I am pleased to present the 2017 directors' remuneration report from the Network Rail remuneration committee. The remuneration committee is dedicated to the highest standards of disclosure on remuneration and recognises that executive pay is an important issue for a public body. We operate in line with the remuneration reporting requirements which apply to UK listed companies and the provisions of the UK corporate governance code.

The 2016 remuneration report was approved at the AGM by our member, the Secretary of State. The current Remuneration Policy (Policy) was approved at the 2014 AGM, which sets out the framework and limits for how directors are paid. The Policy was included in the 2014 directors' remuneration report and can also be viewed on our website: networkrail.co.uk.

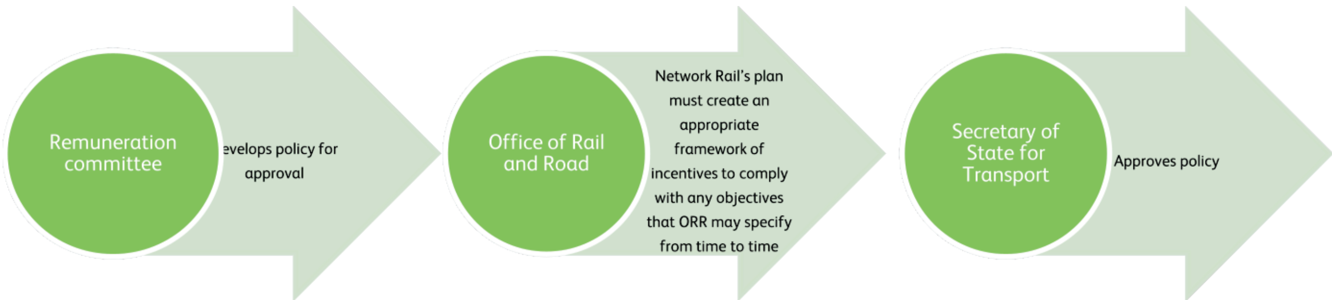
In accordance with the corporate governance regulations, the Policy is reviewed every three years, so at the AGM in 2017 a revised policy will be put forward for approval. This report outlines the key changes and includes the full policy.

Our annual remuneration report outlines the outcomes for 2017 in respect of executive remuneration and will be subject to approval from our member, the Secretary of State. The key points to note for 2017 outcomes are:

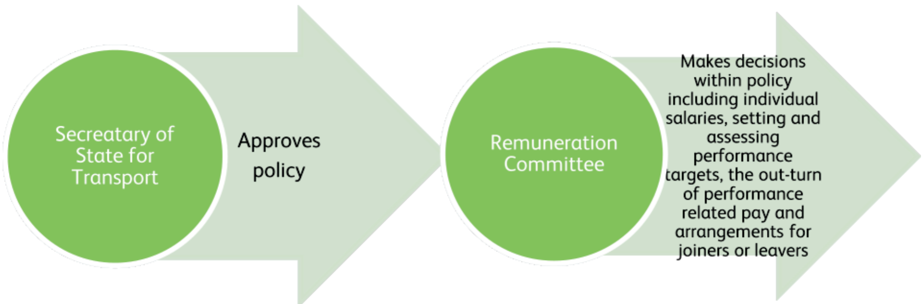
- The performance related pay element of remuneration is determined from the outcome of the business scorecard
- For 2017 this was 37 per cent, which equates to 7.4 per cent of salary for executive directors

The remainder of this statement explains how executive remuneration is determined at Network Rail, gives more detail on the outcomes in respect of 2017 and outlines the proposed three-year Remuneration Policy from 2017.

Developing policy:



Implementing policy:



DIRECTORS' REMUNERATION REPORT CONTINUED

Remuneration committee agenda items during the year

Items discussed during the year focused on two areas:

- Extended the committee's remit to cover wider group of executives
- Reviewed of the policy, and in particular the performance related pay arrangements to align to the business

Implementation of policy in 2017

During the year, the remuneration committee made decisions within the framework agreed as part of the policy in 2014.

The current policy has four key principles which underpin the approach:

1. Simple – the framework should be simple and transparent for all stakeholders to understand.
2. Competitive and fair – attracting and retaining leaders of the necessary calibre requires remuneration arrangements that are reasonable in the markets in which we compete for talent and which fairly reflect the appropriate market rates for the skills and experience of the individual. At the same time, we always remain cognisant of the need to ensure value for money and to reflect our status as a publicly funded body.
3. Performance and safety – there should be a performance related element of the package which rewards performance in areas that are most important for our stakeholders. There should be no reward for failure. Safety of the workforce, passengers and the general public is at the heart of everything we do and must be reflected in the remuneration framework.
4. Aligned with employees – where possible, remuneration structures will be aligned across the organisation. All Network Rail employees continue to be eligible for performance related pay determined using a consistent performance framework across the organisation.

The current remuneration framework for executive directors is based on these principles and includes three core elements:

Salary	Salaries are set at a level which reflects the skills and experience of the individual as well as the scope of the responsibilities of the role.
Benefits and pension	Participation on the same basis as other managerial positions at Network Rail.
Incentive	Once plan based on the achievement of stretching annual performance targets aligned to the business scorecard.

Network Rail needs people with the appropriate skills and experience to deliver against the challenging agenda, transform the business and continuing to operate a safe and reliable railway. Remuneration needs to be appropriate to attract the right people whilst recognising that Network Rail is publicly funded.

During the year, all payments made to executive directors were within the agreed policy framework.

2017 outcomes

Business performance is reviewed and managed through the business scorecards, with measures and targets on key metrics. Performance related pay is determined by the scorecard out-turn, so there is no reward for failure. Higher business performance leads to increased performance related pay and business performance below the target range results in no performance related pay for that element.

Overall performance against the scorecard was 40.7 per cent. Performance around safety was slightly improved in comparison but still below target. The best performing sections were on the locally driven measures and the asset management metrics. The key areas of underperformance were within financial and train performance sections with measures mainly coming in at below the 'worse than target' threshold.

For performance related pay purposes, to reflect the significant financial underperformance a downward adjustment was made to the outturn. This was adjusted downwards by 3.7 per cent from 40.7 per cent to 37 per cent. For executive directors, this equates to 7.4 per cent of the maximum 20 per cent of salary opportunity.

→ Full details of the decision making and out-turn of the performance related pay scheme can be found on page 74.

2017 policy review

The current policy was first agreed in 2014 and therefore has been reviewed taking into account the changes to the business since then. The review took into account a range of factors including:

- The SoS to make recommendations which:
  1. Allow Network Rail to attract and retain high calibre leaders who can help drive Network Rail's performance and transformation
  2. Are clearly linked to performance and delivery and
  3. Are transparent and defensible in the wider context of public sector pay constraint.
- The continued devolution of the business coupled with the further development of the business performance scorecard
- Benchmarking undertaken by external remuneration advisers on behalf of the DfT
- The Shaw report recommendations

Having considered all of these factors, the remuneration committee concluded that only minor, incremental, changes were needed. The key changes proposed are:

- Alignment of the performance related pay structure with executive director arrangements being determined by the out-turn of the national scorecard performance, in the same way as other employees
- The introduction of a threshold for financial performance (FPM), which if not achieved, reduces the entire performance related pay element to nil on a sliding scale.

DIRECTORS' REMUNERATION REPORT CONTINUED

- A more transparent approach for the pension allowance as an alternative to the pension scheme, where limits have been reached. Rather than the current approach of calculating an allowance based on the individual's pension arrangement, where needed for either recruitment or retention, an allowance of 10 per cent of salary can be paid.

The business scorecard further evolved for 2017 and is a key factor in determining performance related pay. With continued greater devolution to the routes the national scorecard now reflects the customer focussed measures agreed between the routes and their customers.

Each route scorecard has been developed with the relevant customers and reflects the measures important to those customers, within the overall core areas of safety, financial performance, train performance, asset management, investment and locally driven measures.

The way the performance related pay is calculated has also evolved to reflect greater devolution. Route scorecards will now directly determine 60 per cent of performance related pay, with the remaining 40 per cent driven by the national scorecard out-turn.

Role and remit of the committee

During the year the terms of reference were updated to extend the remit of the Remco, strengthen governance and align with proposed changes to the Framework Agreement.

Michael O'Higgins

Michael O'Higgins
Chair, remuneration committee
14 July 2017

ANNUAL REMUNERATION REPORT

This report has been prepared in accordance with the requirements of Schedule 8 of the Large and Medium-sized Companies and Groups (Accounts and Report) (Amendment) Regulations 2013. Some of the disclosures in these sections, where indicated, have been audited.

Single total figure of remuneration for 2016/17 (audited)

The table below summarises all remuneration for the executive directors in respect of 2016/17 (and the prior year comparative). Further discussion of each of the components is set out on the pages which follow.

£'000	Salary		Benefits[1]		Pension[2]		Annual Incentive Plan (AIP)		Total	
	2016/17[3]	2015/16	2016/17[3]	2015/16	2016/17[3]	2015/16	2016/17	2015/16	2016/17	2015/16
Mark Carne	683	675	23	22[4]	64	67	50	47	820	811
Jeremy Westlake[5]	354	31	14	1	31	3	26	-	425	36

1. Benefits include car allowance, private medical cover, any annual travel subsidy, life assurance and relocation costs reimbursed.
2. Pension includes the value of all pension benefits receivable in respect of the relevant year. This includes both the supplementary cash allowance and a value from participation in the defined benefit or defined contribution pension arrangements (calculated in accordance with the methodology prescribed by the Regulations). Further details of these pension benefits are set out in the pension section on page 75.
3. For historical reasons the payroll periods for Network Rail do not align exactly to the financial year end, which can lead to minor differences in the amounts disclosed. For 2016-17 the reporting methodology to align exactly with the financial year which has led to a small artificial increase reported when compared to 2015-16.
4. Mark Carne 2015-16 benefits figure has been restated to include additional insurance premiums.
5. Jeremy Westlake was appointed to the board on 24 February 2016. 2015/16 figures only cover part of the year.

Executive Director changes

There were no executive director changes during 2016/17.

Incentive plan 2016/17 – annual incentive plan (audited)

At the start of the year, two directors were eligible to participate in this scheme, Mark Carne and Jeremy Westlake. The maximum potential AIP award for executive directors in 2017 was 20 per cent of salary. Stretching performance targets were set at the start of the year in the context of the corporate scorecard, which can be found on page 7.

For executive directors one half of the plan is based on the out-turn against the scorecard and the other half on achievement against personal objectives. In 2016 the remuneration committee concluded that it would be appropriate for all of the plan to be based on out-turn against the scorecard. In 2017 having considered both scorecard out-turn and personal performance the committee agreed to continue with the practice adopted in 2016 and therefore the entire out-turn is based on the adjusted scorecard out-turn of 37 per cent of the maximum. For executive directors, this is equates to 7.4 per cent of salary.

Performance against the national scorecard is summarised on page 7. Overall performance was below target. Specifically, targets were met or exceeded in relation to locally driven measures and asset management metrics. Areas where the most significant improvement is required are on train performance and the financial measures.

The ORR Board wrote to Network Rail's remuneration committee setting out its views on Network Rail's performance in 2016/17. Each year the Safety, Health and Environment (SHE) committee considers the overall scorecard out-turn from a safety perspective and decides whether to recommend any further adjustments to reflect safety performance.

Having reviewed the safety measures out-turn and the overall safety performance, the committee concluded that the scorecard out-turn on safety measures is a reflection of overall safety performance and no adjustments should be made.

DIRECTORS' REMUNERATION REPORT CONTINUED

Pension (audited)

1) Executive directors are eligible to participate in one of the Network Rail defined benefit pension schemes or the defined contribution pension scheme on the same basis as other employees.
2) Executive directors who have opted out of their respective pension arrangements to protect their Lifetime Allowance (£1m since 6 April 2016) are eligible to receive a pension allowance on the same basis as other employees, subject to the discretion of the Group HR Director. This allowance is equivalent to the employer's pension contributions otherwise payable to the relevant pension scheme, less an adjustment for the cost of providing continued life assurance and the employer National Insurance Contributions payable.
3) Executive directors receive an additional pension allowance in the form of a cash supplement based on a percentage of their earnings above the notional earnings cap (£154,200 for 2017/2018 tax year and previously £150,600 for 2016/2017).

The table below sets out details for executive directors for 2017 in respect of all Network Rail pension benefits, split between the defined benefit and defined contribution/additional allowance. The value shown in the final column of this table is included as the pension column in the single total figure of remuneration on page 74.

	Defined benefit schemes					Other pension arrangements	
	Normal retirement age	Accrued pension at 31 March 2017 £000	Increase in accrued pension (net of inflation) during 2016/17	Transfer value of accrued pension at 31 March 2017 £000	Value included in single figure table (A) £000	Cash salary supplement or contribution to defined contribution scheme (B) £000	Total pension value reported in single figure table (A+B) £000
Mark Carne	–	–	–	–	–	64	64
Jeremy Westlake	–	–	–	–	–	31	31

The normal retirement age shows the age at which the director can retire without actuarial reduction.

Transfer values as at 31 March 2017 have been calculated in accordance with 'The Occupational Pension Schemes (Transfer Values) (Amendment) Regulations 2008'.

For the defined benefit schemes, the value shown in the Single Figure table (A) has been calculated in accordance with the Regulations by applying a multiplier of 20x to the increase in accrued pension (net of inflation) during the year. For the additional pension allowance (B), the value shown is the gross cash allowance/contribution in the year. The value shown in the single figure table is the sum of A and B.

DIRECTORS' REMUNERATION REPORT CONTINUED

Non-executive directors' fees (audited)

Under the framework agreement the Secretary of State for Transport (SoS) sets the pay for the chair and non-executive directors of Network Rail. The fees for the non-executive directors were reviewed in 2016 and not increased.

The table below summarises the remuneration for the non-executive directors in respect of 2016/17.

	2016/17[1]		2015/16	
	Fees £000	Benefits £000	Fees £000	Benefits £000
Rob Brighouse[2]	50	-	12	-
Malcolm Brinded[3]	18	-	60	-
Richard Brown	50	-	37	-
Sharon Flood	59	-	50	-
Chris Gibb	66	-	50	-
Peter Hendy[4]	502	-	350	1
Janis Kong[5]	34	-	69	-
Drusilla Maizey[6]	14	-	-	-
John Mogford[7]	8	-	-	-
Michael O'Higgins	60	-	60	-
Bridget Rosewell	70	-	70	-

1 For historical reasons the payroll periods for Network Rail do not align exactly to the financial year end, which can lead to minor differences in the amounts disclosed. For 2016-17 the reporting methodology to align exactly with the financial year which has led to a small artificial increase reported when compared to 2015-16.
2 In addition, Rob Brighouse received £42,000 from DfT via Network Rail for time spent as Interim Chair of East West Rail Company. This payment will be reimbursed in full.
3 Malcolm Brinded stepped down from the board on 20 July 2016.
4 In addition to fees, Sir Peter Hendy also received private medical cover in 2015/16 which was agreed by the DfT at the time of appointment. 2015/16 fees prorated based on Sir Peter Hendy joining the board on 16 July 2015.
5 Janis Kong stepped down from the board on 28 September 2016.
6 Drusilla Maizey joined the board on 22 November 2016.
7 John Mogford joined the board on 22 November 2016 and stepped down on 31 January 2017.

Payments to former directors (audited)

There were no payments to former directors in 2016/17.

Payments for loss of office (audited)

There were no payments for loss of office to executive directors in 2016/17.

Outside appointments

Network Rail is supportive of executive directors who wish to take on a non-executive directorship in order to broaden their experience and enhance their contribution to Network Rail. Executive directors are normally required to seek approval from the committee to retain any fees they receive in respect of such appointments.

Mark Carne is a director of the Rail Delivery Group Limited and also an independent governor of Falmouth University. He receives no fees in respect of these appointments.

Additional disclosures

The following disclosures are required by the Regulations to provide additional context for considering executive remuneration.

Percentage change in remuneration

The table below shows the percentage change in the salary, benefits and AIP of the chief executive and all Network Rail employees from 2015/16 to 2016/17.

For the purposes of the table below, the annual change in the value of each of the components for the chief executive has been calculated using the data disclosed in the relevant columns of the single total figure of remuneration table on page xx.

	Chief executive	All employees
Salary[1]	1.0 %	2.0 %
Benefits	0 %	0 %
Performance relate pay[2]	0 %	0 %

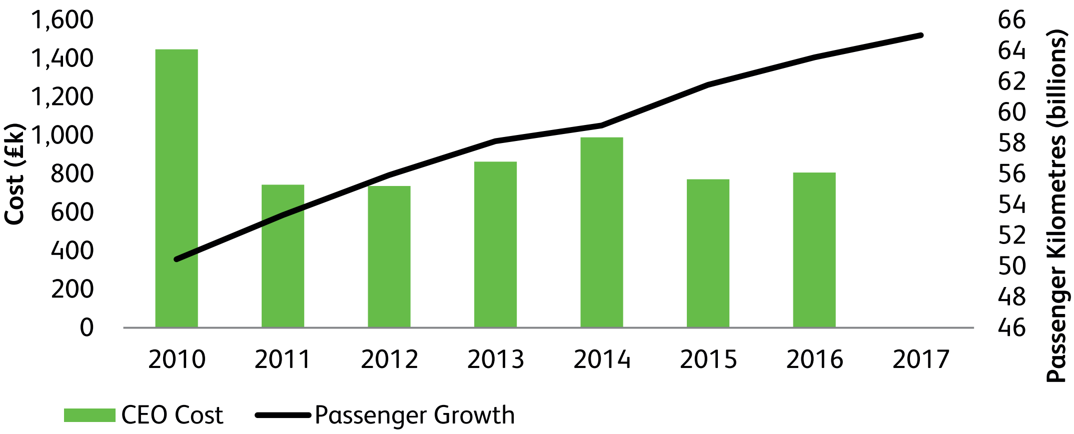
1 Based on salary reviews effective on either 1 January or 1 July 2017.
2 Performance related pay is based on any changes to maximum opportunity.

DIRECTORS' REMUNERATION REPORT CONTINUED

Performance graph and table

Under the Regulations, companies are required to include a chart showing historic total shareholder return (i.e. share price and re-invested dividends) over an eight-year period alongside a table that shows the remuneration paid to the chief executive over the same period. As Network Rail does not have shares, or a share price, an alternative metric of passenger kilometres travelled has been used.

Number of passenger kilometres travelled (bn)



	2016/17	2015/16	2014/15	2013/14		2012/13	2011/12	2010/11		2009/10
Chief executive	Mark Carne	Mark Carne	Mark Carne	Mark Carne	David Higgins	David Higgins	David Higgins	David Higgins	Iain Coucher	Iain Coucher
Single total figure of remuneration	£820k	£811k	£771k	£200k	£790k	£836k	£736k	£161k	£528k	£1,447k
AIP (% of vesting)	37 %	34.7 %	0 %	20.9 %	N/A	28.6 %	0 %	N/A	N/A	56.8 %
LTIP (% of vesting)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	47.8 %

Iain Coucher was appointed chief executive on 22 March 2002. He resigned on 31 October 2010
David Higgins was appointed chief executive on 1 February 2011. He resigned on 28 February 2014
Mark Carne was appointed chief executive on 24 February 2014
N/A indicates that there was no eligibility for an award vesting in respect of the relevant year

Relative importance of spend on pay

Under the Regulations, companies are required to illustrate the relative importance of spend on pay by disclosing the total employee remuneration and returns to shareholders (i.e. dividends and share buybacks) in the reporting year and the prior year. Network Rail is a not-for-dividend company and therefore cannot provide data on returns to shareholders. Therefore, in line with the principle of this disclosure, the table below includes other key Network Rail metrics to illustrate employee remuneration in the context of overall business activities.

	2016/17	2015/16	Change (%)
Total employee remuneration	£2,160m	£1.929m	12.0 %
Total expenditure	£9,794m	£9,637m	1.6 %

Consideration of directors' remuneration – remuneration committee and advisers

The membership of the committee during the year comprised the following independent non-executive directors: Michael O'Higgins, Chris Gibb, Sharon Flood, Sir Peter Hendy and Richard Brown.

The group general counsel and company secretary is secretary to the committee. The committee is also supported by the director, Human Resources, and Head of Reward and Benefits. The chief executive attends meetings at the invitation of the committee. No individual is present when their own remuneration is being discussed.

In carrying out its responsibilities in line with best practice, the committee seeks independent external advice as necessary. During the year, the committee retained Deloitte LLP to provide independent advice on executive remuneration. Deloitte was appointed by the committee in 2012 following a selection process undertaken by the committee. The committee is comfortable that the Deloitte engagement partner and team provide objective and independent remuneration advice to the

DIRECTORS' REMUNERATION REPORT CONTINUED

committee and do not have any connections with Network Rail that may impair their objectivity and independence. Deloitte is a founding member of the Remuneration Consultants Group and voluntarily operates under the code of conduct in relation to executive remuneration consulting in the UK. The code of conduct can be found at http://www.remunerationconsultantsgroup.com/.

During 2017, Deloitte provided independent advice to the committee in respect of market practice on incentive design. The fees charged by Deloitte for the provision of independent advice to the committee during 2016 were £16,000. Deloitte also provided services to the group in respect of programme support to Network Operations, Digital Railway and group finance and property advice.

Key remuneration committee agenda items during the year:

May 2016	• Executive Director remuneration report • Scorecard out-turn for performance related pay decisions • Executive Director objectives
September 2016	• Terms of reference review • Senior remuneration review • Executive Director remuneration policy review
November 2016	• Executive reward work programme including terms of reference and senior remuneration review • Executive Director remuneration policy review
February 2017	• Performance related pay for 2017/18 • Senior remuneration review • Timeline for Annual Report
March 2017	• Annual review of senior roles • Executive Director remuneration report

Committee members

Member	Formal appointment to committee	Number of meetings attended during the year
Richard Brown	July 2015	4/5
Sharon Flood	September 2014	5/5
Chris Gibb	September 2014	1/1
Sir Peter Hendy	July 2015	4/5
Michael O'Higgins*	November 2011	5/5

**Chair since 2013*

Role of the remuneration committee

During the year, the role of the remuneration committee was extended to cover policy, governance and decision making in relation to all senior employees with salaries above the treasury public sector pay threshold of £142,500.

→ The full terms of reference of the committee can be found on the website: networkrail.co.uk

CORPORATE GOVERNANCE

EXECUTIVE DIRECTOR'S REMUNERATION POLICY

This remuneration policy ("policy") has been determined by the Network Rail remuneration committee ("the committee") in accordance with the requirements of Schedule 8 of the Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013. The policy will be effective following the date of the 2017 Annual General Meeting ("AGM"), subject to approval from the Secretary of State ("SoS").

Network Rail's approach to executive directors' remuneration reflects our role as the operator of the nation's rail infrastructure assets, whilst being mindful of our responsibilities in managing public money. It is designed to attract, motivate, develop and retain suitably skilled executive directors, taking into consideration market conditions and commercial efficiency as well as value for the taxpayer.

Principles

The principles which underpin this policy are:

Simple	Competitive and fair	Focussed on safety and performance	Aligned with employees
The policy should be clear and transparent for all customers and stakeholders to understand.	Remuneration should appropriately reflect the skills and experience of the individual, and the scope and complexity of the role. At the same time, it should provide value for money for customers, taxpayers and passengers.	The framework covering performance related pay should reward exceptional performance in the areas which are most important for Network Rail, our customers, and stakeholders – such as safety, train performance and financial management. A key element of financial management is the focus on driving efficiency and managing costs effectively. There should be no reward for failure.	All Network Rail employees continue to be eligible for performance related pay, determined using a consistent performance framework across the company.

Consideration of stakeholder views in developing the policy

In formulating the policy, the committee consulted with the following key stakeholders:

- **Department for Transport ("DfT")**, as part of our status as an arms-length public sector body.
- **Office of Rail and Road ("ORR")**, as our regulator.
- **Employees**, through various communication processes throughout the year, whereby the views of employees are conveyed to the committee and taken into account. One of the key underlying principles is that, as far as practicable and appropriate, the remuneration framework for the executive directors should be aligned with that which applies for other managers and employees throughout the organisation. As a result, the pay, remuneration structures and employment conditions throughout the company were considered by the committee in developing the policy. The policy table below illustrates the significant alignment between the framework for executive directors and for employees in general.

Summary of remuneration package for executive directors

The remuneration package for executive directors has four simple components – salary, benefits, pension, and performance related pay. Performance related pay is based on performance within the financial year (April – March).
At the time any executive director roles need to be replaced in the future, the committee will review the balance of the total reward package between fixed and variable elements with the intention of having a greater proportion at risk based on performance rather than as a fixed amount. This would not increase the expected value of the overall package.

Existing incumbents will continue with the current arrangements
Future changes to the remuneration policy must be approved by the SoS as the sole member and the Chief Secretary to the Treasury ("CST"), in accordance with the framework agreement.

DIRECTORS' REMUNERATION REPORT CONTINUED

Component	Purpose/link to strategy	Operation	Quantum	Alignment with employees
Base salary	To provide an element of fixed remuneration which reflects the skills and experience of the individual, allowing the company to recruit the calibre of individual needed to lead the business.	Salaries of executive directors are determined by the committee using the same principles and approach as applied across Network Rail. Salaries are set at a level which reflects the skills and experience of the individual, as well as the scope and responsibilities of the role. In considering the above, the committee takes into account levels of remuneration within Network Rail and in the market, based on information for similar roles in comparable organisations. Salaries are reviewed annually and any changes normally effective from 1 July. Salaries effective 1 July 2017 are: • Mark Carne: £681,750 • Jeremy Westlake: £357,035	The approach to determining salary increases for executive directors is aligned to that used across the company. There is no defined maximum salary. Salary increases will normally be in line with the typical salary increase for the overall employee population over the same period. Increases above this level may be made by the committee in circumstances where it considers it appropriate, such as to reflect: • An increase in the scope and responsibilities of the role • A change in role, or performance in the role As noted above, at the time any recruitment is needed to replace executive director roles, the balance between the fixed element of the package (base salary) and variable element (performance related pay) will be reviewed by the committee. The intention is for the expected value of the total package would not increase.	In line with other employee groups, salaries are reviewed annually and any increases will normally be in line with the typical salary increase for the overall employee population over the same period.
Benefits	To provide a benefits package aligned with other senior managers and employees at Network Rail.	This includes the following benefits in line with other senior managers and employees:	Benefits	To provide a benefits package aligned with other senior managers and employees at Network Rail.
Pension	To provide a retirement benefit in line with other senior managers and employees at Network Rail.	Executive directors are eligible to participate in one of the three Network Rail pension schemes, on the same basis as other employees. Benefits in the above schemes are limited to a cap on pensionable earnings (£154,200 from April 2017), subject to annual review). To provide a market competitive pension benefit, executive directors can receive an allowance of ten per cent of salary above the pensionable earnings cap, plus top up life cover. In exceptional circumstances where needed for recruitment and retention purposes, all employees (including executive directors) may apply for a pension allowance if they have exceeded (or are about to exceed) the Life Time Allowance ("LTA") of £1m, set at ten per cent of salary.	The DB schemes have an accrual rate of 1/60th of pensionable earnings. The maximum employer contribution under the DC scheme is seven per cent of pensionable earnings. The maximum additional cash allowance for executive directors is ten per cent of salary.	All employees are eligible to participate in any of the three Network Rail occupational pension schemes.

CORPORATE GOVERNANCE

EXECUTIVE DIRECTOR'S REMUNERATION POLICY CONTINUED

Component	Purpose/link to strategy	Operation	Quantum	Alignment with employees
Performance related pay	Performance related pay is based on the achievement of stretching annual performance targets in areas which we, and our customers and stakeholders, care about the most. Cascading the performance framework throughout the organisation creates aligned objectives and shared successes. Required by the licence agreement.	Performance related pay provides an opportunity to reward performance delivered for our customers and stakeholders. Following the end of the financial year, the committee will assess performance against stretching performance targets set at the start of the year. The committee also has an overriding discretion to make adjustments to reflect its assessment of overall business performance in the year, including safety performance. The overall structure is in line with the performance related pay principles outlined above. Any payment is deferred for three years	A maximum opportunity of 20 per cent of salary is payable for current incumbents in executive director roles, subject to performance. As noted earlier, at the time recruitment is needed to replace executive director roles, the balance between the fixed element of the package (base salary) and variable element (performance related pay) will be reviewed by the committee. The intention is for the expected value of the total package would not increase.	All employees are eligible to participate in performance related pay based on scorecards. The national scorecard is used in the calculation of performance related pay for all participants, including executive directors, incentivising the achievement of shared objectives for all.

Any new appointments are based on the framework above. Should an executive director leave the business, there would be no reward for failure.

Performance related pay – performance framework and target setting

Overall framework

For executive directors, performance related pay will be based on the national scorecard which is a balanced scorecard of performance measures which the committee believes is the most appropriate way to reward performance in the range of areas which are most important to Network Rail's customers and stakeholders. In particular the balanced scorecard should strike an appropriate balance between measures which reflect:

- Annual operating performance (for example train performance), and
- Long-term stewardship of the railway (for example delivery of enhancements and renewals).

The current balanced scorecard of performance measures and target ranges (for 2017) is detailed in the annual remuneration report.

The targets for each measure are agreed by the committee at the start of the year. For each measure, a target range applies, under which between 0 per cent and 100 per cent of the maximum may pay out based on actual performance against the target range. The target ranges are designed to be stretching and to only deliver a pay out where performance is above expectations, with maximum pay out requiring exceptional performance.

Overall business performance

In addition, the committee has an overriding discretion to make adjustments to reflect its assessment of overall business performance in the year, including safety and financial performance, specifically the achievement of efficiencies and cost control. Their review takes into account a range of factors including the ORR's annual assessment of Network Rail's performance, and reports from the Safety, Health and Environment ("SHE") Committee.
For the avoidance of doubt, in the event of a serious safety incident during the year which impacts passengers, workforce, or the public, for which Network Rail was responsible, no performance related pay would normally be payable to any executive director in respect of that year.

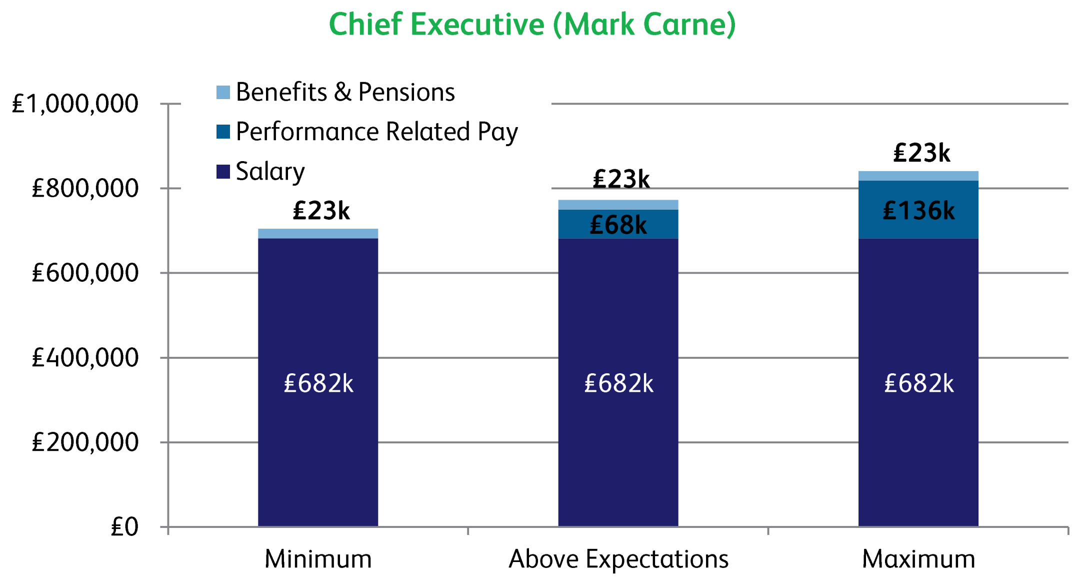
Illustration of remuneration policy

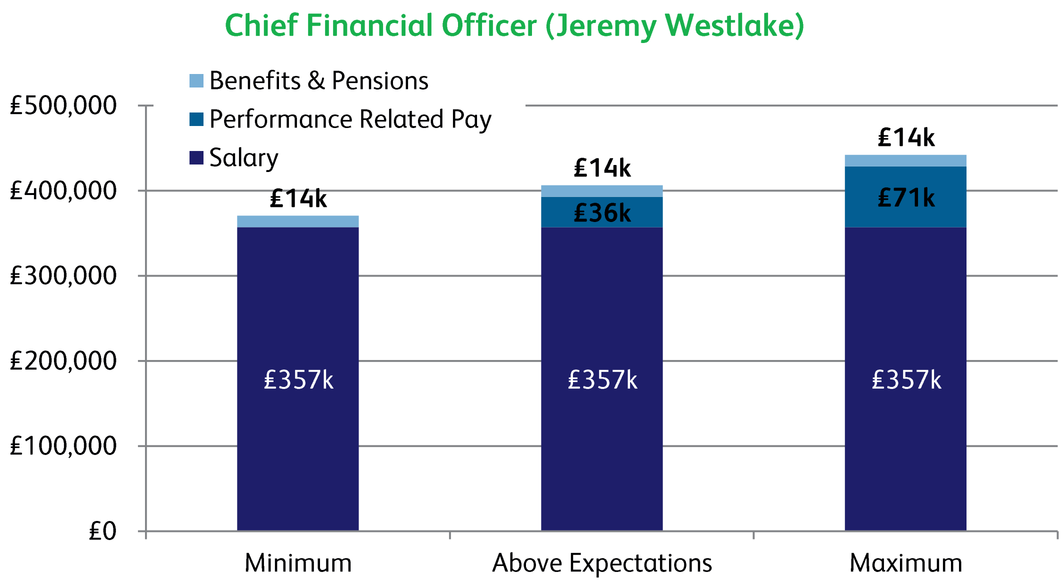
The reporting regulations require the inclusion of charts which illustration the application of the remuneration policy set out in the policy table for executive directors, by showing the potential value of the annual remuneration package under three scenarios.

DIRECTORS' REMUNERATION REPORT CONTINUED

The assumptions used in the charts below are:

- 'Minimum' shows fixed pay only (base salary effective as at 1 July 2017 and the annualised disclosed pensions/benefits for 2017)
- 'Above expectations' includes fixed pay and 50 per cent of the maximum pay out under the performance related pay scheme (i.e. 10 per cent of salary)
- 'Maximum' includes fixed pay and maximum pay out under the performance related pay scheme (i.e. 20 per cent of salary)





Approach to recruitment remuneration

New executive directors would be appointed on to the remuneration package described in the policy table. The approach which the committee would take to each of the components is as follows:

- Salary would be set at a level which positions the remuneration package in the market competitive ranges taking into account the skills and experience of the individual, the scope and responsibilities of the role. The committee would seek to pay no more than it believes is necessary to secure value for money for our funders.
- Benefits would comprise those shown in the policy table. Where the committee considers it appropriate for the circumstances of the individual (for example, if relocation is required), reasonable travel or relocation related benefits may be provided. Such benefits would normally be limited to an initial period only.
- Participation in the Network Rail pension schemes would be in line with all employees. A cash supplement of up to 10 per cent salary may be available via application, in line with the policy table.

DIRECTORS' REMUNERATION REPORT CONTINUED

- Eligibility to participate in the performance related pay scheme, in line with the policy table. Participation in the year of appointment would normally be on a pro-rata basis to reflect the period worked in the relevant year. Any pro-rata participation would be qualified by an assessment of the realistic impact a new joiner could make in the year of appointment, any payments would be subject to the three year deferral period.

Where a newly appointed executive director forfeits outstanding incentive awards at a previous employer as a result of appointment to Network Rail, the committee may consider offering replacement awards to facilitate recruitment. Any replacement awards would be deferred over a number of years (taking into account the time horizons of the forfeited awards) and may be made conditional on individual and/or Network Rail performance. Under no circumstances would an immediate non-performance related 'golden hello' payment be made.

Service agreements

Executive directors have service agreements which can be terminated by the company or the director by giving six months' notice. This applies to all current executive directors and would normally be applied as the policy for future appointments.

Name	Effective date of agreement	Notice period (from Executive Director and from company)
Mark Carne	6 January 2014	6 months
Jeremy Westlake	24 February 2016	6 months

The company may terminate employment by making a payment in lieu of notice which would not exceed six months' salary. Each service agreement contains an express provision requiring the departing executive director to mitigate their loss. Network Rail would have regard to that duty and contractual requirement on a case by case basis when assessing the appropriate level of compensation which may be payable, including using phased payments.

Policy on payment for loss of office

Where an executive director leaves employment, the committee's approach is to minimise the cost to Network Rail and to ensure that any performance related payments offered appropriately reflect performance.
As described above, any payment in lieu of notice would be limited to six months' salary and subject to mitigation. No other termination payments would be made.

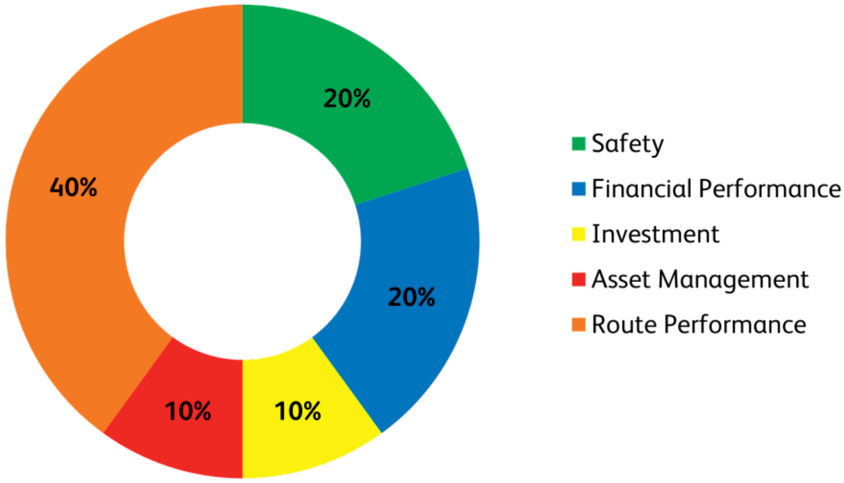
There is no entitlement to performance related pay in respect of the year of cessation of employment.
Outstanding awards under the performance related pay will be determined by the rules of the plan. If an individual leaves employment during the deferral period, the deferred amount will normally lapse immediately. If the committee determines that the individual is a good leaver for one of the reasons described below, the award will not lapse but will continue to the original payment date. The committee retains discretion to make the payment at an earlier date if appropriate (for example on death). The committee also retains discretion to reduce the value of the deferred award to reflect the portion of the deferral period which has elapsed on cessation.

The following circumstances are considered to meet the 'good leaver' definition:

- Disability, injury or ill-health
- Death in service
- Redundancy
- Retirement (with the agreement of the company), or
- Any other reason at the discretion of the committee (including a participant leaving by mutual agreement).

DIRECTORS' REMUNERATION REPORT CONTINUED

Pay for performance structure for executive directors – aligned to what is important for customers



A national scorecard which is split between long-term stewardship of the railway and annual operating performance.

Measures aligned with those that are most important to customers.

Balanced scorecard business performance targets for 2017/18

The table on the following page summarises the business performance measures for executive directors for the 2017/18 financial year based on the framework described on page 7.

The overall national business scorecard used to measure performance every period is used for performance related pay measures and targets across the business.

The 2017/18 scorecard see all train performance measures devolved and, with locally driven measures, set in alignment with train operators' priorities. This means up to 60 per cent of route performance targets are now set locally, linked to customer scorecards and rolling-up into a national scorecard.

In addition, under-performance against the national financial target will reduce the performance related pay amount on a sliding scale. If financial performance goes beyond twice the 'worse than' target set, then no performance related payment will be made.

The framework of the 2017/18 national scorecard is detailed on the next page including measures and weightings. The scorecard is subject to final confirmation with the DfT.

DIRECTORS' REMUNERATION REPORT CONTINUED

	Performance measure	Weighting	
Safety	Lost Time Injury Frequency Rate (LTIFR)	20 %	5.0 %
	Close calls raised		2.0 %
	Close calls closed (% of close calls raised between 1 April 16 - 31 March 18)		3.0 %
	Passenger train accident risk reduction measures		5.0 %
	Top 10 Milestones to reduce level crossing risk		5.0 %
Financial Performance	Financial Performance Measure (FPM) - excl. enhancements (£m)	20 %	10.0 %
	Financial Performance Measure (FPM) - enhancements only (£m)		5.0 %
	Cash Compliance –Income & Expenditure		5.0 %
Investment	Top 10 IP Renewals & Enhancement Milestones	10 %	5.0 %
	All Delivery Plan Enhancement Milestones (%)		5.0 %
Asset Management	Composite Reliability Index (CRI)	10 %	5.0 %
	7 Key Volumes		5.0 %
Route Performance	Anglia	40 %	5.2 %
	LNE&EM		5.8 %
	LNW		6.3 %
	Scotland		3.8 %
	South East		8.3 %
	Wales		1.7 %
	Wessex		3.0 %
	Western		3.0 %
	Freight and National Passenger Operator		3.0 %

DIRECTORS' REPORT

The directors present their annual report and the audited accounts for the year ending 31 March 2017.

Disclosures regarding business performance and activities, future business developments and risk management are contained in the strategic report (pages 1-45) and corporate governance report (pages 46-87).

The company is limited by guarantee, having no share capital, so there are no share disclosures in the present report.

Directors

The directors who served during the year and held office at the date of signing the annual report and accounts are detailed on pages 47-50.

Directors' conflicts of interest

In accordance with company law and the company's articles of association, the directors have the power to authorise any matter which would or might otherwise constitute or give rise to a direct or indirect conflict of interest. However, such authority can only be exercised if the director has declared his actual or potential conflict of interest to the board. The directors have a continuing obligation to update any changes to their conflicts. Further details about directors' conflicts of interest can be found on page 54.

Branches

The company's subsidiary, Network Rail Consulting Limited, has established branches in Saudi Arabia and in Dubai (UAE).

Contracts of significance

There were no contracts of significance subsisting during 2016/17 to which any Network Rail undertaking was a party and in which a director of the company is or was materially interested (as defined by Listing Rule LR 9.8.4R).

Political donations

It is Network Rail's policy not to make political donations or to incur political expenditure in the UK and the EU. No political donations were made and no political expenditure was incurred during the year (2015/16: £nil).

Investing in research and development

Technology and innovation is fundamental to Network Rail's success in Control Period 5 and beyond.

During the year the group charged £nil to the income statement (2015/16: £1m) on research and development.

Other costs relating to significant development work have been capitalised in property, plant and equipment. Further information on the cost of research and development can be found in Note 2 on page 102.

Financial disclosures

Disclosures in relation to the group's use of financial instruments, its financial risk management objectives and policies, including its policy for hedging each major type of forecasted transaction for which hedge accounting is used, its exposure to price risk, credit risk, liquidity risk and cash-flow risk are outlined under Note 24 on page 125.

Disclosures in relation to important events affecting the group since the financial year end and an indication of likely future developments are outlined in the CFO's statement on pages 9-13.

Disclosures in relation to the amount of any interest capitalised by the group, including an indication of the amount and treatment of related tax relief are outlined in Notes 9 and 10 on pages 107 and 108 respectively.

No unaudited financial information relating to the financial year was published in a class 1 circular or in a prospectus during 2016/17.

Disclosures in relation to any long-term incentive schemes or directors waiving any emoluments from the group or any subsidiary undertaking are outlined in the remuneration report on pages 70-85.

Statement of directors' responsibilities

The directors are responsible for preparing the annual report, the directors' remuneration report and the financial statements in accordance with applicable law and regulations.

Company law requires the directors to prepare financial statements for each financial year. Under that law the directors have prepared the group and company financial statements in accordance with International Financial Reporting Standards (IFRSs) as adopted by the EU. Under company law the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the group and the company, and of the profit or loss of the group for that period. In preparing these financial statements, the directors are required to:

- Select suitable accounting policies and then apply them consistently;
- Make judgements and accounting estimates that are reasonable and prudent;
- State whether applicable IFRSs as adopted by the EU have been followed, subject to any material departures disclosed and explained in the financial statements.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the company's transactions and disclose with reasonable accuracy at any time the financial position of the company and the group, to enable them to ensure that the financial statements and the directors' remuneration report comply with the Companies Act 2006 and, as regards the group financial statements, Article 4 of the IAS Regulation.

They are also responsible for safeguarding the assets of the company and the group and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

DIRECTORS' REPORT CONTINUED

The directors are responsible for the maintenance and integrity of the company's website.

The directors consider that the annual report and accounts, taken as a whole, is fair, balanced and understandable and provides the information necessary for its member to assess the company's performance, business model and strategy.

Each of the directors in office at the date of this report, whose names and functions are listed on pages 47-50, confirms that, to the best of their knowledge:

- The financial statements, which have been prepared in accordance with IFRSs as adopted by the EU, give a true and fair view of the assets, liabilities, financial position and profit of the group and the undertakings included in the consolidation taken as a whole;
- The management report, which for the purposes of Disclosure and Transparency Rules DTR 4.1.8R is incorporated into the strategic report and directors' report, includes a fair review of the development and performance of the business and the position of the group and the undertakings included in the consolidation taken as a whole, together with a description of the principal risks and uncertainties that the group faces.

Independent auditor

Resolutions for the re-appointment of the current independent auditor, the National Audit Office, who also acts as the Comptroller and Auditor General, and to authorise the audit and risk committee (ARC) to determine the independent auditor's remuneration, will be proposed at the forthcoming annual general meeting. The notice of meeting is enclosed, together with explanatory notes, in a pack with this report.

Disclosure of information to the independent auditor

Each of the directors at the date of approval of this report confirms that:

- So far as the director is aware, there is no relevant audit information of which the company's independent auditor is unaware;
- The director has taken all steps that they ought to have taken as a director in order to make them aware of any relevant audit information and to establish that the company's independent auditor is aware of that information.

Going concern statement

The group's business activities, together with the factors likely to affect its future development, performance and position and the group's principal risks and uncertainties are set out in the 'strategic report' section on pages 1-45. The financial position of the group, its cash flows, liquidity position and borrowing facilities are described in the CFO's review on pages 9-13. Note 24 on page 125 to the accounts includes the group's objectives, policies and processes for managing its capital; its financial risk management objectives; details of its financial instruments and hedging activities; and its exposures to credit, liquidity and foreign exchange risk. The viability statement on pages 44-45 sets out a longer-term assessment than this going concern statement.

The group has considerable financial resources together with long-term contracts with a number of customers and suppliers. This includes the DfT loan facility of £30.875bn, which Network Rail draws upon to deliver its investment activities in the next 12 months. Business plans and financial models are used to project cash flows and monitor financial risks and liquidity positions, forecast funding requirements and other key financial ratios, including those relevant to our network licence. Analysis is undertaken to understand the resilience of the group and its business model to the potential impact of the group's principal risks, or a combination of those risks. This analysis takes account of the mitigating actions realistically to be taken to avoid or reduce the impact or occurrence of the underlying risks. In considering the likely effectiveness of such actions, the conclusions of the board's regular monitoring and review of risk management and internal control systems, as described on pages 39-44 are paid particular attention to.

As a consequence, the directors believe that the group is well placed to manage its business risks.

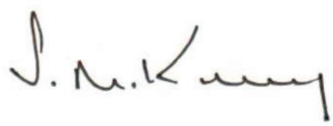
After making enquiries, the directors have a reasonable expectation that the company and the group have adequate resources to continue in operational existence for the foreseeable future.

For this reason and on the basis of the above, the Board considers it appropriate for the group to adopt the going concern basis in preparing its annual report and accounts.

Post balance sheet events

Except as disclosed above, there have not been any significant post balance sheet events, whether adjusting or non-adjusting.

The directors' report was approved by the board on 14/07/2017 and is signed on its behalf by:



Stuart Kelly
Group general counsel and company secretary
14 July 2017

FINANCIAL STATEMENTS

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF NETWORK RAIL LIMITED

Opinion on financial statements

In my opinion the financial statements:
- give a true and fair view of the group's and the parent company's affairs as at 31 March 2017 and of the group's result for the year then ended;
- have been properly prepared in accordance with International Financial Reporting Standards as adopted by the European Union; and
- have been prepared in accordance with the Companies Act 2006.

Opinion on regularity

In my opinion, in all material respects the expenditure and income recorded in the financial statements have been applied by the purposes intended by Parliament and the financial transactions recorded in the financial statements conform to the authorities which govern them.

Basis of opinions

I have audited the financial statements of Network Rail Limited for the year ended 31 March 2017 which comprise:
- the group and company balance sheets;
- the group income statement and statement of comprehensive income;
- the group and company statement of cash flows;
- the group statement of changes in equity; and
- the related notes.

The financial reporting framework that has been applied in their preparation is applicable law and International Financial Reporting Standards as adopted by the European Union and, as regards the parent company financial statements, as applied in accordance with the provisions of the Companies Act 2006. I have also audited the information in the Directors' Remuneration Report that is described as having been audited.

The regularity framework described in the table below has been applied.

Regularity Framework	
Authorising legislation	Companies Act 2006 / Articles of Association
Governing legislation	Network Licence
Parliamentary authorities	Supply and Appropriations Act
HM Treasury and related authorities	• Managing Public Money • Delegated authorities and spending limits set out by DfT • Pay remits *N.B. The Group is exempt from Cabinet Office spending controls*

Overview of my audit approach

Risks significant to my audit

I consider the following areas of particular audit focus to be those areas that had the greatest effect on my overall audit strategy, the allocation of resources in my audit and directing the efforts of the audit team in the current year.

I have also set out how my audit addressed these specific areas in order to support the opinion on the financial statements as a whole and any comments I make on the results of my procedures should be read in this context. This is not a complete list of all risks identified by my audit. There have been no changes in the risks significant to my audit from that of the prior year.

The areas of focus were discussed with the Audit and Risk Committee; their report on matters that they considered to be significant to the financial statements is set out on pages 61-65

INDEPENDENT AUDITOR'S REPORT CONTINUED

Risk	My response and findings
Property, plant and equipment – valuation of the railway network The Group accounts for the railway network as a single asset carried in the Balance Sheet at its fair value. In the absence of an active market, fair value is estimated using the discounted cash flows associated with the asset. As explained in Note 12 to the financial statements, the independent regulator determines the revenue requirement of the company using the building block model of regulation. Under this model the Group's future income is guaranteed based on the size of its Regulated Asset Base (RAB), which is added to as qualifying work is performed. The Group uses the RAB itself as the starting point for its discounted cash flow valuation, subject to adjustment for: • any difference between regulatory rate of return and the market cost of capital that a third party investor would use to assess the value of the network; and • forecast future under or out performance against the regulatory determination. The latter represents a key area of risk as it involves significant management estimates and judgement about the delivery of capital enhancement and renewal projects, train performance, efficiency and the cost of financing over the remainder of Control Period 5 ending on 31 March 2019, against a delivery plan set by the Office of Rail and Road. There are also a number of key judgements inherent in the use of the RAB as the starting point of a valuation, and the ongoing validity of these represents another area of risk. The key judgements are: i. The regulatory regime remains sufficiently stable and robust to form the basis of a third party valuation; ii. Investors consider management's forecast of the deliverability of the current regulatory determination to be a good indication of how other management groups would perform against the determination; iii. The deliverability of the current 5-year determination does not have any implications for the deliverability of future determinations (i.e. the ambition of the regulator at the start of each Control Period is to set the regulatory determination at a level which is achievable and no more). iv. The regulatory cost of capital is consistent with the market cost of capital. v. There are no significant indicators of impairment.	**Forecast performance against regulatory determination** The most significant adjustment made to the closing RAB balance in arriving at the network valuation is Network Rail's assessment of the extent to which it will under- or out-perform its regulatory determination in the remaining two years of the Control Period. This was the area of greatest focus for my audit work on the valuation. In all material areas of performance forecasting, I assessed the reasonableness of management's assumptions in light of available data, including on recent performance. I focused my response most heavily on the elements of future performance subject to the highest levels of estimation uncertainty, which I identified to be the delivery of capital enhancement and renewal projects. On enhancements, future performance is sensitive to project level estimates of Anticipated Final Cost (AFC). I performed detailed work on a substantial sample of individual AFC estimates, assessing the rationale and the appropriateness of assumptions adopted. For renewals, future forecast performance is calculated at asset category level based on delivery plan assumptions about unit cost and volumes that will be achieved over the remainder of the current Control Period. I have identified key assumptions and assessed their reasonableness. This year, I also noted particular volatility in respect of two areas, and directed further work accordingly. i. Forecast Schedule 8 costs (compensation to operators for unplanned periods where they are unable to access the railway) increased sharply in 2017-18, primarily as a result of increased disruption in the South East of England. Management expect these figures to fall back to 2015-16 levels for the remainder of the Control Period, and were able to provide me with sufficient evidence on their plans to achieve this reduction. ii. Forecast opex costs for 2017-18 and 2018-19 have risen sharply on previous estimates, as a result of increased assumptions on staff numbers and costs. I am satisfied that management's adjustment in this area is well founded and that the revised forecasts represent management's best estimate as a result of new information emerging over 2016-17. Finally, I reviewed management's assumption that any sale of assets, such as investment property, in the remainder of the control period was likely to be neutral in terms of future cash flows, and therefore for the valuation. I confirmed this to be a valid assumption in the context of Network Rail's regulatory framework. **Ongoing validity of judgements underpinning valuation methodology** I revisited each key judgement and assessed its ongoing validity by reference to current regulatory, market and operational conditions. Following this work I am satisfied that the valuation methodology remains appropriate.

INDEPENDENT AUDITOR'S REPORT CONTINUED

Property, plant and equipment – capital accruals The Group is committed to a significant programme of network renewal and enhancements, and delivery through contractors. The construction contracts entered into typically span multiple accounting periods. There is therefore an element of estimation and judgement in recording the cost of work done in any given financial year.	I reviewed a number of controls relevant to the proper accounting for capital projects, including system controls, project level financial controls, the monitoring of the cost of work done position for large programmes, and corporate Balance Sheet reviews. My substantive testing included a substantial sample of capital projects with the dual aim of gaining assurance over: - the Cost of Work Done (COWD) in-year on enhancement and renewal projects; and - the Anticipated Final Cost of enhancement projects. My sample included projects from a number of different areas including Infrastructure Projects and Network Operations, renewals, and property. My work on enhancement projects was largely contract focused, and included the application and certification process; my work on renewal projects within Network Operations was focused more on the capitalisation of internal costs (including labour costs). Project teams typically receive invoices (or applications for payment) from contractors with a one month lag, meaning that an accrual is required for the estimated cost of the current month's activity. For each project sampled I obtained evidence to support the valuation of the year-end accrual. I also selected a substantive sample of expenditure to determine whether expenditure had been appropriately capitalised in line with IAS 16, including the treatment of internal staff costs, design costs, and expenditure at the project close-out stage. Following this work I am satisfied that accruals and the year end reported outturns for both COWD and AFC are not materially misstated and that expenditure has been appropriately capitalised.

Application of materiality

I applied the concept of materiality in both planning and performing my audit, and in evaluating the effect of misstatements on my audit and on the financial statements. This approach recognises that financial statements are rarely absolutely correct, and that an audit is designed to provide reasonable, rather than absolute, assurance that the financial statements are free from material misstatement or irregularity. A matter is material if its omission or misstatement would, in the judgement of the auditor, reasonably influence the decisions of users of the financial statements.

The choice of materiality requires professional judgement and for the group financial statements as a whole was set at £100million, which is approximately 1% of the group's total gross annual expenditure (operating and capital), and approximately 0.2% of total assets. I consider these benchmarks to be the principal considerations for users assessing the financial performance of the group and the level of materiality used for the group financial statements remains the same as that used in the prior year.

As well as quantitative materiality there are certain matters that, by their very nature, would if not corrected influence the decisions of users, for example, any errors reported in Directors' Remuneration Report. Assessment of such matters would need to have regard to the nature of the misstatement and the applicable legal and reporting framework, as well as the size of the misstatement.

I applied the same concept of materiality to my audit of regularity. In planning and performing audit work in support of my opinion on regularity and evaluating the impact of any irregular transactions, I took into account both quantitative and qualitative aspects that I consider would reasonably influence the decisions of users of the financial statements.

I agreed with the Audit and Risk Committee that I would report to it all uncorrected misstatements identified through my audit in excess of £1million, as well as differences below this threshold that in my view warranted reporting on qualitative grounds.

Scope of my audit

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of:

- whether the accounting policies are appropriate to the group and parent company's circumstances and have been consistently applied and adequately disclosed;
- the reasonableness of significant accounting estimates made by the directors; and
- the overall presentation of the financial statements.

INDEPENDENT AUDITOR'S REPORT CONTINUED

In addition I read all the information and non-financial information in the Annual Report to identify material inconsistencies with the audited financial statements and to identify any information that is apparently materially incorrect based on, or materially inconsistent with, the knowledge acquired by me in the course of performing the audit. If I become aware of any apparent material misstatements or inconsistencies I consider the implications for my report.
I am also required to obtain evidence sufficient to give reasonable assurance that the expenditure and income recorded in the financial statements have been applied to the purposes intended by Parliament and the financial transactions recorded in the financial statements conform to the authorities which govern them.

Group audit approach

The Network Rail Group has total assets of £68 billion. The majority of operations are within Network Rail Infrastructure Limited, whilst the obligations attaching to the legacy Debt Issuance Programme (used to finance the Group until October 2014) reside in a separate legal entity, Network Rail Infrastructure Finance Plc. There are further small legal entities including a consultancy business and a company that manages the maintenance of non-owned stations. The group is a consolidation of these legal entities.

I audited the full financial information of Network Rail Infrastructure Limited, Network Rail Infrastructure Finance Plc, as well as the consolidation. This work covered substantially all of the group's assets and pre-tax results, and together with the procedures performed at group level, gave me the evidence I needed for my opinion on the group financial statements as a whole.

Opinion on other matters prescribed by the Companies Act 2006

Directors' remuneration

In my opinion, the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act.

I also report to you if, in my opinion, certain disclosures of directors' remuneration required have not been made. I have nothing to report arising from this duty.

The strategic and directors' reports

In my opinion, based on the work undertaken in the course of the audit, the information given in the Strategic and Directors' Reports for the financial year are consistent with the financial statements and have been prepared in accordance with applicable law.

Based on my knowledge and understanding of the Group and Parent company and their environments obtained during the course of the audit, I have identified no material misstatements in these reports.

The corporate governance report

In my opinion, based on the work undertaken in the course of the audit, the information given in the Corporate Governance report in respect of internal control and risk management systems in relation to financial reporting processes, and about share capital structures, is consistent with the accounts and has been prepared in accordance with applicable law.

In my opinion, based on the work undertaken in the course of the audit, rules 7.2.2, 7.2.3 and 7.2.7 in the Disclosure Rules and Transparency Rules sourcebook made by the Financial Conduct Authority have been complied with.

Based on my knowledge and understanding of the Group and Parent company and their environments obtained during the course of the audit, I have identified no material misstatements in this information.

Matters on which I am required to report by exception

Adequacy of accounting records and explanations received

I report to you if, in my opinion:

- adequate accounting records have not been kept by the parent company, or returns adequate for my audit have not been received from branches not visited by my staff; or
- the financial statements and the part of the Directors' Remuneration Report to be audited are not in agreement with the accounting records and returns; or
- I have not received all the information and explanations I require for my audit.

I have nothing to report in respect of these matters.

Consistency of other information in the Annual Report

Under the International Standards on Auditing (ISAs) (UK & Ireland), I am required to report to you if, in my opinion, information in the annual report is:

- materially inconsistent with the information in the audited financial statements; or
- apparently materially incorrect based on, or materially inconsistent with, the knowledge of the Group acquired in the course of performing my audit; or
- otherwise misleading.

INDEPENDENT AUDITOR'S REPORT CONTINUED

In particular, I am required to consider:

- whether I have identified any inconsistencies between the knowledge acquired during the audit and the directors' statement that they consider the annual report is fair, balanced and understandable; and
- whether the Annual Report appropriately discloses those matters that I communicated to the Audit and Risk Committee which I consider should have been disclosed.

I have nothing to report arising from this duty.

The directors' assessment of principal risks and future prospects

Under International Standards on Auditing (UK & Ireland), I am required to report to you if I have anything material to add, or to draw attention to, in relation to the directors' disclosures in the annual report and financial statements:

- confirming that they have carried out a robust assessment of principal risks facing the Group, including those that would threaten its business model, future performance, solvency or liquidity;
- describing those risks and explaining how they are being managed or mitigated;
- on whether they considered it appropriate to adopt the going concern basis, and their identification of any material uncertainties to the entity's ability to continue over a period of at least twelve months from the date of approval of the financial statements; and
- explaining how they have assessed the prospects of the entity, over what period they have done so and why they consider that period to be appropriate, and their statement as to whether they have a reasonable expectation that the Group will be able to continue in operation and meet its liabilities as they fall due over the period of their assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

I have nothing material to add, or to draw attention to, on these matters.

Respective responsibilities of the directors and the auditor

As explained more fully in the Statement of Directors' Responsibilities the directors are responsible for the preparation of the group financial statements and for being satisfied that they give a trues and fair view. My responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and with ISAs (UK & Ireland). Those standards require me and my staff to comply with the Auditing Practices Board's Ethical Standards for Auditors.

Matthew Kay (Senior Statutory Auditor)
14 July 2017

For and on behalf of the
Comptroller and Auditor General (Statutory Auditor)
National Audit Office
157-197 Buckingham Palace Road
Victoria
London
SW1W 9SP

INCOME STATEMENT
FOR THE YEAR ENDED 31 MARCH 2017

	Note	2017 Group £m	2016 Group £m
Revenue	3	6,259	6,098
Net operating costs	4	(4,263)	(4,491)
Operating profit		1,996	1,607
Property revaluation movements and profits on disposal		195	183
Profit from operations		2,191	1,790
Finance income	7	5	8
Other gains and losses	8	(21)	(65)
Finance costs	9	(1,692)	(1,322)
Profit before tax		483	411
Tax*	10	69	306
Profit/(loss) after tax for the year		552	717

* The tax credit includes a credit of £90m (2016:£181m) due to enacted rate changes and a credit of £35m (2016: £246m) due to utilisation of previously derecognised tax losses.

Under section 408 of the Companies Act 2006 the group has elected to take the exemption with regard to disclosing the company income statement. The company's result for the year was £nil (2016: £nil).

STATEMENT OF COMPREHENSIVE INCOME

FOR THE YEAR ENDED 31 MARCH 2017

	Note	2017 Group £m	2016 Group £m
Profit for the year		552	717
Other comprehensive (expense)/income:			
Items that will not be reclassified to profit or loss			
Loss on revaluation of the railway network	12	(1,075)	(373)
Actuarial (loss)/gain on defined benefit pension schemes	25	(799)	99
Deferred tax relating to components of other comprehensive income	21	329	58
Total items that will not be reclassified to profit or loss		(1,545)	(216)
Items that may be reclassified to profit or loss			
Loss on movement in fair value of cash flow hedge derivatives		(116)	(232)
Reclassification of balances in the hedging reserve to the income statement		100	22
Deferred tax relating to components of other comprehensive income		-	17
Total items that may be reclassified to profit or loss		(16)	(193)
Impact of change in tax rate to components of other comprehensive income		19	47
Other comprehensive expense for the year		(1,542)	(362)
Total comprehensive (expense)/income for the year		(990)	355

STATEMENT OF CHANGES IN EQUITY

FOR THE YEAR ENDED 31 MARCH 2017

Group	Revaluation reserve £m	Other reserve* £m	Hedging reserve £m	Retained earnings £m	Total equity £m
Balance at 31 March 2015	948	249	(799)	5,993	6,391
Profit for the year	–	–	–	717	717
Other comprehensive (expense)/income for the year:					
Impact of change in tax rate	75	–	–	(11)	64
Revaluation of the railway network	(373)	–	–	–	(373)
Transfer of deemed cost depreciation from revaluation reserve	(23)	–	–	23	–
Decrease in deferred tax liability on the railway network	81	–	–	(4)	77
Actuarial gain on defined benefit pension schemes	–	–	–	99	99
Deferred tax on actuarial gain	–	–	–	(19)	(19)
Decrease in fair value of hedging derivatives	–	–	(232)	–	(232)
Reclassification of balances in hedging reserve to the income statement	–	–	22	–	22
Total comprehensive (expense)/income for the year:	(240)	–	(210)	805	355
Balance at 31 March 2016	708	249	(1,009)	6,798	6,746
Profit for the year	–	–	–	552	552
Other comprehensive (expense)/income for the year:					
Impact of change in tax rate	14	–	(10)	15	19
Revaluation of the railway network	(1,075)	–	–	–	(1,075)
Transfer of deemed cost depreciation from revaluation reserve	(6)	–	–	6	–
Decrease in deferred tax liability on the railway network	204	–	–	(1)	203
Actuarial loss on defined benefit pension schemes	–	–	–	(799)	(799)
Deferred tax on actuarial loss	–	–	–	116	116
Decrease in fair value of hedging derivatives	–	–	(116)	–	(116)
Decrease in deferred tax liability on hedging derivatives	–	–	10	–	10
Reclassification of balances between reserves	344	–	(18)	(326)	–
Reclassification of balances in hedging reserve to the income statement	–	–	100	–	100
Total comprehensive expense for the year:	(519)	–	(34)	(437)	(990)
Balance at 31 March 2017	189	249	(1,043)	6,361	5,756

* Other reserves of £249m (2016: £249m) include the vesting reserve on privatisation.

There has been no movement in the current or prior year affecting the statement of changes in equity for the company.

FINANCIAL STATEMENTS

BALANCE SHEETS
AT 31 MARCH 2017

	Note	2017 Group £m	2016 Group £m	2017 Company £m	2016 Company £m
Assets					
Non-current assets					
Intangible assets	11	65	66	–	–
Property, plant and equipment – the railway network	12	62,730	58,532	–	–
Investment property	13	1,231	1,109	–	–
Derivative financial instruments	19	864	654	–	–
Other receivables	16	37	73	–	–
Interest in subsidiaries and joint ventures	14	33	35	–	–
		64,960	60,469	–	–
Current assets					
Inventories	15	191	205	–	–
Finance lease receivables		-	1	–	–
Trade and other receivables	16	1,462	1,720	–	–
Current tax assets		1	5	–	–
Derivative financial instruments	19	238	309	–	–
Cash and cash equivalents		942	1,191	–	–
		2,834	3,431	–	–
Total assets		67,794	63,900	–	–
Liabilities					
Current liabilities					
Trade and other payables	17	(4,222)	(3,365)	–	–
Borrowings	18	(3,396)	(2,685)	–	–
Derivative financial instruments	19	(1)	(9)	–	–
Provisions	20	(64)	(71)	–	–
		(7,683)	(6,130)	–	–
Net current liabilities		(4,849)	(2,699)	–	–
Non-current liabilities					
Borrowings	18	(44,166)	(40,601)	–	–
Derivative financial instruments	19	(1,528)	(1,399)	–	–
Other payables	17	(3,965)	(4,796)	–	–
Retirement benefit obligation	25	(2,311)	(1,420)	–	–
Deferred tax liabilities	21	(2,385)	(2,808)	–	–
		(54,355)	(51,024)	–	–
Total liabilities		(62,038)	(57,154)	–	–
Net assets		5,756	6,746	–	–
Equity					
Revaluation reserve		189	708	–	–
Other reserve		249	249	–	–
Hedging reserve		(1,043)	(1,009)	–	–
Retained earnings		6,361	6,798	–	–
Total equity		5,756	6,746	–	–

The financial statements on pages 94 to 137 were approved by the board of directors and authorised for issue on 14 July 2017.

They were signed on its behalf by:

Mark Carne
Chief executive

Chief financial officer

Company registration number: 4402220

STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED 31 MARCH 2017

	Note	2017 Group £m	2016 Group £m	2017 Company £m	2016 Company £m
Cash flows from operating activities					
Cash generated from operations	22	3,412	3,413	–	–
Interest paid*		(1,173)	(1,185)	–	–
Income tax (paid)/received		(2)	(1)	–	–
Net cash generated from operating activities		2,237	2,227	–	–
Investing activities					
Interest received		5	8	–	–
Purchases of property, plant and equipment		(6,837)	(6,616)	–	–
Proceeds on disposal of property		91	75	–	–
Capital grants received		436	764	–	–
Net cash inflows/(outflows) from joint ventures		2	7	–	–
Capital element of finance lease receipts		–	–	–	–
Net cash used in investing activities		(6,303)	(5,762)	–	–
Financing activities					
Repayments of borrowings	18	(2,393)	(3,070)	–	–
Proceeds from borrowings	18	6,094	7,500	–	–
Increase in collateral posted	18	194	(93)	–	–
Increase in collateral held	18	(71)	80	–	–
Cash (paid)/received on settlement of derivatives		(7)	(4)	–	–
Net cash generated from financing activities		3,817	4,413	–	–
Net increase/(decrease) in cash and cash equivalents		(249)	878	–	–
Cash and cash equivalents at beginning of the year		1,191	313	–	–
Cash and cash equivalents at end of the year		942	1,191	–	–

* Balance includes the net interest on derivative financial instruments

NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 MARCH 2017

1. General information

Network Rail Limited is a company limited by guarantee which is incorporated and domiciled in Great Britain and registered in England and Wales under the Companies Act 2006.

The company registration number is 4402220.

The company's registered office is situated at 1 Eversholt Street, London NW1 2DN, United Kingdom.

The company's and its subsidiaries' (together 'the group') principal activities are detailed in the 'About us' section on pages 4 to 6.

Network Rail Limited is organised as a single operating segment for financial reporting purposes.

2. Significant accounting policies

Basis of accounting

The financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) adopted for use in the European Union, and therefore comply with Article 4 of the European Union International Accounting Standard regulation, and in accordance with interpretations of the IFRS Interpretation Committee.

The financial statements have been prepared on the historical cost basis, except for the revaluation of the railway network to a value determined using an income approach, the revaluation of investment properties, the measurement of certain financial assets and liabilities at fair value through profit and loss (FVTPL) and the measurement of derivative financial instruments at fair value.

The principal accounting policies adopted by the directors are set out below. The policies have been consistently applied to the years presented.

Reclassification of Network Rail

In December 2013, the Office for National Statistics announced the reclassification of Network Rail as a Central Government Body in the UK National Accounts and Public Sector Finances with effect from 1 September 2014. This is a statistical change driven by new guidance in the European System of National Accounts 2010 (ESA10). The reclassification does not have any impact on the group's financial reporting requirements under IFRS.

Adoption of new and revised standards

The accounting policies adopted in this set of financial statements are consistent with those set out in the annual financial statements for the year to 31 March 2016.

The following accounting standards have not been early adopted by the group but will become effective in future years and are considered to have a material impact on the group that has yet to be assessed:

i) IFRS 9 'Financial Instruments'. This is a new standard that addresses the classification, measurement and recognition of financial assets and liabilities.

ii) IFRS 15 'Revenue from Contracts with Customers'. These are amendments and clarifications to the original issue of the standard.

iii) IFRS 12 'Disclosure on interest in Other Entities' provides further amendments after Annual Improvements assessments.

iv) IFRS16 'Leases' establishes principles for the recognition, measurement, presentation and disclosure of leases, with the objective of ensuring that lessees and lessors provide relevant information that faithfully represents those transactions.

v) IFRS 17 'Insurance Contracts .' This is a new standard released in May 2017 and applicable to annual periods from 1 January 2021.

There are no other IFRS or IFRS Interpretation Committee interpretations not yet effective that would be expected to have a material impact on the group.

NOTES TO THE FINANCIAL STATEMENTS CONTINUED

2. Significant accounting policies continued

Going concern
The group's business activities, together with the factors likely to affect its future development, performance and position are set out in the 'About us' section on pages 4 to 6, and 'Business unit summaries' on pages 15 to 32. The financial position of the group, its cash flows, liquidity position and borrowing facilities are described in the Chief Financial Officer's review on pages 9 to 13.

The group has considerable financial resources together with long-term contracts with a number of customers and suppliers. This includes the DfT loan facility of £30.875bn, which Network Rail intends to draw upon to deliver its investment activities in the next 12 months. Business plans and financial models are used to project cash flows and monitor financial risks and liquidity positions, forecast future funding requirements and other key financial ratios, including those relevant to our network licence. Analysis is undertaken to understand the resilience of the group and its business model to the potential impact of the group's principal risks, or a combination of those risks. This analysis takes account of the availability and effectiveness of the mitigating actions that could realistically be taken to avoid or reduce the impact or occurrence of the underlying risks. The board considers the likely effectiveness of such actions through regular monitoring and review of risk management and internal control systems. Further details are set out in the Viability Statement on pages 44 and 45.

In addition, Note 24 to the accounts includes the group's objectives, policies and processes for managing its capital; its financial risk management objectives; details of its financial instruments and hedging activities; and its exposures to credit, liquidity and foreign exchange risk.

After making enquiries, including those detailed above, the directors have a reasonable expectation that the company and the group have adequate resources to continue in operational existence for the foreseeable future. Accordingly, they continue to adopt the going concern basis in preparing the annual report and accounts.

Basis of consolidation
Subsidiaries are all entities (including structured entities) over which the group has control. The group controls an entity when the group is exposed to, or has rights to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Transactions with non-controlling interests that do not result in a loss of control are accounted for as equity transactions. In terms of subsidiaries the group:
- Consolidates subsidiaries from the date on which control passes to the group and deconsolidates from the date control ceases;
- Changes the accounting policies of subsidiaries, where necessary, to ensure consistency with the policies adopted by the group;
- Eliminates intercompany transactions and balances in the group results.

Revenue recognition
Revenue is measured at the fair value of the consideration received or receivable. Revenue represents amounts derived from the management and provision of assets for use in the operation of the railway, and property rental income net of value added tax. Amounts recognised take account of any performance penalties or bonuses in respect of the year.

Revenue also includes supplements to the access charges and bonuses receivable from, less penalties and rebates payable to, customers and stakeholders. Operating expenditure includes additional contract amounts and bonuses payable to, less penalties receivable from, suppliers and the Office of Rail and Road.

Interest income is accrued on a time basis, by reference to the principal outstanding and at the effective interest rate applicable. This is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount.

Grants
Grants and other contributions received towards the cost of property, plant and equipment are included in trade and other payables as deferred income and released to the income statement over the estimated useful economic life of the railway network. Revenue grants earned for the management and provision of railway network assets are credited to the income statement in the period to which they relate.

Leasing
Leases are classified as finance leases when the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

The group as lessor
Amounts due from lessees under finance leases are recorded as receivables at the amount of the group's net investment in the leases. Finance lease income is allocated to accounting periods so as to reflect a constant periodic rate of return on the group's net investment outstanding in respect of the leases.

Rental income from operating leases and initial direct costs are recognised on a straight-line basis over the term of the relevant lease.

2. Significant accounting policies continued

The group as lessee

Assets held under finance leases are recognised at their fair value as assets of the group or, if lower, at the present value of the minimum lease payments. Each is determined at the inception of the lease. The corresponding liability to the lessor is included in the balance sheet as a finance lease obligation. Lease payments are apportioned between finance charges and reduction of the lease obligation so as to achieve a constant rate of interest on the remaining balance of the liability. Finance charges are charged to the income statement, unless they are directly attributable to qualifying assets, in which case they are capitalised in accordance with the group's general policy on borrowing costs (see below).

Rentals payable under operating leases are charged to the income statement on a straight-line basis over the term of the relevant lease.

Foreign currencies

Monetary assets and liabilities expressed in foreign currencies are translated into sterling at the exchange rates prevailing at the balance sheet date. Foreign currency amounts are initially recorded at the exchange rates prevailing on the dates of the transactions. Gains and losses arising on retranslation are included in the income statement for the period and are classified as either operating or financing depending on the nature of the monetary item giving rise to them.

Borrowing costs

Borrowing costs directly attributable to the construction of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use, are added to the cost of those assets, until such time as the assets are substantially ready for their intended use.

All other borrowing costs are recognised in the income statement in the period in which they are incurred.

Operating profit

Operating profit is stated before finance income, finance costs, other gains and losses, and revaluation movements and profits on disposal of properties.

Retirement benefit costs

Payments to the defined contribution retirement benefit scheme are charged as an expense as they fall due.

For the defined benefit schemes, the cost of providing benefits is determined using the projected unit credit method, with full actuarial valuations being carried out at least every three years and updates to these valuations carried out in intervening years. The current service cost and plan administration expenses are recognised as an operating expense in the consolidated income statement.

The group's share of the actuarial gains and losses are recognised in full in the period in which they occur. They are recognised outside the income statement and presented in the statement of comprehensive income.

The net interest cost is the charge in the year on the net defined benefit liability. The charge reflects the passage of time and is recognised as a finance cost in the income statement.

Past service cost and credits are recognised immediately in the consolidated income statement.

The retirement benefit obligation recognised in the balance sheet represents the present value of the defined benefit obligation, as adjusted for unrecognised past service cost, and as reduced by the fair value of scheme assets. Any asset resulting from this calculation is limited to past service cost, plus the present value of available refunds and reductions in future contributions to the plan.

The group reflects its share of the obligation in the financial statements. The IAS 19 deficit, service cost and interest cost therefore represent 60 per cent of the total for each of the schemes. Further details on the retirement benefit schemes are provided in note 25.

NOTES TO THE FINANCIAL STATEMENTS CONTINUED

2. Significant accounting policies continued

Tax

The tax expense represents the sum of the current tax and deferred tax. The group's current tax liability is calculated using the tax rates that have been enacted or substantively enacted by the balance sheet date.

Current tax is based on the taxable results of the group and calculated in accordance with tax rules in the United Kingdom.

Deferred tax is the tax expected to be payable or recoverable on the temporary differences that arise when tax authorities recognise and measure assets and liabilities with rules that differ from those of the consolidated accounts. Deferred tax is calculated under the balance sheet liability method at the rate of tax expected to prevail, subject to the rate being enacted or substantively enacted by that date, when the temporary differences reverse. Deferred tax is not discounted.

Deferred tax liabilities are recognised for all taxable temporary differences. Deferred tax assets are recognised on all deductible temporary differences to the extent that it is probable that there will be taxable profits available against which the temporary timing differences can be utilised.

Deferred tax is charged or credited in the income statement except when it relates to items charged or credited directly to equity. In this case the deferred tax is also accounted for within equity.

Property, plant and equipment – the railway network

The group has one class of property, plant and equipment, being the railway network. This is the integrated network that the group uses to deliver the operation, maintenance and renewal of Great Britain's national rail infrastructure.

Valuation methodology

The railway network is carried in the balance sheet at its fair value. As there is no active market in railway infrastructure assets, the company has derived the fair value of the railway network using an income approach. The income approach assesses the discounted future cash flows that are expected to be generated by the railway network, including an assessment of under and outperformance against the current 5-year regulatory determination.
This valuation is carried out twice a year and revaluation gains and losses are reflected in other comprehensive income.

Depreciation

The railway network is depreciated on a straight-line basis over its estimated weighted average remaining useful economic life. The estimated weighted average remaining useful economic life of the network is currently 40 years (2016: 30 years). The remaining useful economic lives of network assets are estimated annually, with external verification of the valuation and asset lives carried out where required.

Capitalisation of operating costs

In line with IAS 16 Property, plant and equipment all directly attributable costs necessary to deliver the investment programme are capitalised. Employee and other associated costs are capitalised if they arise directly as a result of delivering the investment programme.

Investment property

Investment property, which is property held to earn rentals and/or for capital appreciation, is stated at its fair value at the balance sheet date. Gains and losses from changes in the fair value of investment property are included in the income statement for the period in which they arise.

Research and development

Research and general development expenditure is charged to the income statement as incurred. Expenditure on the development of specific projects is capitalised only if all of the following conditions are met:

- An asset is created that can be identified
- It is probable that the asset created will generate future economic benefits
- The development cost of the asset can be measured reliably.

Intangible assets

An intangible asset is only recognised if it is probable that future economic benefits will flow to the group and its costs can be measured reliably. Intangible assets are measured initially at purchase cost and are amortised on a straight-line basis. Cost includes the original purchase price of the asset and the costs attributable to bringing the asset to its working condition for its intended use. Licences and concessions are amortised over the length of their contractual agreement. Intangible assets are tested for impairment at each balance sheet date by comparing their carrying value and the expected discounted cash flows expected to arise from them over their contractual agreements. If the carrying value exceeds the discounted cash flows expected to arise from the assets, the carrying value would be impaired accordingly.

2. Significant accounting policies continued

Inventories

Inventories are stated at the lower of cost and net realisable value. Cost comprises direct materials, direct labour costs and those overheads that have been incurred in bringing the inventories to their present location and condition. Cost is calculated using the weighted average method.

Financial instruments

Financial assets and financial liabilities are recognised on the group's balance sheet when the group becomes party to the contractual provisions of the instrument.

Financial assets

Financial assets are classified as financial assets at fair value through profit or loss (FVTPL), 'available-for-sale' financial assets, and 'loans and receivables'. Trade receivables do not carry any interest and are stated at their nominal value as reduced by appropriate allowances for estimated irrecoverable amounts, recognised in the income statement. The remaining assets are measured at subsequent reporting dates at fair value.

Financial assets at FVTPL

Financial assets are classified as at fair value through profit or loss (FVTPL) where the asset is either held for trading or it is designated at FVTPL. Gains and losses arising from changes in fair value of these assets are recognised in the income statement for the period. A financial asset is classified as held for trading if:

- It has been acquired principally for the purpose of selling in the near future; or
- It is a derivative that is not designated and effective as a hedging instrument.

Impairment of financial assets

Financial assets, other than those at FVTPL, are assessed for indicators of impairment at each balance sheet date. Financial assets at FVTPL are stated at fair value with any resultant gain or loss recognised in the income statement. Financial assets are impaired where there is objective evidence that, as a result of one or more events that occurred after the initial recognition of the financial asset, the estimated future cash flows of the investment have been reduced.

The carrying amount of the financial asset is reduced by the impairment loss for all financial assets with the exception of trade receivables, which are reduced by appropriate allowances for irrecoverable amounts. If, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognised, the previously recognised impairment loss is reversed through the income statement. The reversal is only made to the extent that the carrying amount of the investment at the date the impairment is reversed does not exceed what the amortised cost would have been had the impairment not been recognised.

Cash and cash equivalents

Cash and cash equivalents comprise bank balances held by the group, commercial paper and money market deposit investments at varying rates. The carrying amount of these assets approximates their fair value.

Joint ventures

The results and net assets of joint ventures are incorporated in these financial statements using the equity method of accounting. Investments in joint ventures are carried in the balance sheet at cost and adjusted by post-acquisition changes in the group's share of net assets of joint ventures, less any impairment in the value of individual investments. Losses of a joint venture in excess of the group's interest in a joint venture are not recognised.

Financial liabilities

Financial liabilities are classified according to the substance of the contractual arrangements entered into.

Financial liabilities at FVTPL

Financial liabilities are classified as at FVTPL where the financial liability is either held for trading or it is designated at FVTPL. A financial liability is classified as held for trading if it is a derivative that is neither designated nor effective as a hedging instrument.

A financial liability, other than a financial liability held for trading, is designated as FVTPL upon initial recognition if such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise exist, in line with International Accounting Standard 39 Financial Instruments: Recognition and Measurement, paragraph 9. Certain bonds, as set out in Note 18, are designated at FVTPL. These bonds are hedged by derivative financial instruments as part of a documented risk management strategy. By recognising these bonds and derivatives at FVTPL the recognition inconsistencies that would otherwise exist with regard to these risk management strategies are significantly reduced.

The group derecognises financial liabilities when, and only when, the group's obligations are discharged, cancelled or expire.

2. Significant accounting policies continued

Debt

Debt instruments not designated at FVTPL are initially measured at fair value, net of discount and direct issue costs, and subsequently recognised at amortised cost using straight line amortisation as a proxy for the IAS 39 effective interest rate method. Finance charges, including premiums payable on settlement or redemption and direct issue costs, are accounted for on an accrual basis to the income statement using the effective interest rate method, and are added to the carrying value of the debt instrument to the extent that they are not settled in the period in which they arise.

Trade payables

Trade payables are ordinarily not interest bearing and are stated at cost.

Derivative financial instruments and hedge accounting

The group's activities expose it primarily to the financial risks of changes in interest rates and foreign currency exchange rates. The group uses interest rate swaps, cross-currency swaps and foreign exchange forward contracts to hedge these exposures. The use of financial derivatives is governed by the group's policies approved by the treasury committee of the board, which provide written principles on the use of financial derivatives.

Derivatives are initially recognised at fair value at the date a derivative contract is entered into and are subsequently remeasured to their fair value at each balance sheet date. Derivatives are presented on the balance sheet in line with their maturity date.

The group designates certain hedging instruments as either cash flow hedges or fair value hedges. At the inception of the hedge relationship, the entity documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions. Furthermore, at the inception of the hedge and on an ongoing basis, the group documents whether the hedging instrument that is used in a hedging relationship is highly effective in offsetting changes in fair value or cash flows of the hedged item.

Some derivatives, while complying with the group's financial risk management policies, do not qualify for hedge accounting and are therefore classified as held for trading. Changes in the fair value of derivative financial instruments that do not qualify for cash flow hedge accounting are recognised in the income statement as they arise.

Cashflow hedge accounting is discontinued when the hedging instrument expires, is sold, terminated, exercised or no longer meets the criteria for hedge accounting. Where the hedging instrument no longer meets the criteria for hedge accounting, the cumulative gain or loss on the hedging instrument that remains recognised directly in equity from the period when the hedge was effective remains in equity until the forecast transaction occurs.

In the instance where cashflow hedge accounting is discontinued since the forecast transaction is no longer expected to occur, the cumulative gain or loss on the hedging instrument that remains recognised directly in equity from the period where the hedge as effective is recognised in the income statement.

Derivatives embedded in other financial instruments or other host contracts are treated as separate derivatives when their risks and characteristics are not closely related to those of host contracts and the host contracts are not carried at fair value, with gains or losses being reported in the income statement.

Note 19 sets out details of the fair values of the derivative instruments used for hedging purposes. Movements in the hedging reserve in equity are detailed in the statement of changes in equity and in the statement of comprehensive income.

Fair value hedges

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recorded in the income statement, together with any changes in the fair value of the hedged item that is attributed to the hedged risk. The change in the fair value of the hedging instrument and the change in the hedged item attributable to the hedged risk are recognised within 'other gains and losses' in the income statement.

Cash flow hedges

Changes in the fair value of derivative financial instruments that are designated and effective as hedges of future cash flows are recognised in other comprehensive income, and the ineffective portion is recognised immediately within 'other gains and losses' in the income statement.

Provisions

Provisions are recognised when the group has a present obligation as a result of a past event, and it is probable that the group will be required to settle that obligation. Provisions are measured at the directors' best estimate of the expenditure required to settle the obligation at the balance sheet date, and are discounted to present value where the effect is material.

2. Significant accounting policies continued

Critical accounting judgements and key sources of uncertainty

(i) Property, plant and equipment – the railway network: the estimate of the fair value of the railway network is based on an income approach using the regulatory asset base, which equates to the discounted future cash flows associated with the network, adjusted for the net present value of any variances from the Office of Rail and Road's determination using the building block model of regulation. Further details are set out in Note 12. The following key changes have been applied in these accounts:

i) Forecasting the inflation to be applied to the regulatory asset base. Inflation is applied using the November Retail Prices Index. For every incremental 10 basis points, the regulatory asset base, on which the valuation is based, will increase by £62m (and vice versa in the case of a 10 basis points decrease in the Retail Price Index).

ii) The assessment of underperformance against the regulatory determination which is discussed in more detail in Note 12.

iii)The weighted average remaining asset lives have been increased from 30 years to 40 years. IAS 16 requires that management regularly review asset lives on at least an annual basis and that that depreciation is charged on a systematic basis that reflects the way the asset is consumed. In September 2016 Network Rail produced a detailed and rigorous depreciated replacement cost (DRC) valuation of the railway network for inclusion in DfT's group accounts. In preparing these interim financial statements management reviewed the weighted average remaining asset lives as produced in the DRC valuation and have therefore reflected this in these accounts.

(ii) Investment property – an element of the investment property portfolio valuation is determined using the Beacon method. Jones Lang LaSalle provided their assessment of yields for 13 properties in the portfolio. These are then used to produce income multipliers and applied to the rental streams from each of the individual properties in the portfolio to form an overall valuation. Further details are set out in Note 13.

(iii) Retirement benefit obligations – the group recognises and discloses its retirement benefit obligation in accordance with the measurement and presentational requirement of IAS 19 (Revised) 'Employee Benefits'. The calculations include a number of judgements and estimations in respect of the expected rate of return on assets, the discount rate, inflation assumptions, the rate of increase in salaries and life expectancy among others. Changes in these assumptions can have a significant effect on the value of the retirement benefit obligation. The key assumptions made are set out in Note 25. The total contribution rate payable under the Railway Pension Scheme (RPS) and the Career Average Revalued Earnings (CARE) scheme is normally split in the proportion 60:40 between the group and the members, respectively. The group reflects its share of the contribution in the financial statements.

(iv) Hedge accounting – forward starting sterling interest rate swaps are accounted for as cashflow hedges where it is believed that future sterling issuances are highly probable.

(v) Taxation – the group recognises and discloses its deferred tax assets in accordance with IAS 12. Where it is considered to be probable that deferred tax assets can be matched to future taxable profits then deferred tax assets are recognised, or offset against the overall deferred tax provision as appropriate. This evaluation requires significant judgements to be made, including the uncertainty of the availability of future taxable profits. Further details are set out in Note 10.

3. Revenue

	2017 Group £m	2016 Group £m
Franchised track access and grant income	5,885	5,742
Freight revenue	53	56
Property rental income	293	274
Other income	28	26
Revenue	6,259	6,098

The effect of the performance regimes was a net loss of £180m (2016: net loss of £146m) which led to a reduction in revenue of the respective amount.

NOTES TO THE FINANCIAL STATEMENTS CONTINUED

4. Net operating costs

	2017 Group £m	2016 Group £m
Employee costs (see Note 6)	2,160	1,929
Own costs capitalised	(985)	(873)
Other external charges (including infrastructure maintenance costs)	1,968	1,977
Other operating income and recoveries	(307)	(321)
Net operating costs before depreciation and amortisation	2,836	2,712
Depreciation (see Note 12)	1,515	1,876
Capital grants amortised	(88)	(97)
Net operating costs	4,263	4,491

5. Profit from operations

Total profit from operations is stated after charging/(crediting):

	2017 Group £m	2016 Group £m
Research and development costs expensed	–	1
Amortisation of intangible assets	1	1
Profit on sale of properties	(64)	(69)
Increase in the fair value of investment properties	(131)	(114)
Cost of inventories recognised as an expense	218	228
Write downs of inventories recognised as an expense	(2)	–
Amounts payable to auditors		
Fees payable to the company's auditors for the audit of the company and consolidated financial statements	0.4	0.5
Fees payable to the company's auditors for audit related services		
– The audit of the company's subsidiaries	0.1	0.1
– Regulatory accounts audit and interim review	0.1	0.1
Total amounts payable to auditors	0.6	0.7

In the financial years ended 31 March 2017 and 2016 there were no fees payable to the company's auditors in respect of non-audit related services.

6. Employee costs

The monthly average number of employees (including executive directors) was:

	2017 Group Number	2016 Group Number
Management and operation of the railway	38,529	37,481

	2017 Group £m	2015 Group £m
Their aggregate remuneration comprised:		
Wages and salaries	1,803	1,679
Social security costs	203	164
Defined contribution pension costs (see Note 25)	18	15
Defined benefit pension costs – current service costs (see Note 25)	178	195
Defined benefit pension costs – past service costs (see Note 25)	(42)	(124)
Total employee costs	2,160	1,929

In the years ended 31 March 2017 and 31 March 2016 key management personnel were all the executive directors and the chair of the board of directors. Full details of their remuneration are included within the annual remuneration report on pages 70 to 85.

7. Finance income

	2017 Group £m	2016 Group £m
Interest receivable on investments and deposits	5	8
	5	8

Finance income earned on financial assets analysed by category of asset, is as follows:

	2017 Group £m	2016 Group £m
Loans and receivables (including cash and bank balances)	5	8
	5	8

8. Other gains and losses

	2017 Group £m	2016 Group £m
Net ineffectiveness arising from cash flow hedge accounting	(52)	(25)
Fair value gain on fair value hedges	164	156
Fair value loss on carrying value of fair value hedged debt	(171)	(159)
Loss arising from fair value hedge accounting	(7)	(3)
Net decrease in fair value of non-hedge accounted debt	(28)	(15)
Gain/(loss) on derivatives not hedge accounted	66	(22)
Gain/(loss) arising from non-hedge accounting	38	(37)
Total other losses	(21)	(65)

No other gains and losses have been recognised in respect of loans and receivables other than those disclosed in this note. No gains or losses have been recognised on financial liabilities measured at amortised cost other than those disclosed in Note 9.

The movements in the hedged risk adjustment on fair value hedged debt, the movement in fair value of debt designated as fair value through profit and loss and exchange differences on retranslation of foreign currency debt that form part of the above total other gains and losses are in relation to debt issuances disclosed in Note 18.

9. Finance costs

	2017 Group £m	2016 Group £m
Interest on bank loans and overdrafts	16	10
Interest on loan issued by Department of Transport	417	275
Interest on bonds issued under the Debt Issuance Programme	991	772
Interest on derivative instruments	75	21
Defined benefit pension interest cost	45	49
Debt Issuance Programme financial indemnity fee	299	326
Other interest	3	2
Total borrowing costs	1,846	1,455
Less: capitalised interest	(154)	(133)
Total finance costs	1,692	1,322

Borrowing costs are included in the costs of qualifying assets to the extent that the asset is financed by the group. The average rate used during the year was 4.4 per cent (2016: 3.6 per cent).

10. Tax

	2017 Group £m	2016 Group £m
Current tax:		
Corporation tax charge	-	-
Adjustment in respect of prior years	6	(6)
Total current tax charge/(credit)	6	(6)
Deferred tax:		
Current year charge/(credit)	92	(187)
Effect of rate change	(90)	(181)
Adjustments in respect of prior years	(77)	68
Total deferred tax	(75)	(300)
Total tax credit	(69)	(306)

The tax credit for the year can be reconciled to the profit per the income statement as follows:

	2017 Group £m	2016 Group £m
Profit before tax	483	411
Tax at the UK corporation tax rate of 20 per cent (2016: 20 per cent)	97	82
Adjustments in respect of prior years	(71)	58
Effect of rate change	(90)	(181)
Income not subject to tax	28	(32)
De-recognition of deferred tax assets - brought forward	-	4
De-recognition of deferred tax assets - current year	1	9
Utilisation of tax losses previously de-recognised	(34)	(246)
Advance corporation tax previously written off	–	–
Tax credit for the year	(69)	(306)

UK corporation tax is calculated at 20 per cent (2016: 20 per cent). During 2015/16, legislation was enacted setting the corporation tax rates at 18 per cent from 1 April 2020. This resulted in a £181m credit in 2015/16. During 2016/17 further legislation was enacted reducing the rate from 1 April 2020 to 17 per cent. The effect of these future rate changes created a £90m credit in the current year's tax credit.

The utilisation of tax losses previously derecognised principally relates to offsetting the charge arising from the rate change in respect of assets derecognised under IAS 12 and the utilisation of brought forward losses by Network Rail Insurance Limited in the current year

The group have £37m (2016: £32m) of surplus advance corporation tax carried forward (including a release in relation to the prior year). No deferred tax asset has been provided in respect of this amount.

Under IAS 12 deferred tax assets can only be recognised where it is probable that taxable profits will be available against which the deferred tax asset can be utilised. As in 2016, it remains improbable that Network Rail will return to a level of taxable profits that will allow for recognition of deferred tax assets relating to the trading losses carried forward.

'Income not subject to tax in the year' is mainly due to the timing differences arising from accounting for derivatives and their associated tax charges/credits.

11. Intangible assets

Group	Concession £m
Cost	
At 1 April 2015, 31 March 2016 and 31 March 2017	78
Accumulated amortisation	
At 1 April 2015	(11)
Charge for the year	(1)
At 31 March 2016	(12)
Charge for the year	(1)
At 31 March 2017	(13)
Carrying amount	
At 31 March 2017	65
At 31 March 2016	66

The intangible assets above relate to seperable economic rights associated with the concession to run the operations, maintenance and renewal business of the Channel Tunnel Rail Link, and are held by the wholly owned company Network Rail (High Speed) Limited.

Intangible assets are being amortised over the life of the licence of 83 years to 2086. Amortisation is charged to net operating costs in the income statement.

12. Property, plant and equipment – the railway network

	Group £m
Valuation	
At 1 April 2015	54,091
Additions	6,684
Transfer from investment property	6
Depreciation charge for the year	(1,876)
Revaluation in the year	(373)
At 31 March 2016	58,532
Additions	6,788
Depreciation charge for the year	(1,515)
Revaluation in the year	(1,075)
At 31 March 2017	62,730

Given the economic and physical interdependency of the assets comprising the railway network, the company has concluded that the railway network is considered as a single class of asset. The railway network is carried at its fair value.

As there is no active market in railway infrastructure assets, the company has derived the fair value of the railway network using an income approach. Under this approach the cash flows that the company expects to generate from the railway network are assessed using a market rate of return. This valuation is carried out twice a year and revaluation gains and losses are reflected in other comprehensive income.

The independent rail regulator, the Office of Rail and Road (ORR), determines the revenue requirement of the company using the building block model of regulation. Under this model the company's annual income (received in the form of the network grant and track access charges) comprises:

a) The regulator's assessment of the efficient costs of operating and maintaining the network

b) An allowance for Regulatory Asset Base (RAB) amortisation – qualifying capital expenditure is added to the RAB as incurred and recovered by the company through future amortisation allowances (in order to spread the cost to customers and stakeholders of investment in the railway network over many years).

c) An allowed return on the RAB – calculated by applying the rate of return permitted by the ORR (based on its assessment of the market's cost of capital) to the RAB balance.

12. Property, plant and equipment – the railway network continued

Future cash flows under (a) are assumed to be equivalent over time to the company's actual costs of operation and maintenance, on the basis that the Regulator aims to set targets which are ambitious but achievable. These therefore have no net impact on forecast future cash flows, or the valuations. The allowed return (c) is based on a cost of capital which would be offset in a discounted future cash flows model (see Discount rate below). The economic rights inherent in ownership of the regulated railway network asset are therefore vested primarily in the value of the RAB, which will be recovered through future regulated income as the RAB is amortised (b).

This means that it is possible for the RAB itself to be used as the starting point for a discounted cash flow valuation. The RAB fluctuates in valuation; increasing in value principally as a result of allowances for capital expenditure and inflation indexation, whilst reducing for amortisation. The adjustments may give rise to upwards or downwards revaluations. Further changes are subject to:

a) Adjustment for any difference between regulatory rate of return and the market cost of capital that a third party investor would use to assess the value of the network; and

b) Adjustment for forecast future under or out performance against the regulatory determination over the remainder of the current control period. No adjustment is made in respect of future control periods on the expectation of the Regulator setting, over the long term, ambitious but achievable determination. See forecast performance variation below.

When valuing the network, management is required to consider the value a knowledgeable willing party would place on the network in an arm's length transaction. On the grounds that third party investors are known to value the assets of regulated companies by reference to the RAB, and that the cash flows associated with the regulatory framework are considered sufficiently stable and robust to form the basis of a third party valuation, management has used the RAB as the starting point for its valuation.

Third party funding

Assets funded directly by third party contributions rather than RAB funded are included in the valuation at cost. £3,525m (2016: £3,168m) of the total relates to property, plant and equipment elements funded outside the regulatory asset base, where cash has already been received, and deferred income recognised to match.

Depreciation

The depreciation charge for any year is calculated using the average carrying value for the year and the estimated remaining weighted average useful economic life of the railway network. The remaining weighted average useful economic life of the railway network was calculated using the engineering assessment of serviceable economic lives of the major categories that comprise the railway network. The estimated remaining weighted average useful economic life of the network is currently 40 years (2016: 30 years). As a result of the change in assets lives the depreciation charge reduced in the year by £361m from £1,876m to £1,515m. Although the change in asset life has no impact on the overall valuation increasing asset lives by one year would decrease depreciation by £37m, whereas decreasing asset lives by one year would increase depreciation by £39m. See critical judgements section on page 105 for more details.

Discount rate

The discount rate used in the income approach is the pre-tax rate of return set by the ORR. The ORR performs a periodic review every five years, which leads to the setting of the appropriate rate for the five-year period. The ORR's method encompasses advice from consultants, comparisons to similar infrastructure assets and discussions with Network Rail. Management believes this cost of capital reflects the assumptions that a market participant would make in arriving at a discount rate.

The ORR has determined that for CP5 it will not provide Network Rail with a full market cost of capital. The ORR believes that because Network Rail is primarily funded by debt supported by the Financial Indemnity Mechanism it is not necessary to provide a return on equity. A change in the rate of return affects the allowed return element of Network Rail's income, but the RAB is not affected. The ORR has confirmed that a conventionally funded market participant would receive an allowed return equal to the full market cost of capital.

Should the ORR amend the permitted rate of return in future quinquennial reviews, the regulator would raise or lower the permitted charges to customers so as to achieve the new rate of return. In other words, the cash flows would change but the RAB would not.

The rate of return set by the regulator is, at each quinquennial review date, consistent with the market discount rates for infrastructure assets. Movements in the market cost of capital within a review period would have a small effect on the valuation of the railway network. However, at the start of the next review period, the regulator will re-evaluate the rate of return and reset it to the market rate. Changes in the fair value of the railway network resulting from movements in the market rate would not be permanent – only lasting until the next review.

The valuation includes a reassessment of this rate to determine whether it continues to reflect conditions in the market in between review dates. This assessment is by reference to movements in observable market data, including the risk-free cost of borrowing, and changes in the weighted average cost of capital of listed utilities with similar gearing ratios.

The following table shows the effect of changes in the market discount rate on the carrying value of the railway network and on the depreciation charge. The analysis only considers the effects of movements in the market discount rate until the end of the control period (2019), and not in perpetuity. This is because the regulator performs a review every five years, so the rate applicable to the income streams derived from the railway network will be rebased to the market every five years. The effects of changes in the market discount rate apply equally to increases and to decreases in discount rates.

12. Property, plant and equipment – the railway network continued

	Change in cost of capital (basis points)	31 March 2017	31 March 2016
Change in fair value	25	£318m	£436m
	50	£635m	£873m
Percentage change in fair value	25	0.5%	0.8%
	50	1.0%	1.5%
Change in annual depreciation charge	25	£11m	£15m
	50	£21m	£29m

Forecast performance variations

In assessing the value of the railway network, management considers that a knowledgeable willing third party would take into account the perceived fairness and deliverability of the current regulatory determination. Accordingly management makes an addition (or deduction) to the valuation for its assessment of the likely ORR determination in respect of the financial consequences of anticipated future out (or under) performance against the regulatory determination.

Network Rail's cost outturns on capital work (renewals and enhancements) have an impact on future cash flows under our regulatory framework, since only a fraction of spend in excess of regulated cost targets can be added to the RAB. (There is also a similar incentive for out-performance.) Network Rail measures enhancement performance against the Hendy baseline of cost re-forecasts which followed the 2016 Hendy review into CP5 projects, and after allowing for an agreed change process with governments and ORR, in both assessing PPE valuation and in the regulatory financial statements. This is the benchmark that a third party would use in assessing the valuation of the railway network. As the railway network is measured at fair value it follows that the anticipated proceeds from any future disposals would be closely related to this value.

At 31 March 2017 the valuation included £1,308m (2016: £726m) of projected financial underperformance, which is expected to crystallise in the income statement or result in the ineligibility of additions to the RAB in future accounting periods. The downwards movement of £582m on the prior year variances is mostly due to:

i) projected increased financing costs arising from the effect of higher inflation assumptions on RPI-linked bonds (expectation is still for a favourable variance against regulatory determination, but more weakly than previously forecast); and

ii) an increase in the expected level of opex spending between 2017 and 2019, reflecting a number of factors including reforecasting of staff numbers and costs .

The most significant areas of projected under performance are renewals (£383m), operating expenditure (£834m), income (£145m), and enhancements (£80m) offset by projected outperformance on financing costs (£137m) as a result of favourable interest rate movements, after allowing for the impact of inflation increases on RPI-linked bonds.

The areas of performance subject to greatest estimation uncertainty are renewals and enhancements due to the complexities of forecasting cost and volume outcomes, and the Anticipated Final Cost of projects respectively.

The group estimates that a one per cent increase in the Anticipated Final Cost of enhancement projects would result in additional financial underperformance of £22m, and a one per cent increase in the unit cost of renewals would result in additional financial underperformance of £13m.

Critical judgements

The valuation includes the following critical judgements:

a) The regulatory framework and associated cash flows remain sufficiently stable and robust to form the basis of a third party valuation.

b) The ORR has committed to providing a market cost of capital return to a conventionally funded owner and operator of the network and the fair value calculation has been prepared on that basis.

c) Management's assessment of the deliverability of the current regulatory determination is a good indication of how other management groups would perform against the determination.

d) The deliverability of the current 5-year regulatory determination does not have any implication for the deliverability of future determinations (i.e. the ambition of the regulator at the start of each Control Period is to set the regulatory determination at a level which is challenging but achievable).

e) The regulator will take action following any significant future disposal of assets, such as investment property, to reduce Network Rail's rights under the RAB, but to a level where the effect on future cash flows is equal to the proceeds Network Rail is permitted to retain from the disposals .

12. Property, plant and equipment – the railway network continued

f) The weighted average remaining asset lives have been increased from 30 years to 40 years. IAS 16 requires that management regularly review asset lives; on at least an annual basis and that that depreciation is charged on a systematic basis that reflects the way the asset is consumed. Network Rail produces a detailed and rigorous depreciated replacement cost (DRC) valuation of the railway network for inclusion in DfT's group accounts. In preparing these accounts management reviewed the weighted average remaining asset lives as produced in the DRC valuation and have therefore reflected this in these accounts.

At 31 March 2017, the group had entered into contractual commitments in respect of capital expenditure amounting to £3,505m (2016: £2,807m).

13. Investment property

	Group £m
Fair value	
At 1 April 2015	982
Additions	25
Disposals	(6)
Transfers to property, plant and equipment	(6)
Increase in fair value in the year	114
At 31 March 2016	1,109
Additions	18
Disposals	(27)
Increase in fair value in the year	131
At 31 March 2017	1,231

The market values of the group's investment properties at 31 March 2017 have been arrived at on the basis of a valuation carried out at that date with Jones Lang LaSalle, external valuers not connected with the group. The fair value of the group's investment property portfolio is deemed to be the market value.

The valuation, which conforms to International Valuation Standards, was arrived at by splitting the portfolio between one-off individual properties to be valued separately and the remainder of the portfolio to be valued under the Beacon method.

Jones Lang LaSalle provided independent valuations of 17 one-off individual properties (2016: 17), amounting to 12 per cent (2016: 15 per cent) of the total valuation. The balance of the estate was valued under the Beacon method by splitting the portfolio into 13 homogeneous classes (2016: 13) of property and areas, assuming that the current passing rent received from these properties are in line with market rent. Jones Lang LaSalle independently assessed the appropriate yield to be adopted within each of these classes and areas. This enabled the directors to estimate market values by applying the provided yields to the net rental income from these properties, in accordance with a standard UK investment property valuation.

The property rental income earned by the group from its investment property, all of which is leased out under operating leases, amounted to £90m (2016: £88m). Direct operating expenses arising on the investment properties in the year amounted to £6m (2016: £6m).

The group's investment properties are let on a tenant repairing basis. The group's maintenance obligations are limited to common areas and vacant property units.

14. Investments in subsidiaries and joint ventures

Principal subsidiaries affecting the amounts shown in the financial statements are included in the list below.

Principal subsidiaries	Country of incorporation	Proportion of all classes of issued share capital owned	Principal activities
Network Rail Infrastructure Limited	Great Britain	100%	Operation, maintenance and renewal of the national railway infrastructure
Network Rail Insurance Limited	Guernsey	100%	Insurance
Network Rail Holdco Limited*	Great Britain	100%	Holding company of Network Rail Infrastructure Limited
Network Rail (High Speed) Limited	Great Britain	100%	Holds St Pancras concession and High Speed Railway Services Agreement
Network Rail Development Limited	Great Britain	100%	Holds 49.95% of each of the property joint ventures Solum Regeneration Limited Partnership and Solum Regeneration Epsom Limited Partnership
Network Rail Pension Trustee Limited	Great Britain	Company limited by guarantee	Administration of defined contribution and CARE defined benefit pension schemes
Network Rail Consulting Limited	Great Britain	100%	International rail consultancy
Network Rail Certification Body Limited	Great Britain	100%	Conformity assessment services to the rail industry
Network Rail (VY1) Limited	Great Britain	100%	Holds land required for works access
Network Rail (VY2) Limited	Great Britain	100%	Holds land required for works access

Shares held by a trustee			
Network Rail Infrastructure Finance PLC	Great Britain	Shares held by HSBC Trustee (C.I.) Limited	Issuer of the Debt Issuance Programme

* Directly owned by Network Rail Limited company.

The shares in Network Rail Infrastructure Finance PLC are held by HSBC Trustee (C.I.) Limited, for charitable purposes. The sole purpose of this company is to act as a special purpose funding vehicle. The company is treated as a subsidiary for accounting purposes as proceeds from debt issuances are lent on to Network Rail Infrastructure Limited and are used to finance the activities and to refinance the existing debt of the group.

Joint ventures	Country of incorporation	Proportion of all classes of issued share capital owned	Principal activities
Solum Regeneration (GP) Limited	Great Britain	50%	Holds 0.1% of the property joint venture Solum Regeneration Limited Partnership
Solum Regeneration Epsom (GP) Limited	Great Britain	50%	Holds 0.1% of the property joint venture Solum Regeneration (Epsom) Limited Partnership
Solum Regeneration Limited Partnership	Great Britain	50%	Property development
Solum Regeneration (Epsom) Limited Partnership	Great Britain	50%	Property development
Solum Regeneration Christchurch LLP	Great Britain	50%	Property development
The Station Office Network LLP	Great Britain	50%	Provides flexible office space, meeting rooms and virtual offices
West Hampstead Limited Partnership	Great Britain	50%	Property development

14. Investment in subsidiaries and joint ventures continued

	2017 Group £m	2016 Group £m
At 1 April	35	42
Investment in joint venutures	2	7
Provision for investment in joint ventures	–	(22)
Share of profit/(loss)	(4)	8
At 31 March	33	35

15. Inventories

	2017 Group £m	2016 Group £m
Raw materials and consumables	191	205

As at 31 March 2017 a provision of £23m was held in respect of inventories (2016: £24m).

16. Trade and other receivables

Non-current assets: other receivables	2017 Group £m	2016 Group £m	2017 Company £m	2016 Company £m
Regulatory income receivable	37	73	–	–

Current assets: trade and other receivables	2017 Group £m	2016 Group £m	2017 Company £m	2016 Company £m
Trade receivables	298	348	–	–
Capital grants receivable	132	120	–	–
Other taxation and social security	130	122	–	–
Other receivables	66	71	–	–
Collateral placed with banking counterparties	625	819		
Prepayments and accrued income	211	240	–	–
	1,462	1,720	–	–

Trade receivables include an allowance for estimated irrecoverable amounts from the supply of services of £14m (2016: £13m). This allowance has been made by reference to past default experience. Average debtor days were 63 days (2016: 57 days).

The directors consider that the carrying value of trade and other receivables approximates to their fair value. All balances are non-interest bearing and denominated in sterling. The group provides fully for receivables overdue by over six months because historical experience is that such receivables are generally not recoverable. All other trade receivables are provided for on the basis of estimated irrecoverable amounts, determined by reference to past default experience.

The group's credit risk is primarily attributable to its trade receivables. Around 95 per cent of the group's income is received from train operating companies and in the form of revenue grants from Government. Franchises are issued to train operating companies by the Department for Transport in England and Wales and Transport Scotland in Scotland. The group believes that amounts receivable from Government and the train operating companies represent a high level of credit quality. This is because in the extraordinary circumstance that a train operating company were to be unable to meet its obligations then provisions in the franchise agreements allow the Department for Transport to take over services at any time. Before accepting any other new customer, the group uses an external credit scoring system to assess the potential customer's credit quality.

Included in the group's trade receivable balance are amounts totalling £37m (2016: £30m) which are past due at the reporting date for which the group has not provided as there has not been a significant change in the credit quality and the amounts are still considered recoverable. The group does not hold collateral over these balances. The average age of these receivables is 25 days (2016: 64 days).

The following table shows the age of financial assets for the group which are past due and for which no specific provision has been raised:

	2017 Group £m	2016 Group £m	2017 Company £m	2016 Company £m
Past due by 1 – 28 days	16	17	–	–
Past due by 29 – 56 days	12	5	–	–
Past due by 57 – 84 days	3	2	–	–
Past due by 85 – 180 days	6	6	–	–
	37	30	–	–

Trade receivables of £11m (2016: £10m) are overdue by six months or more, and have been fully provided for.

17. Trade and other payables

Current liabilities: trade and other payables	2017 Group £m	2016 Group £m	2017 Company £m	2016 Company £m
Trade payables	614	652	–	–
Collateral received from banking counterparties	259	330	–	–
Payments received on account	34	28	–	–
Other payables	1,601	307	–	–
Other interest accruals	261	251	–	–
Other accruals and deferred income	1,453	1,797	–	–
	4,222	3,365	–	–

Other payables increased significantly during the year due to £1,270m relating to Crossrail funding becoming repayable within one year.

The average credit period taken for trade purchases is 30 days (2016: 31 days).

Before accepting new suppliers, and upon letting significant contracts, the group evaluates suppliers' creditworthiness using external credit scoring systems and other relevant data.

The directors consider that the carrying value of trade and other payables approximates to their fair value. All balances are ordinarily non-interest bearing and denominated in sterling.

Non-current liabilities: other payables	2017 Group £m	2016 Group £m	2017 Company £m	2016 Company £m
Capital grants deferred income	3,665	3,300	–	–
Other payables	300	1,496	–	–
	3,965	4,796	–	–

18. Borrowings

	2017 Group £m	2016 Group £m	2017 Company £m	2016 Company £m
Net borrowings by instrument:				
Cash and cash equivalents*	942	1,191	–	–
Collateral placed with counterparties	625	819	–	–
Collateral received from counterparties	(259)	(330)	–	–
Bank loans	(479)	(477)	–	–
Bonds issued under the Debt Issuance Programme (less unamortised premium, discount and fees)	(27,046)	(28,869)	–	–
Borrowings issued by the Department for Transport	(20,037)	(13,940)	–	–
	(46,254)	(41,606)	–	–
Movement in net borrowings:				
At the beginning of the year	(41,606)	(37,759)	–	–
(Decrease)/increase in cash and cash equivalents	(249)	878	–	–
Proceeds from borrowings	(6,094)	(7,500)	–	–
Repayments of borrowings	2,393	3,070	–	–
Capital accretion	(449)	(221)	–	–
Exchange differences	42	(3)	–	–
Movement in collateral placed with counterparties	(194)	93	–	–
Movement in collateral received from counterparties	71	(80)	–	–
Fair value and other movements	(168)	(84)	–	–
At the end of the year	(46,254)	(41,606)	–	–

Net borrowings are reconciled to the balance sheet as set out below:				
Cash and cash equivalents*	942	1,191	–	–
Collateral placed with counterparties (included in trade and other receivables)	625	819	–	–
Collateral received from counterparties (included in trade and other payables)	(259)	(330)	–	–
Borrowings included in current liabilities	(3,396)	(2,685)	–	–
Borrowings included in non-current liabilities	(44,166)	(40,601)	–	–
	(46,254)	(41,606)	–	–

* Includes collateral received from derivative counterparties of £259m (2016: £330m).

18. Borrowings continued

	2017 Group £m	2016 Group £m	2017 Company £m	2016 Company £m
1.085% sterling index linked bond due 2052	129	126	–	–
0% sterling index linked bond due 2052	137	133	–	–
1.003% sterling index linked bond due 2051	24	24	–	–
0.53% sterling index linked bond due 2051	124	121	–	–
0.517% sterling index linked bond due 2051	125	121	–	–
0% sterling index linked bond due 2051	138	133	–	–
0.678% sterling index linked bond due 2048	122	119	–	–
1.125% sterling index linked bond due 2047	5,366	5,245	–	–
0% sterling index linked bond due 2047	87	83	–	–
1.1335% sterling index linked bond due 2045	50	49	–	–
1.5646% sterling index linked bond due 2044	279	274	–	–
1.1565% sterling index linked bond due 2043	56	55	–	–
1.1795% sterling index linked bond due 2041	69	67	–	–
1.2219% sterling index linked bond due 2040	275	270	–	–
1.2025% sterling index linked bond due 2039	75	73	–	–
4.6535% sterling bond due 2038	100	100	–	–
1.375% sterling index linked bond due 2037	5,247	5,122	–	–
4.75% sterling bond due 2035	1,230	1,229	–	–
1.6492% sterling index linked bond due 2035	418	410	–	–
4.375% sterling bond due 2030	871	871	–	–
1.75% sterling index linked bond due 2027	5,157	5,056	–	–
4.615% Norwegian krone bond due 2026*	56	52	–	–
4.57% Norwegian krone bond due 2026*	16	15	–	–
1.9618% sterling index linked bond due 2025	353	346	–	–
4.75% sterling bond due 2024	738	736	–	–
3% sterling bond due 2023	398	397		
2.76% Swiss franc bond due 2021	238	217	–	–
2.315% Japanese yen bond due 2021*	78	69	–	–
2.28% Japanese yen bond due 2021*	77	69	–	–
2.15% Japanese yen bond due 2021*	78	69	–	–
4.625% sterling bond due 2020	999	998	–	–
1.75% US dollar bond due 2019**	797	710	–	–
0.875% US dollar bond due 2018**	1,394	1,216	–	–
0.75% US dollar bond due 2017**	996	865	–	–
1% sterling bond due 2017	749	748	–	–
Floating rate US dollar bond due 2017**	–	347	–	–
6% Australian dollar bond due 2016	–	267	–	–
0.625% US dollar bond due 2016**	–	868	–	–
1.25% US dollar bond due 2016**	–	696	–	–
1.125% sterling bond due 2016*	–	503	–	–
	27,046	28,869	–	–

* Bonds treated as fair value through profit and loss.
** Bonds in a fair value hedge arrangement.
All other bonds are shown net of unamortised discount and fees.

18. Borrowings continued

Bank loans are analysed as follows:

	2017 Group £m	2016 Group £m	2017 Company £m	2016 Company £m
Index-linked European Investment Bank due 2036 (£229m) and 2037 (£226m)	467	459	–	–
Barclays Bank due 2017 repayable by instalments	12	18	–	–
	479	477	–	–

At 31 March 2017 and 2016 the group had the following undrawn committed borrowing facilities:

	2017 Drawn £m	2017 Undrawn £m	2017 Total £m	2016 Drawn £m	2016 Undrawn £m	2016 Total £m
Department for Transport loan facility	20,050	10,825	30,875	13,950	16,925	30,875
	20,050	10,825	30,875	13,950	16,925	30,875

Undrawn committed facilities expire as follows:

	2017 Group £m	2016 Group £m
Within one year	–	–
Within two to five years	10,825	16,925
After five years	–	–
	10,825	16,925

On 4 July 2014 the Secretary of State for Transport provided the group with a loan facility of £30,875m expiring on 31 March 2019. On 1 September 2015 the group terminated its standby facility A. In addition the Secretary of State for Transport has provided unlimited financial indemnity in respect of borrowings under the Debt Issuance Programme which expires in 2052.

19. Derivative financial instruments

	2017 Group	
	Fair value £m	Notional amounts £m
Derivative financial instrument assets		
Cash flow hedges		
Cross-currency swaps to hedge debt issued under the Debt Issuance Programme	153	128
Forward starting interest rate swaps	–	–
Fair value hedges		
Cross-currency swaps to hedge debt issued under the Debt Issuance Programme	671	2,513
Non-hedge accounted derivatives		
Cross-currency swaps to hedge debt issued under the Debt Issuance Programme	120	198
Interest rate swaps	156	9,144
Forward foreign exchange contracts	2	43
	1,102	12,026
Included in non-current assets	864	9,027
Included in current assets	238	2,999
	1,102	12,026
Derivative financial instrument liabilities		
Cash flow hedges		
Interest rate swaps	(26)	130
Forward starting interest rate swaps	(636)	5,696
Fair value hedges		
Cross-currency swaps to hedge debt issued under the Debt Issuance Programme	–	–
Non-hedge accounted derivatives		
Interest rate swaps to hedge debt issued under the Debt Issuance Programme	(864)	12,100
Forward foreign exchange contracts	(3)	48
	(1,529)	17,974
Included in current liabilities	(1)	34
Included in non-current liabilities	(1,528)	17,940
	(1,529)	17,974

19. Derivative financial instruments continued

	2016 Group	
	Fair value £m	Notional amounts £m
Derivative financial instrument assets		
Cash flow hedges		
Cross-currency swaps to hedge debt issued under the Debt Issuance Programme	217	331
Forward starting interest rate swaps	–	–
Fair value hedges		
Cross-currency swaps to hedge debt issued under the Debt Issuance Programme	505	4,198
Non-hedge accounted derivatives		
Cross-currency swaps to hedge debt issued under the Debt Issuance Programme	93	198
Interest rate swaps	141	7,521
Forward foreign exchange contracts	7	109
	963	12,357
Included in non-current assets	654	9,910
Included in current assets	309	2,447
	963	12,357
Derivative financial instrument liabilities		
Cash flow hedges		
Interest rate swaps	(39)	333
Forward starting interest rate swaps	(826)	9,241
Fair value hedges		
Cross-currency swaps to hedge debt issued under the Debt Issuance Programme	–	–
Non-hedge accounted derivatives		
Interest rate swaps to hedge debt issued under the Debt Issuance Programme	(541)	7,476
Forward foreign exchange contracts	(2)	44
	(1,408)	17,094
Included in current liabilities	(9)	222
Included in non-current liabilities	(1,399)	16,872
	(1,408)	17,094

NOTES TO THE FINANCIAL STATEMENTS CONTINUED

20. Provisions

	Legal £m	Restructuring £m	Other £m	Total £m
At 1 April 2016	1	-	70	71
Charge for the year	-	-	16	16
Utilised in the year	-	-	(8)	(8)
Release for the year	-	-	(15)	(15)
At 31 March 2017	1	-	63	64
Included in current liabilities				64

The group has also provided against a number of claims arising from interpretations of legal contracts or past events for which settlement is expected to be achieved in the next year, but could be deferred to future years depending on the legal interpretation of rights and responsibilities under the contracts as well as commercial negotiation. The provisions that have been recorded represent the directors' best estimate of the expenditure required to settle the obligation, with the benefit of legal advice.

Provisions are measured at the directors' best estimate of the expenditure required to settle the obligation at the balance sheet date. The nature of these claims means that there is some uncertainty with regard to the value that they will be settled at. If the outcomes of the claims are different to the assumptions underpinning the directors' best estimates then a further liability may arise.

Contingent liability

Provisions are measured at the directors' best estimate of the expenditure required to settle the obligation at the balance sheet date. The nature of these claims means that there is some uncertainty with regard to the value that they will be settled at. If the outcomes of the claims are different to the assumptions underpinning the directors' best estimates then a further liability may arise.

The group's lawyers have advised that the provisions for the claims are realistic and no provision has been made for contingent liabilities as the directors do not consider there is any probable loss. As envisaged by paragraph 92 of IAS 37 the directors consider that further disclosure regarding the nature and amount of the disputes beyond that disclosed here could be expected to prejudice seriously the position of the group.

21. Deferred tax

The following are the deferred tax liabilities and assets recognised by the group and movement thereon during the current and prior year.

Group	Accelerated tax depreciation £m	Revaluation of railway network £m	Short-term timing differences including retirement benefit obligations £m	Derivatives £m	Tax losses £m	Total £m
At 31 March 2015	2,751	759	(304)	24	–	3,230
(Credit)/charge to income	(19)	–	(1)	(31)	178	127
(Credit)/charge to other comprehensive income	–	(76)	18	(38)	–	(96)
Impact of change in tax rate to income	(262)	–	19	(2)	64	(181)
Impact of change in tax rate to equity	–	(75)	11	17	–	(47)
De-recognition of deferred tax asset to equity	–	–	–	21	–	21
Utilisation of losses previously derecognised	–	–	–	(4)	(242)	(246)
At 31 March 2016	2,470	608	(257)	(13)	–	2,808
(Credit)/charge to income	75	–	(18)	(9)	–	48
(Credit)/charge to other comprehensive income	–	(204)	(115)	(3)	–	(322)
Impact of change in tax rate to income	(134)	–	10	1	33	(90)
Impact of change in tax rate to equity	–	(14)	(15)	10	–	(19)
Transfer between reserves	–	(344)	344	–	–	–
De-recognition of deferred tax asset to income	–	–	–	–	1	1
De-recognition of deferred tax asset to equity	–	–	–	(7)	–	(7)
Utilisation of losses previously derecognised	–	–	–	–	(34)	(34)
At 31 March 2017	2,411	46	(51)	(21)	–	2,385

21. Deferred tax continued

Certain deferred tax assets and liabilities have been offset. The following is the analysis of the gross deferred tax balances:

	2017 £m	2016 £m
Deferred tax liabilities	2,457	3,078
Deferred tax assets	(72)	(270)
	2,385	2,808

Under IAS 12 deferred tax assets can only be recognised where it is probable that taxable profits will be available against which the deferred tax asset can be utilised. During the year Network Rail has derecognised the deferred tax asset in respect of tax losses and derivatives. Deferred tax assets in respect of current year losses on derivatives of £21m has been derecognised.

22. Notes to the statement of cash flows

	2017 Group £m	2016 Group £m	2017 Company £m	2016 Company £m
Profit before tax	483	411	–	–
Adjustments for:				
Property revaluation movements and profits on disposal	(195)	(183)	–	–
Fair value loss on derivatives and debt	21	65	–	–
Net interest expense	1,687	1,314	–	–
Depreciation of the railway network	1,515	1,876	–	–
Amortisation of capital grants	(88)	(97)	–	–
Amortisation of intangible assets	1	–	–	–
Movement in retirement benefit obligations	47	(36)	–	–
(Decrease)/increase in provisions	(7)	21	–	–
Operating cash flows before movements in working capital	3,464	3,371	–	–
Increase/(decrease) in inventories	14	(7)	–	–
Decrease/(increase) in receivables	101	(114)	–	–
(Decrease)/increase in payables	(167)	163	–	–
Cash generated from operations	3,412	3,413	–	–

Cash and cash equivalents

Cash and cash equivalents (which are represented as a single class of assets on the face of the balance sheet) comprise cash at bank, collateral, commercial paper and money market deposit investments, all of which are on call with the exception of short-term deposits. There were £368m of short term deposits held as at 31 March 2017 with an average term of 3 days from the balance sheet date (2016: £363m of short term deposits with an average term of 22 days). Cash and money market deposits had an average maturity of 52 days (2016: 48 days) from the balance sheet date.

23. Operating lease arrangements

The group as lessee	2017 Group £m	2016 Group £m
Minimum lease payments under operating leases recognised in the income statement in the year	36	58

At the balance sheet date, the group had outstanding commitments for future minimum lease payments under non-cancellable operating leases, which fall due as follows:

	2017 Group £m	2016 Group £m
Within one year	33	41
In the second to fifth years inclusive	81	80
After five years	115	117
	229	238

Operating lease payments largely represent rentals payable by the group for certain of its office properties. Leases are negotiated for an average term of seven years and rentals fixed for an average of three years. In addition rentals are paid for land adjacent to the railway required for maintenance and renewal activities.

The group as lessor

Operating lease rentals earned in the year by the group were £391m (2016: £341m). This amount includes property rental income of £293m (2016: £274m), as disclosed in Note 3.

At the balance sheet date, the group had contracted with customers for the following future minimum lease payments:

	2017 Group £m	2016 Group £m
Within one year	426	284
In the second to fifth years inclusive	1,024	1,119
After five years	2,029	2,468
	3,479	3,871

24. Funding and financial risk management

Introduction

The group is almost entirely debt financed. Debt has been issued through the special purpose financing company Network Rail Infrastructure Finance PLC, which is not a member of the Network Rail Limited group, but is treated as a subsidiary for accounting purposes. The majority of the group's existing debt has been issued by Network Rail Infrastructure Finance PLC under the Debt Issuance Programme which is rated AA by Standard and Poor's, Aa1 (outlook negative) by Moody's and AA (outlook negative) by Fitch. The Debt Issuance Programme is supported by a financial indemnity from the Secretary of State for Transport which expires in 2052.

Debt has been issued in a number of currencies and a range of maturities which gives rise to interest rate, foreign currency and inflation risk. Financial risk management aims to mitigate these risks.

Reclassification of Network Rail

In December 2013, the Office for National Statistics announced the reclassification of Network Rail as a Central Government Body in the UK National Accounts and Public Sector Finances with effect from 1 September 2014. This is a statistical change driven by new guidance in the European System of National Accounts 2010 (ESA10).

As part of Network Rail's formal reclassification to the public sector, an arrangement was agreed whereby funding would be provided by the DfT in the form of a loan made directly to Network Rail Infrastructure Limited, to fund the continuing programme of long-term investment in the national rail network. Network Rail Infrastructure Finance PLC does not anticipate issuing further bonds in the foreseeable future and its debt service obligations would be met through repayments of the intercompany loan by Network Rail Infrastructure Limited.

All of the outstanding bonds under the Debt Issuance Programme, including nominal and index-linked benchmarks and private placements in all currencies, will continue to benefit from the direct and explicit guarantee from the UK Government under the Financial Indemnity Mechanism. In the unlikely event that the DfT withdraws or breaches its obligations on the loan facility to Network Rail the group may issue further bonds or commercial paper to meet funding requirements.

Externally imposed capital requirements

The Network Rail group is almost entirely debt financed and therefore manages its debt as the key part of its capital. Network Rail manages its debt in relation to the Regulatory Asset Base (RAB). This is an important business ratio because the value of the RAB and the amount of debt that the business can sustain are, generally speaking, closely related. Network Rail's debt cannot exceed the value of the RAB; a debt to RAB ratio of significantly less than 100 per cent indicates that the business is more robust to future cost shocks (because it is more likely to be able to service additional debt that may arise from losses incurred).

NOTES TO THE FINANCIAL STATEMENTS CONTINUED

24. Funding and financial risk management continued

The RAB and regulatory debt are reconciled to property, plant and equipment (in Note 12) and net debt (in Note 18) as follows:

	2017 £m	2016 £m
Net debt per Note 18	(46,254)	(41,606)
Revaluations and remeasurements	1,462	1,428
Regulatory net debt	(44,792)	(40,178)

The RAB used to calculate the debt to RAB ratio is:

	2017 £m	2016 £m
Railway network per Note 12	62,730	58,532
Investment properties per Note 13	1,231	1,109
Capital grant funded assets	(3,525)	(3,168)
Other fair value adjustments	1,317	704
RAB	61,753	57,177

The debt to RAB ratio at 31 March 2017 and 2016 was as follows:

	2017	2016
Debt: RAB ratio	72.5%	70.3%

The debt to RAB ratio is based on regulatory net debt, which recognises debt at hedged rates.

The group's subsidiary, Network Rail Infrastructure Limited, owns and operates Britain's rail network under licence from the ORR. The licence imposes conditions on the company with regard to its net debt. Should the value of the company's qualifying net debt exceed 75 per cent of the ORR's RAB then the ORR will be formally notified.

24. Funding and financial risk management continued

Summary table of financial assets and liabilities

The following table presents the carrying amounts and the fair values of the group's financial assets and liabilities at 31 March 2017 and 31 March 2016.

The fair values of the financial assets and liabilities are recorded at the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale. The following methods and assumptions were used to estimate the fair values where balances were not already held at fair value:

- Bank loans – based on market data at the balance sheet date and the net present value of discounted cash flows
- Certain bonds issued under the Debt Issuance Programme – based on market data at the balance sheet date. Where market data is not available valuations have been obtained from dealing banks.

For cash and cash equivalents, finance lease receivables, trade and other payables and trade and other receivables, fair value equates to carrying value.

	2017		2016	
Group	Carrying value £m	Fair value £m	Carrying value £m	Fair value £m
Financial assets				
Cash and cash equivalents as loans and receivables	942	942	1,191	1,191
Other non-derivative financial assets				
Finance lease receivables	-	-	1	1
Investment property	1,231	1,231	1,109	1,109
Plant, property and equipment - the railway network	62,730	62,730	58,532	58,532
Trade and other receivables (less prepayments and accrued income and other taxation and social security)	1,158	1,158	1,430	1,430
Derivatives				
Derivatives designated as cash flow hedging instruments	153	153	217	217
Derivatives designated as fair value hedging instruments	671	671	505	505
Other derivatives as fair value through profit and loss	278	278	241	241
Total derivatives	1,102	1,102	963	963
Total financial assets	67,163	67,163	63,226	63,226
Financial liabilities				
Financial liabilities held at amortised cost				
Bank loans	(479)	(839)	(477)	(766)
Bonds issued under the Debt Issuance Programme	(26,742)	(31,975)	(28,093)	(31,649)
Borrowings issued by Department for Transport	(20,037)	(20,370)	(13,940)	(14,293)
Financial liabilities designated as fair value through profit and loss				
Bonds issued under the Debt Issuance Programme	(304)	(304)	(776)	(776)
Total borrowing	(47,562)	(53,488)	(43,286)	(47,484)
Trade and other payables at amortised cost	(4,306)	(4,306)	(4,616)	(4,616)
Derivatives				
Derivatives designated as cash flow hedging instruments	(662)	(662)	(865)	(865)
Derivatives designated as fair value hedging instruments	–	–	–	–
Other derivatives as fair value through profit and loss	(867)	(867)	(543)	(543)
Total derivatives	(1,529)	(1,529)	(1,408)	(1,408)
Total financial liabilities	(53,397)	(59,323)	(49,310)	(53,508)

NOTES TO THE FINANCIAL STATEMENTS CONTINUED

24. Funding and financial risk management continued

Derivatives

The group (including the group's special purpose financing company, Network Rail Infrastructure Finance PLC) uses derivative financial instruments to reduce exposure to foreign exchange risk and interest rate movements. The group does not use derivative financial instruments for speculative purposes. Certain derivatives are designated as hedges, and those derivatives that are not hedge accounted are fair valued immediately through the income statement. The group has a comprehensive risk management process.

The board, through a treasury sub-committee (the treasury committee), has approved and monitors the risk management processes, including documented treasury policies, counterparty limits, controlling and reporting structures.

The use of derivative instruments can give rise to credit and market risk. Market risk is the possibility that future changes in foreign exchange rates and interest rates may make a derivative more or less valuable. Since the group uses derivatives for risk management, market risk relating to derivative instruments will principally be offset by changes in the valuation of the underlying assets, liabilities or transactions being hedged.

Credit risk

The credit risk for all classes of derivative financial instruments and other funds is limited because counterparties are banks with high credit ratings assigned by international credit rating agencies. The treasury committee authorises the policy for setting counterparty limits based on credit ratings. The group spreads its exposure over a number of counterparties, and has strict policies on how much exposure can be assigned to each counterparty. The amount of the group's investments varies depending on the level of surplus liquidity the group chooses to hold at any point in time. However, because of the strict criteria governing counterparty suitability the risk is mitigated. The treasury committee also authorises the investment and borrowing instruments that can be used.

For debt designated as fair value through profit and loss (FVTPL) there has been no change in carrying value as a result of changes in the group's credit risk. The loss in the income statement arising from the remeasurement of FVTPL debt items of £46m (2016: £15m loss) are all attributable to changes in market risk.

The credit risk with regard to all classes of derivative financial instruments entered into before 1 January 2013 is limited because Network Rail has arrangements in place which limit each bank to a threshold (based on credit ratings), which if breached requires the bank to post collateral in cash or eligible securities. The members of the banking group are required to post collateral on positive mark to market swaps above the threshold. In December 2012 the group entered into new collateral agreements in respect of derivative trades entered into after 1 January 2013. Under the terms of the new agreements Network Rail posts collateral on adverse net derivative positions with its counterparties. The new agreements do not contain a provision for thresholds; as such Network Rail or its counterparties are required to post collateral for the full fair value of net out of the money positions. At 31 March 2017 the fair value of collateral held was £259m (2016: £330m). The group is the beneficial owner of this collateral. The group is free to invest or otherwise utilise the collateral at its discretion, subject to acting within the authority sanctioned by the treasury committee. The balance of collateral posted by the group at 31 March 2017 was £625m (2016: £819m).

The group does not have any significant credit risk exposure to any single counterparty and has considered the creditworthiness of debtors. For further detail on the creditworthiness of customers and suppliers, see Notes 16 (Trade and other receivables) and 17 (Trade and other payables).

The group considers its maximum exposure to credit risk to be the sum of its financial assets as set out on page 127.

Foreign exchange risk

Network Rail is exposed to currency risks from its investing, financing and operating activities. Foreign exchange risk for all currencies is managed by the use of forward exchange contracts and currency swaps to limit the effects of movements in exchange rates on foreign currency denominated liabilities.

It is estimated that a general increase of ten percentage points in the value of any currency against sterling would have no material effect on the group's profit before tax or equity due to all currency positions being 100 per cent hedged and therefore no sensitivity analysis is produced.

24. Funding and financial risk management continued

Interest rate and inflation risk

The group is exposed to changes in interest rates as funds are borrowed at both fixed and floating interest rates. The hedging strategy approved by the treasury committee defines the appropriate mix between fixed and floating borrowings. Cross-currency and interest rate swap contracts are used to manage the fixed/floating ratio.

Debt with a carrying value of £21,373m (2016: £38,222m) is arranged at or swapped into fixed interest rates and exposes the group to fair value interest rate risk. Other borrowings were arranged at or swapped into floating rates, thus exposing the group to cash flow interest rate risk.

The group has forward starting interest rate swaps with a notional value of £5,696m which hedge the interest rate on forecast borrowings in CP5. The weighted average rate on these swaps is 3.30 per cent.

The group has certain debt issuances which are index-linked and so are exposed to movements in inflation rates. The group does not enter into any derivative arrangements to hedge its exposure to inflation in relation to its index-linked debt, but rather to mitigate the effects of inflation on the group's retail price index-linked revenue streams.

Sensitivity analysis

This sensitivity analysis has been determined based on the exposure to interest rates and inflation for both derivative and non-derivative financial instruments at the balance sheet date. A one per cent increase or decrease represents management's assessment of the reasonably possible changes in average interest rates and inflation.

	Group 31 March 2017		Group 31 March 2016	
	Impact on the income statement £m	Impact on equity £m	Impact on the income statement £m	Impact on equity £m
1% increase in the interest rate	(726)	(159)	(1,188)	(366)
1% increase in the GBP RPI on index linked bonds	(182)	–	(171)	–

A one per cent decrease in the above rates would have an equal and opposite effect.

Interest rate sensitivities have been calculated by comparing the average rates of the derivative financial instruments to the market rate for similar instruments.

The impact of a change in GBP RPI has been calculated by applying a change of one per cent to the RPI at the balance sheet date to the carrying value of the index linked bonds.

The group believes that the above analysis is unrepresentative of the risks inherent in issuing index-linked debt. Franchised track access and grant income constitute £5,885m (2016: £5,742m) of revenue which is far in excess of an index-linked interest expense of £239m (2016: £239m). Currently, these sources of income are contractually index-linked and, whilst there is no absolute contractual guarantee for future regulatory control periods that this will continue, the group is highly confident that this will continue to be the case. Therefore, the natural hedge that exists between finance costs and revenue mitigates the risk of RPI movements.

NOTES TO THE FINANCIAL STATEMENTS CONTINUED

24. Funding and financial risk management continued

Liquidity risk management

The ultimate responsibility for liquidity risk management rests with the board of directors. The policy manual ratified by the treasury committee includes an appropriate liquidity risk management framework covering the group's short, medium and long-term funding and liquidity management requirements. The Treasury funding is subject to regular internal audits. Treasury provides sufficient liquidity to meet the group's needs, while reducing financial risks and prudently maximising interest receivable and minimising credit risk on surplus cash.

The group manages liquidity risk by maintaining sufficient cash and facilities to cover at least one year's working capital requirement by continuously monitoring forecast and actual cash flows. Included in Note 19 is a description of additional undrawn facilities that the group has at its disposal to further reduce liquidity risk.

The following table details the group's remaining contractual maturity for its financial liabilities. The table has been drawn up on the undiscounted cash flows of financial liabilities based on the earliest date on which the group can be required to pay and, therefore, differs from both the carrying value and the fair value. The table includes both interest and principal cash flows.

Group	Within 1 year £m	1-2 years £m	2-5 years £m	5+ years £m	Total £m
31 March 2017					
Non-derivative financial liabilities					
Bank loans and overdrafts	(17)	-	(10)	(527)	(554)
Bonds issued under the Debt Issuance Programme					
– Sterling denominated bonds	(971)	(214)	(1,595)	(5,149)	(7,929)
– Sterling denominated index-linked bonds	(155)	(155)	(464)	(20,612)	(21,386)
– Foreign currency denominated bonds	(1,055)	(2,237)	(535)	(979)	(4,806)
Loan from the Department for Transport	(2,117)	(3,290)	(13,910)	(2,240)	(21,557)
Trade and other payables	(2,443)	(1,570)	-	-	(4,013)
Derivative financial liabilities					
Net settled derivative contracts	(160)	(280)	(916)	(409)	(1,765)
Gross settled derivative contracts – receipts	1,040	2,225	964	146	4,375
Gross settled derivative contracts – payments	(794)	(1,764)	(276)	(61)	(2,895)
	(6,672)	(7,285)	(16,742)	(29,831)	(60,529)

Group	Within 1 year £m	1-2 years £m	2-5 years £m	5+ years £m	Total £m
31 March 2016					
Non-derivative financial liabilities					
Bank loans and overdrafts	(10)	(20)	(11)	(545)	(586)
Bonds issued under the Debt Issuance Programme					
– Sterling denominated bonds	(709)	(954)	(1,589)	(4,873)	(8,125)
– Sterling denominated index-linked bonds	(241)	(248)	(790)	(39,485)	(40,764)
– Foreign currency denominated bonds	(2,253)	(912)	(1,970)	(482)	(5,617)
Loan from the Department for Transport	(368)	(1,999)	(11,719)	(1,277)	(15,363)
Trade and other payables	(2,735)	(1,630)	–	–	(4,365)
Derivative financial liabilities					
Net settled derivative contracts	(90)	(152)	(493)	(249)	(984)
Gross settled derivative contracts – receipts	2,252	909	1,970	482	5,613
Gross settled derivative contracts – payments	(1,921)	(797)	(1,769)	(337)	(4,824)
	(6,075)	(5,803)	(16,371)	(46,766)	(75,015)

24. Funding and financial risk management continued

Offsetting financial assets and liabilities

Financial assets

The following financial assets are subject to offsetting, enforceable master netting arrangements and similar agreements.

Group	Gross amounts of recognised financial assets £m	Gross amounts of recognised financial liabilities set off in the balance sheet £m	Net amount of financial assets presented in the balance sheet £m	Related amounts not set off in the balance sheet: Financial instruments £m	Related amounts not set off in the balance sheet: Cash collateral received £m	Net amount £m
31 March 2017						
Derivative financial assets	1,102	–	1,102	(868)	(9)	225

Group	Gross amounts of recognised financial assets £m	Gross amounts of recognised financial liabilities set off in the balance sheet £m	Net amount of financial assets presented in the balance sheet £m	Related amounts not set off in the balance sheet: Financial instruments £m	Related amounts not set off in the balance sheet: Cash collateral received £m	Net amount £m
31 March 2016						
Derivative financial assets	963	–	963	(693)	(257)	13

Financial liabilities

The following financial liabilities are subject to offsetting, enforceable master netting arrangements and similar agreements.

Group	Gross amounts of recognised financial liabilities £m	Gross amounts of recognised financial assets set off in the balance sheet £m	Net amount of financial liabilities presented in the balance sheet £m	Related amounts not set off in the balance sheet: Financial instruments £m	Related amounts not set off in the balance sheet: Cash collateral paid £m	Net amount £m
31 March 2017						
Derivative financial liabilities	(1,529)	–	(1,529)	868	375	(286)

Group	Gross amounts of recognised financial liabilities £m	Gross amounts of recognised financial assets set off in the balance sheet £m	Net amount of financial liabilities presented in the balance sheet £m	Related amounts not set off in the balance sheet: Financial instruments £m	Related amounts not set off in the balance sheet: Cash collateral paid £m	Net amount £m
31 March 2016						
Derivative financial liabilities	(1,408)	–	(1,408)	693	715	–

Cash flow hedges

Contractual payments on derivatives designated as cash flow hedges impact the income statement and will all have matured by 2027.

Borrowings

Details of the group's undrawn committed facilities and types of debt instrument used can be found in Note 18.

NOTES TO THE FINANCIAL STATEMENTS CONTINUED

24. Funding and financial risk management continued

Fair value measurements recognised in the balance sheets

The following table provides an analysis of instruments that are measured subsequent to initial recognition at fair value, grouped into Levels 1 to 3 based on the degree to which the fair value is observable:

- Level 1 fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities
- Level 2 fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
- Level 3 fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

	2017			
	Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Property, plant and equipment – the railway network	–	–	62,730	62,730
Investment properties	–	–	1,231	1,231
Derivative financial assets	–	1,102	–	1,102
Financial assets held at amortised cost	–	2,100	–	2,100
Assets	–	3,202	63,961	67,163
Derivative financial liabilities	–	(1,529)	–	(1,529)
Financial liabilities designated at fair value through profit and loss	(304)	–	–	(304)
Financial liabilities designated at amortised cost	(31,310)	(26,180)	–	(57,490)
Liabilities	(31,614)	(27,709)	–	(59,323)
Total	(31,614)	(24,507)	63,961	7,840

	2016			
	Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Property, plant and equipment – the railway network	–	–	58,532	58,532
Investment properties	–	–	1,109	1,109
Derivative financial assets	–	963	–	963
Financial assets held at amortised cost	–	2,622	–	2,622
Assets	–	3,585	59,641	63,226
Derivative financial liabilities	–	(1,408)	–	(1,408)
Financial liabilities designated at fair value through profit and loss	(776)	–	–	(776)
Financial liabilities designated at amortised cost	(30,619)	(20,705)	–	(51,324)
Liabilities	(31,395)	(22,113)	-	(53,508)
Total	(31,395)	(18,528)	59,641	9,718

The fair value of level 2 derivatives is estimated by discounting the future contractual cash flows using appropriate yield curves based on quoted market rates as at the current financial year end.

A review of the categorisation of the assets and liabilities into the three levels is made at each reporting date. There were no transfers between Level 1 and Level 2 fair value measurements and no transfers into or out of Level 3 fair value measurements in the current or prior years.

Property, plant and equipment

We have classified the valuation of the rail network as Level 3. As explained in note 12, the network's fair value is the estimated future cash flows that will be generated in perpetuity, discounted at the regulatory cost of capital, as set by the ORR in its Periodic Review. The cost of capital at which cash flows are discounted is the key unobservable input in the valuation. The full market cost of capital determined by the ORR is 4.31% for the current control period, arrived at through advice from consultants, comparisons to similar infrastructure assets and discussions with Network Rail.

24. Funding and financial risk management continued

An increase in the market cost of capital would lead to a decrease in the valuation of the rail network and vice versa. However, the impact would be limited to the current control period as the regulator would re-evaluate the allowed return and reset it to the market rate at the next quinquennial review.

Investment properties

Property valuations are by their nature subjective, as they are made on the basis of assumptions made by the valuer. They too have been classified as Level 3 and the key inputs to the valuations, defined as 'unobservable' by IFRS 13, are analysed in the table below.

		Estimated rental value per sq. ft			Equivalent yield		
	Fair value at 31 March 2017	Minimum £	Maximum £	Weighted average £	Minimum %	Maximum %	Weighted average %
Valuation Technique:							
One-off valuation	152	2.3	394.0	7.6	3.3	10.2	5.3
Beacon method*	1,078	n/a	n/a	n/a	4.5	12.0	7.3

* The Beacon methodology splits all the properties within the portfolio into 13 homogenous groups. The properties in each group are valued by applying a yield to the annual rent (passing or void) for the property. Yields applied are on the basis that the property is rack rented i.e. the current passing rent received from these properties are in line with market rent. As such, an estimated rental value per square feet for these properties is not available.

All other factors being equal, a higher yield would lead to a decrease in the valuation of a property and an increase in the current or estimated future rental stream would have the effect of increasing the capital value, and vice versa. However, there are interrelationships between the unobservable inputs which are influenced by market conditions, which would impact the changes in fair value.

25. Retirement benefit schemes

Defined contribution schemes

On 1 April 2004 the group introduced a defined contribution pension scheme, the Network Rail Defined Contribution Pension Scheme (NRDCPS). This is an auto-enrolment scheme for all new employees of Network Rail, except those who have the legal right to join the Railway Pension Scheme (RPS), in compliance with regulations made under the Pensions Act 2008. Any employee who wishes to transfer from the Network Rail Section of the RPS to the NRDCPS is entitled to do so.

At 31 March 2017, the NRDCPS had 10,595 members (2016: 10,802) and the average employer contribution rate in the year was 4.3 per cent (2016: 4.5 per cent).

Defined benefit schemes

The principal pension scheme in which the group participates is the Railway Pension Scheme (RPS), which was established by statutory instrument, commenced on 1 October 1994 and is a funded defined benefit arrangement. The assets and liabilities under the predecessor scheme, the British Rail Pension Scheme (BRPS), were transferred to the RPS on that date. The RPS is an industry-wide scheme for all eligible employees within the railway industry. There are different sections within it for different employers. The assets and liabilities of each section are identified separately from those of the other sections. The group has its own section, the Network Rail Shared Cost Section (the Network Rail Section). This scheme, the assets of which are held separately from the group, is contributory and provides pensions related to pay at retirement.

The assets transferred to the RPS from the BRPS on 1 October 1994 were apportioned among the various sections of the RPS in accordance with the methods and assumptions specified in The Railways Pensions (Transfer and Miscellaneous Provisions) Order 1994 (the 'Transfer Order') which effected the transfer. The amount credited to the Network Rail Section included a share of the surplus at that time.

Since 1 April 2004, new members can only join the Network Rail Section of the RPS after completing five years of service. Benefits for existing members and employees joining up to and including 31 March 2004 were not affected by the revised eligibility rules of the Network Rail Section. In addition, the group announced its decision to cap its contribution to British Railways Additional Superannuation Scheme (BRASS) matching at current levels for existing employees and to dispense with matching for new employees. The group will continue to match regular contributions but will not increase them in cash terms in the future. On 1 November 2008 Network Rail launched a third pension scheme – the Career Average Revalued Earnings (CARE) scheme, which is available to all employees.

Qualified actuaries Towers Watson have valued the schemes on an IAS 19 (revised) basis at 31 March 2017 and 31 March 2016.

The contributions required to fund the RPS and the CARE scheme are reassessed every three years, following completion of actuarial valuations (by the Scheme Actuaries). Under the terms of the Pensions Act 2004, the Trustee and each employer must agree the methods and assumptions used to calculate the 'Technical Provisions', i.e. assets required to meet the Section's liabilities. The assumptions agreed are typically weaker than those used for IAS 19 purposes in current market conditions, so the minimum funding requirement in itself requires no further adjustment to the IAS 19 obligations below. However, the regulatory regime may, depending on legal advice received at the appropriate time, mean that a future employer's accounting surplus would need to be restricted.

NOTES TO THE FINANCIAL STATEMENTS CONTINUED

25. Retirement benefit schemes continued

The RPS and CARE schemes are both shared cost in nature, so the cost of benefits being earned and the cost of funding any shortfall in the schemes are normally split in the proportion 60:40 between the group and the members. In practice the contributions are adjusted at each triennial valuation to reflect the funding position of the schemes at that time.

In 2016 Network Rail agreed with the Trustee that, from 1 April 2016, the resulting contributions would be further adjusted with a slight increase in the member contribution rate and a corresponding reduction in the company's rate. The group reflects its share of the contribution in the financial statements. The IAS 19 deficit, service cost and interest cost therefore represent 60% of the total for each of the schemes. From 1 April 2016 the service cost will be further reduced by the contribution adjustment referred to above.

The group paid contributions of 14.04% of Section Pay until 30 June 2016 and 13.20% of Section Pay thereafter for Protected members with a right to retire unreduced from age 60, 10.64% for non-Protected members with a right to retire unreduced from age 60 and 9.30% of RPS 2012 Section Pay for other members. The equivalent rates for the CARE scheme are 8.88 per cent for group contributions.

The estimated amounts of contributions expected to be paid by the group and members to the schemes during the year ending 31 March 2018 are £110m and £71m respectively. If a surplus or deficit arises, the provisions in the rules mean that the group and members benefit from or pay for this respectively in the proportion 60:40.

	2017 %	2016 %
Key assumptions used:		
Discount rate	2.5	3.4
Expected rate of price inflation and CARE benefit increases (RPI measure)	3.2	2.9
Future earnings increases*		
- before changes to benefits from 1 April 2016	n/a	3.9
- after changes to benefits from 1 April 2016	3.2	**2.9
Pension increases (CPI measure)	2.2	1.9

* Excluding promotional salary scale. Promotional salary scale increases apply only in respect of service after the date of promotion.
** 2.9% p.a. for non-Protected members, 3.4% p.a. for Protected members

	2017		2016	
	Males	Females	Males	Females
Average life expectancy for mortality tables used to determine defined benefit obligations:				
– Member aged 65 now (pension under £10,300 pa or pensionable pay under £35,000 pa)	21.2	23.0	21.0	22.8
– Member aged 65 now (others)	23.6	24.8	23.4	24.6
– Member aged 65 in 20 years' time (pension under £10,300 pa or pensionable pay under £35,000 pa)	23.6	25.4	23.3	25.2
– Member aged 65 in 20 years' time (others)	25.9	27.2	25.7	27.0

For the Network Rail Section of the RPS the discounted mean term of the Defined Benefit obligation is 22 years, for the CARE scheme it is 33 years.

Amounts recognised in income in respect of the group's pension arrangements are as follows:

	2017 £m	2016 £m
Current service cost – defined contribution (see Note 6)	18	15
Current service cost – defined benefit (see Note 6)	178	195
Past service credit - defined benefit (see Note 6)	(42)	(124)
Interest cost	45	49
	199	135

The current service cost has been included in employee costs, the net interest scheme deficit has been included in finance costs. The past service credit has arisen in the year due to pension scheme changes that limited the way that above-inflation pay increases count towards defined benefit pension obligations.

25. Retirement benefit schemes continued

Amounts recognised in the statements of comprehensive income in respect of the group's pension arrangement are as follows:

	2017 £m	2016 £m
(Gain)/loss on defined benefit obligation due to experience	(81)	(29)
Loss on defined benefit obligation due to assumption changes	1,292	-
Return on plan assets greater than discount rate	(412)	(70)
Actuarial (gain)/loss on defined benefit pension scheme	799	(99)

The cumulative amount of actuarial losses recognised in other comprehensive income was £1,709m (2016: £910m).

The amount included in the balance sheet arising from the group's obligations in respect of its defined benefit schemes is as follows:

	2017 £m	2016 £m
The defined benefit obligation is made up as follows:		
Active members	(5,843)	(4,415)
Deferred pensioner members	(1,084)	(799)
Retired members	(3,156)	(2,528)
Present value of defined benefit obligation	(10,083)	(7,742)
Fair value of scheme assets	6,231	5,375
Deficit in the scheme	(3,852)	(2,367)
Group's share (60%) of the scheme deficit recognised in the balance sheet	(2,311)	(1,420)

This amount is presented as a non-current liability in the balance sheet. Cumulative gains or losses are recognised in equity.

Movements in defined benefit plan assets and liabilities (including members' share):

	Asset £m	Liabilities £m	Deficit £m
At 31 March 2015	5,071	(7,579)	(2,508)
Current service cost including members' share	–	(331)	(331)
Interest on pension deficit	173	(255)	(82)
Administration expenses	(7)	–	(7)
Return on plan assets greater than the discount rate	117	–	117
Section amendment	–	205	205
Actuarial gain arising from experience adjustments	–	49	49
Regular contributions by employer	121	–	121
Contributions by employees	69	–	69
Benefits paid	(169)	169	–
At 31 March 2016	5,375	(7,742)	(2,367)
Current service cost including members' share	–	(314)	(314)
Interest on pension deficit	183	(259)	(76)
Administration expenses	(8)	–	(8)
Return on plan assets greater than the discount rate	687	–	687
Section amendment	–	70	70
Actuarial gain arising from experience adjustments	–	135	135
Actuarial loss arising from financial assumptions	–	(2,155)	(2,155)
Regular contributions by employer	107	–	107
Contributions by employees	69	–	69
Benefits paid	(182)	182	–
At 31 March 2017	6,231	(10,083)	(3,852)

The actual return on scheme assets was £794m (2016: £290m).

NOTES TO THE FINANCIAL STATEMENTS CONTINUED

25. Retirement benefit schemes continued

Expected future benefit payments from the Network Rail Section, based on data from the 2013 formal valuation and the 31 March 2017 IAS19 assumptions are as follows:

	£m
Benefits expected to be paid within 12 months	167
Benefits expected to be paid between 2 to 3 years	375
Benefits expected to be paid between 4 to 6 years	666
Benefits expected to be paid between 7 to 10 years	1,088
Benefits expected to be paid between 11 to 15 years	1,661
Benefits expected to be paid in over 15 years	12,327

The analysis of the scheme assets and the expected rate of return at the balance sheet date was as follows:

	Fair value of assets		Percentage of assets	
	2017 £m	2016 £m	2017 %	2016 %
Equity instruments	5,509	4,756	88.41	88.49
Debt instruments – Government	417	357	6.69	6.64
Debt instruments – non-Government	259	232	4.16	4.31
Property	7	3	0.11	0.06
Other	39	27	0.63	0.50
	6,231	5,375		

The group is exposed to a number of risks relating to the scheme including assumptions not being borne out in practice. The most significant risks are as follows:

Asset volatility
There is a risk that a fall in asset values is not matched by a corresponding reduction in the value placed on the defined benefit obligation scheme (DBO). The scheme holds a proportion of growth assets, which are expected to outperform corporate or government bond yields in the long term, but gives exposure to volatility and risk in the short-term.

Change in bond yields
A decrease in corporate bond yields will increase the value placed on the scheme defined benefit obligation, although this will be partially offset by an increase in the value of the scheme's corporate bond holdings.

Inflation risk
The majority of the scheme's DBO is linked to inflation where higher inflation will lead to higher value being placed on the DBO. Some of the scheme assets are either unaffected by inflation or loosely correlated with inflation (e.g. growth assets), meaning that an increase in inflation will generally increase the deficit.

Life expectancy
An increase in life expectancy will lead to an increased value being placed on the scheme's DBO. Future mortality rates cannot be predicted with certainty.

Actuarial assumption sensitivity
The discount rate is set by reference to market conditions at the reporting date, and can vary significantly between periods. Downward movement in the discount rate during 2016-17, as disclosed above, is the most significant driver of the actuarial loss arising from financial assumptions.

The earnings increases are linked to inflation and so set by reference to market conditions at the reporting date.

The mortality assumptions used are set by considering the experience of the scheme's members, and by making an allowance for possible future improvements in longevity. Mortality assumptions are difficult to set accurately, and forecasting rates of future mortality improvement is inevitably speculative.

25. Retirement benefit schemes continued

The following table shows the effect of changes in these assumptions upon the defined benefit obligation:

	2017 £m	2016 £m
Discount rate		
Change in defined benefit obligation at year end from a 25 basis points increase	(495)	(359)
Change in defined benefit obligation at year end from a 25 basis points decrease	524	379
Mortality		
Change in defined benefit obligation from a one year increase in longevity	323	248
Change in defined benefit obligation from a one year decrease in longevity	(313)	(241)
Earnings increase		
Change in defined benefit obligation at year end from a 25 basis points increase	195	147
Change in defined benefit obligation at year end from a 25 basis points decrease	(189)	(143)
Price inflation (CPI measure)*		
Change in defined benefit obligation at year end from a 25 basis points increase	522	382
Change in defined benefit obligation at year end from a 25 basis points decrease	(496)	(364)

* Including consistent increases to Retail Price Index, salary growth and Retail Price Index/ Consumer Price Index related pensions assumptions.

26. Related parties

As the group's sponsor, the Department for Transport (DfT) is considered a related party. Network Rail received grant income of £3,916m from the DfT in the year ended 31 March 2017 (2016: £3,835m). The group also paid the DfT £300m in respect of the Financial Indemnity Mechanism fee (see note 24 for more details). At 31 March 2017 the company held £20,037m of loans issued by DfT.

The British Transport Police (BTP), with whom Network Rail has a Police Service Agreement is also a related party. Network Rail was invoiced £90m (2016: £84m) by the BTP in the year ending 31 March 2017 and received £1m (2016: £1m) in property income from the BTP in the same period.

Network Rail is also a related party of High Speed 2 (HS2). At the end of the financial year Network Rail held £45m (2016: £24m) of capital work in progress relating to works on HS2 and had also received £39m (2016: £20m) of capital grants that was recorded as deferred income.

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