Annex A: Respondents to the draft determination consultation

List of respondents to the draft determination

A.1. We received over 70 responses to our draft determination; these are available on our website[564]. Table A.1 lists those who responded.

Table A.1: Respondents to the draft determination

Respondents	
Abellio Group	Fen Line Users Association
Arriva plc	First Capital Connect (FCC)
Associated Society of Locomotive Engineers and Firemen (ASLEF)	First/Keolis Transpennine (Transpennine Express)
Association of Train Operating Companies (ATOC)	FirstGroup
Ben Gummer MP	Freight on Rail
British Transport Police Authority (BTPA)	Freight Transport Association (FTA)
Centro	Freightliner Group
Charles Hendry MP	GB Railfreight
Chiltern Railways	Go-Ahead Group (Go-Ahead)
Coventry City Council	Greater Anglia
DB Schenker	Greater Manchester Chamber of Commerce
Delta Rail	Hertfordshire County Council
Derbyshire County Council	John Oliver
Department for Transport (DfT)	Kent County Council
Direct Rail Services (DRS)	Kier Minerals Ltd
East Coast	LANRAC
East Midlands Trains (EMT)	Merseyrail
East Sussex County Council	Merseytravel
East Sussex Rail Alliance	Metro
Edenbridge & District Rail Travellers' Association	National Union of Rail, Maritime and Transport Workers (RMT)
Essex County Council	Network Rail

[564] http://www.rail-reg.gov.uk/pr13/consultations/draft-determination.php

Respondents	
North London Strategic Alliance (NLSA)	Virgin Rail Group / West Coast Trains
Northern Rail	Wealden District Council
Nottingham City Council	Welsh Government
Passenger Focus	West Anglia Routes Group
Passenger Transport Executives Group (PTEG)	West Coast Rail 250 Campaign
Paul Goodenough	
Peter Hooper	
Public Transport Consortium (PTC)	
Rail Freight Group (RFG)	
Rail Freight Operators' Association (RFOA)	
Rail Industry Association (RIA)	
Railfuture	
Sandra Osborne MP	
ScottishPower	
Sevenoaks District Council	
South West Trains (SWT)	
South Yorkshire Integrated Transport Authority (SYITA)	
Stagecoach Group	
Steve Webb MP	
Suffolk County Council	
Sussex Community Rail Partnership (SCRP)	
Thames Valley Berkshire Local Enterprise Partnership	
The Civil Engineering Contractors Association (CECA)	
The Rt Hon Sir John Stanley MP	
Transform Scotland	
Transport for Greater Manchester (TfGM).	
Transport for London (TfL)	
Transport Salaried Staffs' Association (TSSA)	
Transport Scotland	
TravelWatch NorthWest	
Uckfield Railway Line Parishes Committee	

Annex B: Decision on a freight specific charge for biomass

Introduction

B.1. In chapter 16, we discuss the introduction of a freight specific charge as a mark-up on variable usage charges for certain commodities – coal for the electricity supply industry (ESI coal), iron ore and spent nuclear fuel. This would:

(a) make charges more cost-reflective so that freight bears a higher proportion of the costs it imposes on the rail network and so that the sector can provide more challenge on the efficiency and costs of its operation;

(b) allocate government subsidy more efficiently by moving it from areas where it has little impact on behaviour; and

(c) further our strategic objective of a more dynamic and commercially sustainable industry.

B.2. On 15 February 2013, we consulted on whether the freight specific charge should be applied to biomass on the same basis as that which we had concluded should apply to other commodities. Consistent with the treatment of other market segments, we also consulted on whether biomass should pay a freight-only line charge. We had previously (May 2012) said we would not levy a charge on biomass but would revisit the policy to coincide with the Department of Energy and Climate Change's (DECC's) recalculation of subsidy from 2017. We changed this stance in our January 2013 freight decision document because respondents to the May 2012 consultation had explained that investments made now would be subject to the existing subsidy regime, not a 2017 revision, and they wanted certainty about the charging regime to inform imminent investment decisions.

B.3. This annex considers the responses to the February 2013 consultation and explains our decision on biomass.

Background to the biomass sector

B.4. The biomass market is currently small and there is greater uncertainty than there is for other commodities about its prospects and about the impact of increases in track access charges on demand for it.

B.5. The UK has a legally binding target under the EU Renewable Energy Directive to increase the share of renewables in final energy consumption. To meet this target, certain types of power generator that use biomass are eligible for support under the

Renewables Obligation legislation and other arrangements in Scotland. They are also eligible for support under 'contracts for difference' (CfDs).

B.6. Biomass generation is assisted by qualifying for Renewables Obligation Certificates (ROCs) that generators can sell to electricity retailers, who are obliged to buy them to cover a proportion of their sales. In July 2012, DECC published its proposals for banded support under the Renewables Obligation[565] and, in October 2012, a fact sheet on "Grandfathering and cost control for biomass co-firing and conversions"[566]. These clarified the likely level of support for biomass in England & Wales under ROCs.

B.7. Biomass generation can instead be assisted through Feed-in Tariffs and, in the case of larger schemes, CfDs with the government that guarantee the generator a fixed price rather than the variable market electricity price. DECC announced draft strike prices for biomass conversion CfDs on 27 June.

B.8. Large biomass electricity generation is normally in power stations built to be coal-fired. Electricity generation from coal is likely to be reduced considerably from present levels as in 2016 it will be restricted to the few stations that have installed emission reduction systems.

B.9. Most existing dedicated biomass power stations have been developed on a small scale, and so are likely to purchase biomass from their local areas and make little use of the rail network. Rail transport is used for biomass that is a feedstock for coal-fired power stations through 'co-firing', whereby a small quantity of wood pellets or other forms of biomass is blended with coal in the combustion process. Some power generators have announced plans for increasing its use considerably through converting power stations entirely to biomass use. Drax, the UK's largest power station, has explained that it is converting three of its six generating units to burn biomass; the first in the second quarter of 2013 and the second a year thereafter. Eggborough plans to convert entirely by 2016.

B.10. The potential for expansion of biomass demand from the ESI is considerable. A report for the Committee on Climate Change by Mott MacDonald in October 2011[567] estimated that a full conversion programme running at high load would require more fuel (80mt/year) than is estimated to be available, which could be about 45mt/year. For comparison, in 2010-11 1.5mt was burnt in co-firing plants and 2.9mt in dedicated

[565] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/42852/5936-renewables-obligation-consultation-the-government.pdf.

[566] http://webarchive.nationalarchives.gov.uk/20121217150421/http://www.decc.gov.uk/media/viewfile.ashx?filetype=4&filepath=11/meeting-energy-demand/renewable-energy/6598-fact-sheet-grandfathering-and-cost-control-for-bi.pdf&minwidth=true.

[567] http://archive.theccc.org.uk/aws2/Bioenergy/Mott%20MacDonald%20biomass%20conversion%20final%20for%20publication.pdf.

biomass plants. Present ESI plans may mean that more than 20mt of biomass will be burnt each year in converted stations by mid-CP5, most of it carried by rail.

Responses to the consultation

B.11. Our consultation ended on 28 March 2013 and we received 27 replies. We have also held meetings with DECC, the Rail Freight Group (RFG), the three power companies planning to convert Drax, Eggborough and Rugeley to biomass and GB Railfreight. As well as responding to our consultation, Eggborough also published an open letter opposing the application of the charge.

B.12. Most responses opposed the imposition of a freight specific charge on biomass. DECC, Drax, Centrica, Eggborough Power Station, GDF Suez (International Power), Lynmouth Power Station, Eon, Energy UK, RFG, the Freight Transport Association (FTA), Freightliner, DB Schenker, GB Railfreight, Direct Rail Services, Bristol Port Company, The UK Major Ports Group, Railfuture, Caithness Transport Forum, WH Davis and, to a lesser extent, Network Rail, Centrica and Unite were against it. The representations made included the following points.

(a) The increase in costs the charge would produce would materially affect the viability of investment in biomass electricity power station conversions that are necessary to further government objectives in decarbonising, diversifying and securing the supply of electricity.

(b) Biomass electricity generation relies on government subsidy (either through Renewables Obligation Certificates or under Electricity Market Reform Contracts for Differences) and so, almost by definition, cannot bear an additional charge.

(c) The Renewables Obligation banding is already set and cannot be revised to accommodate this additional cost.

(d) If the CfD strike price is changed to accommodate it, it will place a burden on energy customers.

(e) Biomass conversion for generation is an emerging market that requires substantial capital investment. It relies on long-term contracts. This additional charge may have the effect of halting a number of biomass projects.

(f) The charge runs counter to government policy.

(g) Biomass is not directly comparable to coal. It requires both a subsidy and substantial investment to convert a power station to burn biomass.

(h) Biomass for large scale generation is a fledgling industry that requires substantial investment. It cannot use the existing coal infrastructure so the two fuels are operating in different markets.

(i) Independent generators have long-term Power Purchase Agreements which limit their ability to absorb cost changes. Increasing costs risks jeopardising

deployment of renewable electricity. Biomass generators are establishing long-term feedstock supply contracts.

(j) Large scale biomass generators are captive to rail because road transport would involve more greenhouse gas emissions and loss of subsidy. Biomass would be disadvantaged by a charge per tonne km.

B.13. CoalPro, EDF and RWE supported the imposition of a freight specific charge on biomass, given ORR's previous decision to introduce the charge for coal and spent nuclear fuel. They argued that:

(a) biomass competes directly with coal and to put a charge on only one would distort the market;

(b) it is fair and reasonable for power stations to face the full cost of conversion; and

(c) it is not up to ORR to subsidise particular forms of generation: EDF said, "Any subsidies for biomass should come from a single source (e.g. the Renewables Obligation or the planned Feed-in tariffs with Contracts for Difference), where they can be effectively monitored and reviewed by the Government as required."

B.14. Our method of calculating the charge, by analogy with coal, was said by some respondents not to be transparent. It was claimed that it might also be inaccurate because biomass has a lower calorific value than coal, is less dense and converts heat to electricity less efficiently: higher volumes will need to be transported and trains are likely to be longer and more frequent and may have a lower net to gross ratio: there may also be a different supply pattern. Network Rail said that, as the biomass market is in its infancy, setting any freight-specific charge for biomass on this basis could risk being prone to undue levels of uncertainty.

B.15. One stakeholder told us that, while it understood the need for the access charges it paid to be cost reflective, it was concerned that it had not been much involved in the process by which the cost estimates had been arrived at. The same stakeholder was also concerned that CFD strike prices, which in principle could have reflected the freight specific charge, had now been fixed by DECC until 2019, so that the new charge could not be passed on, with the potential to affect future investment decisions. It noted that a charge introduced in PR18 would not be subject to the same difficulty (as it would not come until 2019), and that this would also allow time for further discussions about the appropriate level of cost for recovery through the charge.

Legal considerations

B.16. We set out in detail the legal framework for a mark-up in our January 2013 conclusions document[568]. In particular, in paragraphs 4.29 and 4.30, we set out the test for a mark-up which we have applied in accordance with the Access & Management Regulations and our statutory duties.

B.17. The mark-up must be efficient. An important aspect of this is the extent to which biomass rail transport competes with road. We consider that the charge is unlikely to divert significant biomass traffic to roads because we have been told that small biomass plants whose fuel is locally sourced are likely to use road anyway and larger plants need to use rail transport to keep emissions to sufficiently low levels to qualify for subsidy.

B.18. It must also not exclude the use of the infrastructure by biomass: it has been put to us that much of the likely biomass rail traffic depends on a small number of future investment decisions that may be prevented by the imposition of a charge. This is discussed below as is the question of whether a reduction of traffic would be efficient.

B.19. We have little data on the costs likely to be imposed on the infrastructure by biomass and our consultation assumed the charge on biomass would be levied at the same rate as for coal. Network Rail's consultants, LEK, have since done further work and produced estimates for biomass avoidable cost per gross tonne mile that are lower than those for coal. We are therefore in a position to set a charge transparently on the same basis as for other commodities, albeit perhaps with a higher degree of uncertainty.

B.20. The treatment of biomass must be non-discriminatory: a decision whether to impose a charge would apply by market segment not by operator and, both in taking that decision and in setting a level, we would be applying the same principles and methods as in other market segments.

Economic considerations

B.21. The main argument put forward by respondents to the consultation who opposed the charge was that there would be a danger that schemes to convert coal-fired power stations to biomass would not go ahead if the charge was imposed. Each conversion scheme is a large investment that would represent a large part of the market and so, if this happened:

(a) the sector would be excluded from using the infrastructure;

(b) freight traffic could decline as coal-fired stations closed and coal traffic was not replaced by the larger volumes of biomass needed to produce the same energy;

[568] *Conclusions on the Average Variable Usage Charge and a Freight Specific Charge*, ORR, January 2013, available at http://www.rail-reg.gov.uk/pr13/PDF/freight-conclusions-jan-2013.pdf.

(c) the government's targets for renewable energy would be harder to achieve, arguably damaging sustainable development;

(d) there may be greater threat to the security of supply of electricity if significant amounts of coal-fired production being closed are not replaced by biomass; and

(e) economic activity, including investment and job creation, would not take place.

B.22. Key considerations in the decision are therefore whether applying the freight specific charge to biomass would create a significant risk that planned conversions would not take place either:

(a) to the extent of excluding biomass from the infrastructure; or

(b) to the extent of resulting in a significant fall in biomass freight traffic.

B.23. The impact of the charge on the cost of biomass generation is small. Our consultants NERA estimated that, assuming that biomass is transported on average 100 km by rail, an increase in access charges of £10 a thousand net tonne km, equivalent for coal to £8/kgtm – twice the rate proposed in our February 2013 consultation, would increase the variable cost of biomass generation by around 60p/MWh. The proposed charge would increase it by around 30p/MWh. If the journey were longer it might raise it by 50p/MWh.

B.24. This compares with total costs for biomass conversion calculated by Mott MacDonald in their October 2011 report ranging from £80 to £110/MWh, depending mainly on the intensity of use of the station. An October 2011 Arup report[569], commissioned by DECC and used in its calculations, has total prices of £106 in the low case, £115-6 in the medium case and £126-9 in the high case. DECC's own estimate in its July 2012 paper is £105/MWh.

B.25. A similar comparison can be made on the delivered price of biomass. Mott MacDonald's assumptions imply a central estimate of £115/tonne. DECC's July 2012 paper has a fuel cost of £79/MWh, which is consistent with a price of around £110-120/tonne. If biomass travels 150km, a charge of £4/kgtm (roughly £5/kntkm) would cost 75p/tonne. A freight-only line charge of 70p/kgtm would add a further 13p taking the total to 88p, less than 1% of the delivered price. Eggborough's open letter put the impact at between 50p and £1.50 a tonne and their response to the consultation said our proposal would add about £1 to the cost of moving biomass. This is also less than 1% of the delivered price.

B.26. However, under the CfD programme, biomass conversions are being financed through long-term fixed price contracts (for both outputs and inputs) that imply low profit margins on which the charge could have a material impact. Moreover, there are other changes to rail freight access charges. It is probably open to DECC to adjust the

[569] https://www.gov.uk/government/publications/review-of-the-generation-costs-and-deployment-potential-of-renewable-electricity-technologies-in-the-uk-study-report-by-arup.

CfD strike price to allow for the impact of the charge but not to compensate generators who have already taken the Renewables Obligation route.

Decision

B.27. Biomass is an emerging market where there is considerable uncertainty. Those expert in the area have told us that there is a risk of a freight specific charge causing large projects to be halted. DECC has told us that increasing generators' costs puts deployment of renewable electricity at risk. Generators involved have said that the charge could fundamentally alter long-term investment plans and arrangements and that the investment in biomass conversion is "not a foregone conclusion".

B.28. While the charge is only a small part of biomass generation cost we must give weight to these warnings from the generators and the relevant government department. Margins are said to be small and DECC is likely to have calculated its support to be just sufficient to make the investment come about. So, even if the impact is small, it may act as a deterrent.

B.29. For the reasons set out above, we therefore consider that if we imposed the freight specific charge on biomass there would be a significant risk that it could result in exclusion of the use of the infrastructure by biomass. Even if there were not a risk of exclusion there would be a danger of a significant fall in biomass freight traffic and of disruption to the renewables programme which might result in an outcome that was less efficient or less conducive to sustainable development. We consider that for these reasons biomass is distinct from, and can therefore be treated differently to, the other three market segments upon which we are going to levy a mark-up.

B.30. We have therefore decided not to apply the freight specific charge to biomass in CP5 but expect to review the position in PR18 when the market is more established and better understood. We propose to work further with the industry, and with customers for biomass haulage, in CP5 in order to understand better the costs they generate on the network and how this should be reflected in charges in CP6.

Annex C: Summary of other single till income

Summary

C.1. This annex includes a summary of total other single till income (OSTI) included in Network Rail's revenue requirement chapter (chapter 14), which can be broken down into the categories described below.

C.2. Total non-charge income, which includes: property rental, property sales, Crossrail finance charge, Welsh Valleys finance charge, facility charges and other non-charge income. This income is included in the other single till income chapter (chapter 18).

C.3. Non-regulated income, which includes: managed stations qualifying expenditure, franchised stations lease income, depot income and open access fixed contractual contributions. This income is included in the other single till income chapter (chapter 18).

C.4. Total regulated charge income, which includes: freight charges, open access charges, managed stations income (long term charge) and franchised stations income (long term charge). This income is included in the access charges chapter (chapter 16).

C.5. Our assumption of Network Rail's expected Schedule 4 payments to freight operators and Schedule 8 cancellation payments to freight operators are included as Schedule 4 and 8 costs in the possessions and performance regimes chapter (chapter 20). In its SBP, Network Rail included these amounts in other single till income (i.e. as costs that reduce income) and we have restated Network Rail's SBP for this issue in the other single till income chapter (chapter 18) but not in Network Rail's revenue requirement chapter (chapter 14) or the executive summary.

C.6. Tables C.1 to C.3 summarise OSTI for each year of CP5 for both Network Rail's SBP and our final determination for Great Britain, England & Wales and Scotland. Table C.4 shows our adjustments to Network Rail's SBP to make it more comparable with our final determination.

C.7. Table C.5 is a comparison of total OSTI over CP5 between our final determination and Network Rail's SBP for Great Britain, England & Wales and Scotland. Table C.6 is a comparison between our final determination and our draft determination for Great Britain, England & Wales and Scotland. We have also included a summary of the reasons for the differences between our draft determination and our final determination for Great Britain, England & Wales and Scotland in Table C.7.

Table C.1: Network Rail's SBP forecast and our assessment of other single till income in CP5 (Great Britain)

£m (2012-13 prices)	2014-15		2015-16		2016-17		2017-18		2018-19		CP5 Total	
	SBP	FD	SBP	FD	SBP	FD	SBP	FD	SBP	FD	SBP	FD
Property rental	267.7	272.1	283.1	290.1	294.5	311.0	306.6	331.8	325.1	359.6	1,477.1	1,564.6
Property sales	19.7	34.7	20.5	35.5	20.5	35.5	21.0	36.0	19.9	34.9	101.6	176.6
Adjustment for commercial opex	(29.4)	(29.4)	(30.1)	(30.1)	(30.7)	(30.7)	(31.3)	(31.3)	(31.9)	(31.9)	(153.3)	(153.3)
Crossrail finance charge	32.1	29.2	51.9	47.2	70.6	64.2	83.4	75.9	89.7	81.6	327.7	297.7
Welsh Valley Lines finance charge	0.6	0.5	1.6	1.3	3.7	3.0	8.4	6.9	13.5	11.1	27.8	22.8
Facility charges – station, depot and track	50.8	47.4	54.1	53.0	53.8	55.7	53.6	58.3	53.3	61.0	265.6	275.4
Other non-charge income	13.6	13.6	9.7	13.5	9.7	13.3	9.7	13.2	9.7	13.1	52.6	66.7
Total non-charge income	**355.2**	**368.1**	**390.9**	**410.5**	**422.1**	**452.0**	**451.4**	**490.8**	**479.4**	**529.4**	**2,099.1**	**2,250.5**
Total freight income	**86.4**	**73.1**	**94.9**	**78.1**	**106.5**	**86.1**	**122.1**	**95.5**	**138.4**	**105.5**	**548.4**	**438.3**
Managed stations long term charge	30.5	31.8	30.5	31.8	30.5	31.8	30.5	31.8	30.5	31.8	152.7	159.0
Managed stations qualifying expenditure	43.0	42.6	43.0	42.4	43.0	42.3	43.0	42.3	43.0	42.3	215.0	211.9
Total managed stations income	**73.6**	**74.4**	**73.5**	**74.2**	**73.5**	**74.1**	**73.5**	**74.1**	**73.5**	**74.1**	**367.8**	**370.9**
Franchised stations long term charge	144.2	119.4	144.2	119.4	144.2	119.4	144.2	119.4	144.2	119.4	720.8	597.0
Franchised stations lease income	44.1	44.4	44.1	44.4	44.1	44.5	44.2	44.5	44.7	45.1	221.2	222.9
Total franchised stations income	**188.2**	**163.7**	**188.3**	**163.8**	**188.3**	**163.8**	**188.4**	**163.9**	**188.9**	**164.4**	**942.0**	**819.6**
Open access charge income	7.8	7.0	11.2	8.3	11.3	8.6	11.5	8.8	11.4	9.0	53.2	41.7
Open access fixed contractual contributions	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	89.3	89.5
Total open access income	**25.7**	**24.9**	**29.1**	**26.2**	**29.2**	**26.4**	**29.3**	**26.6**	**29.3**	**26.9**	**142.5**	**131.0**
Total depots income	**59.9**	**59.9**	**59.9**	**59.9**	**59.9**	**59.9**	**59.9**	**59.9**	**59.9**	**59.9**	**299.4**	**299.5**
Total OSTI	**789.0**	**764.1**	**836.6**	**812.6**	**879.6**	**862.4**	**924.6**	**910.8**	**969.4**	**960.1**	**4,399.2**	**4,309.8**

Table C.2 Network Rail's SBP forecast and our assessment of other single till income in CP5 (England & Wales)

£m (2012-13 prices)	2014-15		2015-16		2016-17		2017-18		2018-19		CP5 Total	
	SBP	FD	SBP	FD	SBP	FD	SBP	FD	SBP	FD	SBP	FD
Property rental	251.6	255.7	266.1	272.6	276.8	292.3	288.1	311.9	305.6	338.0	1,388.2	1,470.5
Property sales	18.5	32.6	19.2	33.4	19.2	33.4	19.8	33.8	18.7	32.8	95.5	166.0
Adjustment for commercial opex	(27.6)	(27.6)	(28.2)	(28.2)	(28.8)	(28.8)	(29.4)	(29.4)	(30.0)	(30.0)	(144.1)	(144.1)
Crossrail finance charge	32.1	29.2	51.9	47.2	70.6	64.2	83.4	75.9	89.7	81.6	327.7	297.7
Welsh Valley Lines finance charge	0.6	0.5	1.6	1.3	3.7	3.0	8.4	6.9	13.5	11.1	27.8	22.8
Facility charges – station, depot and track	50.1	46.5	53.4	51.9	53.1	54.4	52.8	57.0	52.5	59.5	261.7	269.3
Other non-charge income	13.3	13.3	9.4	13.2	9.4	13.1	9.4	13.0	9.4	12.9	51.0	65.5
Total non-charge income	**338.6**	**350.2**	**373.4**	**391.3**	**403.9**	**431.6**	**432.5**	**469.1**	**459.4**	**505.9**	**2,007.8**	**2,147.7**
Total freight Income	**77.2**	**65.4**	**84.9**	**70.0**	**94.9**	**77.2**	**107.8**	**85.3**	**121.0**	**94.0**	**485.8**	**391.8**
Managed stations long term charge	28.3	29.4	28.3	29.4	28.3	29.4	28.3	29.4	28.3	29.4	141.3	146.9
Managed stations qualifying expenditure	38.6	38.3	38.6	38.0	38.6	38.0	38.6	38.0	38.6	37.9	193.2	190.2
Total managed stations income	**66.9**	**67.6**	**66.9**	**67.4**	**66.9**	**67.4**	**66.9**	**67.3**	**66.9**	**67.3**	**334.5**	**337.1**
Franchised stations long term charge	130.9	108.4	130.9	108.4	130.9	108.4	130.9	108.4	130.9	108.4	654.7	541.9
Franchised stations lease income	42.0	42.3	42.0	42.3	42.1	42.4	42.1	42.4	42.7	43.0	210.8	212.4
Total franchised stations income	**172.9**	**150.7**	**172.9**	**150.7**	**173.0**	**150.7**	**173.0**	**150.8**	**173.6**	**151.3**	**865.5**	**754.2**
Open access charge income	7.8	7.0	11.2	8.3	11.3	8.6	11.5	8.8	11.4	9.0	53.2	41.7
Open access fixed contractual contributions	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	89.3	89.5
Total open access income	**25.7**	**24.9**	**29.1**	**26.2**	**29.2**	**26.4**	**29.3**	**26.6**	**29.3**	**26.9**	**142.5**	**131.0**
Total depots income	**53.3**	**53.3**	**53.3**	**53.3**	**53.3**	**53.3**	**53.3**	**53.3**	**53.3**	**53.3**	**266.4**	**266.5**
Total OSTI	**734.5**	**712.0**	**780.4**	**758.9**	**821.2**	**806.5**	**862.8**	**852.2**	**903.5**	**898.5**	**4,102.5**	**4,028.3**

Table C.3 Network Rail's SBP forecast and our assessment of other single till income in CP5 (Scotland)

£m (2012-13 prices)	2014-15		2015-16		2016-17		2017-18		2018-19		CP5 Total	
	SBP	FD	SBP	FD	SBP	FD	SBP	FD	SBP	FD	SBP	FD
Property rental	16.1	16.4	17.0	17.5	17.7	18.7	18.4	20.0	19.6	21.6	88.9	94.2
Property sales	1.2	2.1	1.2	2.1	1.2	2.1	1.3	2.2	1.2	2.1	6.1	10.6
Adjustment for commercial opex	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.9)	(1.9)	(1.9)	(1.9)	(9.2)	(9.2)
Crossrail finance charge	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welsh Valley Lines finance charge	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Facility charges – station, depot and track	0.8	0.9	0.8	1.1	0.8	1.2	0.8	1.4	0.8	1.5	3.9	6.1
Other non-charge income	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.6	1.5
Total non-charge income	**16.6**	**17.9**	**17.6**	**19.2**	**18.2**	**20.5**	**18.9**	**22.0**	**19.9**	**23.6**	**91.3**	**103.2**
Total freight Income	**9.3**	**7.7**	**10.0**	**8.1**	**11.6**	**8.9**	**14.4**	**10.2**	**17.3**	**11.5**	**62.6**	**46.4**
Managed stations long term charge	2.3	2.4	2.3	2.4	2.3	2.4	2.3	2.4	2.3	2.4	11.4	12.1
Managed stations qualifying expenditure	4.4	4.3	4.4	4.3	4.4	4.3	4.4	4.3	4.4	4.3	21.9	21.5
Total managed stations income	**6.7**	**6.7**	**6.7**	**6.7**	**6.7**	**6.7**	**6.7**	**6.7**	**6.7**	**6.7**	**33.3**	**33.5**
Franchised stations long term charge	13.2	11.0	13.2	11.0	13.2	11.0	13.2	11.0	13.2	11.0	66.1	55.0
Franchised stations lease income	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	10.4	10.5
Total franchised stations income	**15.3**	**13.1**	**15.3**	**13.1**	**15.3**	**13.1**	**15.3**	**13.1**	**15.3**	**13.1**	**76.6**	**65.5**
Open access charge income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Open access fixed contractual contributions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total open access income	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Total depots income	**6.6**	**6.6**	**6.6**	**6.6**	**6.6**	**6.6**	**6.6**	**6.6**	**6.6**	**6.6**	**32.9**	**33.0**
Total OSTI	**54.5**	**52.0**	**56.1**	**53.7**	**58.4**	**55.8**	**61.9**	**58.6**	**65.8**	**61.5**	**296.7**	**281.6**

Table C.4 Network Rail's SBP forecast and our adjustments to make it more comparable with our final determination

£m (2012-13 prices)	Great Britain	England & Wales	Scotland
SBP total OSTI per Tables 14.4, 14.8, 14.12 and Table 4 in the executive summary	**4,136.8**	**3,856.9**	**279.9**
Stations property income adjustment	23.5	31.2	(7.7)
Freight Specific Charge adjustment	54.0	42.7	11.3
Non periodic review income in property income	119.7	112.5	7.2
Schedule 4 and Performance regime adjustment	65.2	59.2	6.0
SBP Total OSTI per Table C.1, C.2, C.3	**4,399.2**	**4,102.5**	**296.7**

C.8. Shortly after publication of its SBP, Network Rail advised us that it had underestimated its stations property income by £23.5m over CP5 for Great Britain, £31.2m over CP5 for England & Wales and -£7.7m over CP5 for Scotland. We have adjusted for this issue in Tables C.1, C.2 and C.3. However, we have not made an adjustment in Tables 14.4, 14.8 and 14.12 for Great Britain, England & Wales and Scotland as this would make our comparison of the net revenue requirements less clear.

C.9. At the time of Network Rail's SBP we had not made a decision to introduce the freight specific charge and therefore Network Rail's SBP did not include an estimate of this income. Following our decision to include a freight specific charge, we calculated freight specific charge income based on the capped charge rates as set out in our January 2013 conclusion. This would increase Network Rail's SBP freight charges by £54.0m over CP5 for Great Britain, £42.7m over CP5 for England & Wales and £11.3m over CP5 for Scotland. In the above tables (C.1, C.2 and C.3), we have adjusted for this issue. In Tables 14.4, 14.8 and 14.12 we have not made an adjustment for Great Britain, England & Wales and Scotland, as this would make our comparison of the net revenue requirements less clear.

C.10. To ensure that Network Rail's OSTI SBP numbers are on a like for like basis with our assessment, in the SBP property income numbers in the above Tables (C.1, C.2 and C.3) we include investment framework income of £119.7m over CP5 for Great Britain, £112.5m over CP5 for England & Wales and £7.2m over CP5 for Scotland. In Tables 14.4, 14.8 and 14.12 we have not made an adjustment for Great Britain, England & Wales and Scotland, as this would make our comparison of the net revenue requirements less clear.

C.11. To ensure that Network Rail's OSTI SBP numbers are on a like for like basis with our assessment, within the freight income numbers we have removed the assumption for freight Schedule 4 and performance regime costs of £65.2m over CP5 for Great Britain, £59.2m over CP5 for England & Wales and £6.0m over CP5 for Scotland. In the above tables (C.1, C.2 and C.3), we have adjusted for this issue. In Tables 14.4, 14.8 and 14.12 we have not made an adjustment respectively for Great Britain, England & Wales and Scotland.

Table C.5: Network Rail's SBP forecast and our assessment of other single till income in CP5 for Great Britain, England& Wales and Scotland

£m (2012-13 prices)	Great Britain			England & Wales			Scotland			
	SBP	FD	FD - SBP	SBP	FD	FD - SBP	SBP	FD	FD - SBP	Chapter reference
Property rental	1,477.1	1,564.6	87.5	1,388.2	1,470.5	82.3	88.9	94.2	5.3	Chapter 18
Property sales	101.6	176.6	75.0	95.5	166.0	70.5	6.1	10.6	4.5	Chapter 18
Adjustment for commercial opex	(153.3)	(153.3)	-	(144.1)	(144.1)	-	(9.2)	(9.2)	-	Chapter 18
Crossrail finance charge	327.7	297.7	(30.0)	327.7	297.7	(30.0)	-	-	-	Chapter 18
Welsh Valley Lines finance charge	27.8	22.8	(5.0)	27.8	22.8	(5.0)	-	-	-	Chapter 18
Facility charges – station, depot and track	265.6	275.4	9.8	261.7	269.3	7.6	3.9	6.1	2.2	Chapter 18
Other non-charge income	52.6	66.7	14.1	51.0	65.5	14.5	1.6	1.5	(0.1)	Chapter 18
Total non-charge income	**2,099.1**	**2,250.5**	**151.4**	**2,007.8**	**2,147.7**	**139.9**	**91.3**	**103.2**	**11.9**	
Total freight income	**548.4**	**438.3**	**(110.1)**	**485.8**	**391.8**	**(94.0)**	**62.6**	**46.4**	**(16.2)**	Chapter 16
Managed stations long term charge	152.7	159.0	6.3	141.3	146.9	5.6	11.4	12.1	0.7	Chapter 16
Managed stations qualifying expenditure	215.0	211.9	(3.1)	193.2	190.2	(3.0)	21.9	21.5	(0.4)	Chapter 18
Total managed stations income	**367.8**	**370.9**	**3.1**	**334.5**	**337.1**	**2.6**	**33.3**	**33.5**	**0.2**	
Franchised stations long term charge	720.8	597.0	(123.8)	654.7	541.9	(112.8)	66.1	55.0	(11.1)	Chapter 16
Franchised stations lease income	221.2	222.9	1.7	210.8	212.4	1.6	10.4	10.5	0.1	Chapter 18
Total franchised stations income	**942.0**	**819.6**	**(122.4)**	**865.5**	**754.2**	**(111.3)**	**76.6**	**65.5**	**(11.1)**	
Open access charge income	53.2	41.7	(11.5)	53.2	41.7	(11.5)	-	-	-	Chapter 16
Open access fixed contractual contributions	89.3	89.5	0.2	89.3	89.5	0.2	-	-	-	Chapter 18
Total open access income	**142.5**	**131.0**	**(11.5)**	**142.5**	**131.0**	**(11.5)**	**-**	**-**	**-**	
Total depots income	**299.4**	**299.5**	**0.1**	**266.4**	**266.5**	**0.1**	**32.9**	**33.0**	**0.1**	Chapter 18
Total OSTI	**4,399.2**	**4,309.8**	**(89.4)**	**4,102.5**	**4,028.3**	**(74.2)**	**296.7**	**281.6**	**(15.1)**	

Table C.6: Our assessment of other single till income in CP5, draft determination compared to final determination for Great Britain, England & Wales and Scotland

£m (2012-13 prices)	Great Britain			England & Wales			Scotland		
	DD	FD	FD - DD	DD	FD	FD - DD	DD	FD	FD - DD
Property rental	1,656.4	1,564.6	(91.8)	1,557.0	1,470.5	(86.5)	99.4	94.2	(5.2)
Property sales	176.6	176.6	-	166.0	166.0	-	10.6	10.6	-
Adjustment for commercial opex	(153.8)	(153.4)	0.5	(144.8)	(144.0)	0.8	(9.4)	(9.2)	0.2
Crossrail finance charge	298.1	297.7	(0.4)	298.1	297.7	(0.4)	-	-	-
Welsh Valley Lines finance charge	22.8	22.8	-	22.8	22.8	-	-	-	-
Facility charges – station, depot and track	274.4	275.4	1.0	268.3	269.3	1.0	6.1	6.1	-
Other non-charge income	68.5	66.7	(1.8)	67.0	65.5	(1.5)	1.5	1.5	-
Total non-charge income	**2,343.0**	**2,250.5**	**(92.5)**	**2,234.4**	**2,147.7**	**(86.7)**	**108.2**	**103.1**	**(5.0)**
Freight charges	433.4	438.3	4.9	387.9	391.8	3.9	45.0	46.4	1.4
Freight connection agreements and other non-regulated income	22.5	-	(22.5)	20.5	-	(20.5)	2.5	-	(2.5)
Total freight income	**455.9**	**438.3**	**(17.6)**	**408.4**	**391.8**	**(16.6)**	**47.5**	**46.4**	**(1.1)**
Managed stations long term charge	146.0	159.0	13.0	135.0	146.9	11.9	11.0	12.1	1.1
Managed stations qualifying expenditure	215.0	211.9	(3.1)	193.0	190.2	(2.8)	22.0	21.5	(0.5)
Total managed stations income	**360.8**	**370.9**	**10.1**	**328.0**	**337.1**	**9.1**	**32.8**	**33.5**	**0.7**
Franchised stations long term charge	602.0	597.0	(5.0)	546.5	541.9	(4.6)	55.0	55.0	-
Franchised stations lease income	221.1	222.9	1.8	210.9	212.4	1.5	10.5	10.5	-
Total franchised stations income	**822.9**	**819.6**	**(3.3)**	**757.6**	**754.2**	**(3.4)**	**65.6**	**65.5**	**(0.1)**
Open access charge income	39.9	41.7	1.8	40.0	41.7	1.7	-	-	-
Open access fixed contractual contributions	-	89.5	89.5	-	89.5	89.5	-	-	-
Total open access income	**39.9**	**131.0**	**91.1**	**40.0**	**131.0**	**91.0**	**-**	**-**	**-**
Total depots income	**299.0**	**299.5**	**0.5**	**266.5**	**266.5**	**-**	**33.0**	**33.0**	**-**
Total OSTI	**4,321.9**	**4,309.8**	**(12.1)**	**4,034.9**	**4,028.3**	**(6.6)**	**287.1**	**281.6**	**(5.5)**

Table C.7 Comparison of the OSTI assumptions in our draft determination to our final determination

£m (2012-13 prices)	Great Britain	England & Wales	Scotland
Total OSTI per draft determination	**4,321.9**	**4,034.9**	**287.1**
Property rental - adjustment for low probability, high income projects	(91.8)	(86.6)	(5.2)
Open access fixed contractual contribution - not included in draft determination	89.5	89.5	-
Freight connection agreements and other non-regulated income- Network Rail have included in operating expenditure and we have removed from OSTI to be consistent	(22.5)	(20.5)	(2.5)
Managed stations long term charge - change in efficiency assumptions	13.0	11.9	1.1
Other	(0.3)	(0.9)	1.2
Total OSTI per final determination	**4,309.8**	**4,028.3**	**281.6**

C.12. Following our consultation on the draft determination, we have adjusted our assessment of low probability, high potential income projects by -£91.8m over CP5 for Great Britain, -£86.6m over CP5 for England & Wales and -£5.2m over CP5 for Scotland. The other single till income chapter (chapter 18) contains further details.

C.13. Following our consultation on the draft determination, we realised that we had not included the open access fixed contractual contribution non-regulated income in our assessment of OSTI. We have now included this income in our final determination (£89.5m over CP5 for Great Britain and for England & Wales). The other single till income chapter (chapter 18) contains further details of this income.

C.14. Following our consultation on the draft determination, we were also made aware that Network Rail included freight connection agreements and other non-regulated income in operating expenditure in its SBP. This meant that we double-counted this income in our draft determination. Therefore, to be consistent with Network Rail's SBP, we have decided to transfer this income from OSTI. The adjustment to OSTI is -£22.5m over CP5 for Great Britain, -£20.5m over CP5 for England & Wales and -£2.5m over CP5 for Scotland.

C.15. Following our consultation on the draft determination and the review of our assumptions on managed stations long term charges, we have updated our assumptions. In particular, we have reduced the efficiency overlay for building expenditure from 19.2% to 17.7%. This has resulted in increased income of £13m over CP5 for Great Britain, £11.9m over CP5 for England & Wales and £1.1m over CP5 for Scotland. Chapter 16 contains further details of this income and our revised assumptions.

Annex D: Route-level data

Structure of this annex

D.1. This annex is structured as follows:

(a) introduction;

(b) our approach to the assessment of Network Rail's route-level income and expenditure;

(c) summary analysis of route-level information;

(d) changes since our draft determination;

(e) REBS baselines; and

(f) route-level expenditure assumptions, indicative revenue requirements and indicative key financial information.

Introduction

D.2. We present two separate types of route-level information for our determination. We need to do this to support route-level efficiency benefit sharing (REBS) and to facilitate our move to a more granular assessment of Network Rail's costs. This will provide greater focus on Network Rail's route-level costs and improve the information that we will have available to inform our PR18 periodic review. The two categories are:

(a) **REBS baselines** – we need to produce route-level baselines to inform the development of the final REBS baselines. Network Rail will need to ensure that the REBS route baselines that are agreed (before the start of CP5) reconcile, line-by-line, back to our England & Wales and Scotland determinations. The REBS baselines are simply a subset of the wider route-level income and expenditure assumptions, e.g. REBS baselines exclude Network Rail's interest costs (as TOCs/FOCs have limited influence over these costs) but our route-level income and expenditure assumptions will include these costs; and

(b) **route-level expenditure assumptions** – we also present our route-level assumptions for key areas of Network Rail's CP5 expenditure, indicative revenue requirements and indicative key financial information.

Our approach

Overview

D.3. Throughout this document, we have explained our approach to our assessment of Network Rail's income and expenditure. Below, we provide a summary of our

approach for calculating our assumptions for Network Rail's CP5 income and expenditure at the route level.

D.4. To determine our route-level assumptions we have:

(a) assessed Network Rail's SBP forecasts for route-level income and expenditure in CP5;

(b) where Network Rail has allocated income and expenditure to operating routes (rather than building its forecasts on a bottom-up basis), we have reviewed its allocation methodologies, e.g. most HR costs are allocated to routes using headcount, to determine whether these were reasonable; and

(c) we then applied our own assessment of efficiency to Network Rail's income and expenditure to determine our CP5 route-level assumptions.

Approach to income and expenditure

D.5. We explain below the approach we have taken to our assessment of each key element of Network Rail's income and expenditure.

Support costs

D.6. In its SBP, Network Rail allocated its central support functions to its operating routes using a relatively simple methodology. Since then, Network Rail has developed a more refined methodology for the allocations of these costs. We have reviewed this revised methodology and consider it to be reasonable. PwC reviewed Network Rail's allocation of these costs and did not find any issues with Network Rail's allocation.

D.7. For our assessment, we have used Network Rail's latest allocation methodology to determine the appropriate level of support costs for each of Network Rail's ten operating routes. This methodology uses a mix of different cost driver based metrics to allocate Network Rail's central support costs to operating routes on a function-by-function basis. For example, information management costs are allocated to routes by the number of information management users and most HR costs are allocated to routes using headcount.

Operations

D.8. Network Rail's SBP included a bottom-up assessment of operations costs for each of its ten operating routes. This assessment is based on Network Rail's local plans to deliver the operating strategy. We consider Network Rail's plans for operations costs to be reasonable and so we have used Network Rail's breakdown of operations cost by route as the basis of our PR13 determination assumptions.

Maintenance

D.9. Network Rail presented its maintenance expenditure plans in its SBP on a route basis. Network Rail's plans are based on bottom-up route-based estimates of the resource required to safely maintain the railway in line with its asset policies. The route-based figures include consideration of the impact of increased traffic and new

infrastructure on that route. Our route-level assessment of these costs reflects Network Rail bottom-up plans.

Renewals

D.10. Network Rail presented its renewals expenditure plans in its SBP on a route basis. Network Rail's plans are based on the outputs of a challenge process between high-level modelled expenditure requirements, provided by the corporate centre, and local plans developed by the routes.

D.11. The company's high-level models produce route renewals expenditure forecasts, which consider route-specific asset information, unit costs disaggregated by structural factors and efficiencies reflecting the different mix of asset types on each route. The operating routes produced their plans based on their local knowledge of the asset base, knowledge of delivery constraints, understanding of local costs and local efficiency initiatives. The challenge process between modelled expenditure and route-based plans has helped to improve the robustness of the route plans. Our route-level assessment of these costs reflects Network Rail's bottom-up plans.

Enhancements

D.12. We have allocated enhancements costs to Network Rail's operating routes on the basis of Network Rail's SBP assumptions on the percentage of each enhancement project allocated to specific routes. We have applied these assumptions to our own bottom-up assessment of Network Rail's enhancement project costs.

D.13. For the ring-fenced funds we have allocated a proportion of the total cost to each of Network Rail's operating routes based on the percentage of train miles in that operating route. The exception to this is the East Coast Connectivity Fund which has been allocated entirely to the LNE route.

Traction electricity, industry costs and rates

D.14. Network Rail's industry costs and rates cover costs that, with the exception of traction electricity and cumulo rates, are incurred centrally with Network Rail allocating these costs to its operating routes. We have used the same approach as Network Rail for allocating our assessment of these central costs to the route-level.

Schedule 4 costs

D.15. Our route-level CP5 Schedule 4 cost assumptions are based on Network Rail's SBP methodology. For its SBP, Network Rail produced a bottom-up assessment of route-level Schedule 4 costs based on its CP5 route-level possession activity volume forecasts (by asset type) and its network-wide unit cost assumptions (for each asset type) reflecting its 2011-12 possession costs and volumes.

Schedule 8 costs

D.16. Our route-level CP5 Schedule 8 cost assumptions are based on Network Rail's SBP methodology. In its SBP, Network Rail allocated these costs to its operating routes using freight train miles. Given the materiality of these figures, together with likely

'lumpiness' in cancellations at the route-level, we consider that this is a suitable approach.

Other single till income (OSTI)

D.17. The majority of other single till income relates to Network Rail's property business and income from some enhancements undertaken by Network Rail such as in relation to Crossrail. The other elements of other single till income are mainly charging income from open access operators (passengers and freight) and stations and depots income. For property income, we have used Network Rail's approach of using a simple metric of total other single till income per route to allocate property income by route. For the elements of Network Rail's charging income within OSTI, we have used Network Rail's allocations, which are based on values of route-level income in CP4.

Variable usage charge and capacity charge income

D.18. Network Rail's variable usage charge and capacity charge income are not disaggregated by operating route and so we have had to make assumptions about how to allocate this income to operating routes. In our assessment we have allocated Network Rail's variable usage charge and capacity charge income from passenger operators to operating routes by multiplying service group-specific charge rates by vehicle kilometres, disaggregated by service group and operating route. For freight, commodity-specific charge rates were multiplied by tonne kilometres, disaggregated by commodity and route.

Electrification asset usage charge (EAUC) income

D.19. EAUC is not disaggregated by Network Rail operating route and so we have had to make assumptions about how to allocate Network Rail's EAUC income to its operating routes. Our assessment of Network Rail's EAUC income from passenger operators is allocated to operating routes by multiplying EAUC rates for DC (third rail) and AC (OLE) traffic by Network Rail's forecast of electrified vehicle miles for each operating route. For freight, EAUC rates for DC and AC are multiplied by Network Rail's forecast of electric KGTM for each operating route.

Financing assumptions

D.20. Network Rail raises debt at a GB-level and so we have had to make assumptions to allocate financing costs to each of Network Rail's operating routes.

(a) **Scotland:** Since 1 April 2006, the RAB for Network Rail's Scotland operating route has been separately identified from England & Wales. As part of PR08, we also disaggregated the Scotland route's debt. Therefore, our PR13 financing cost assumptions for Scotland are based on our latest forecasts of closing CP4 RAB and debt for Scotland; and

(b) **England & Wales routes:** For PR13, we have provided an indicative disaggregation of Network Rail's RAB and debt for the nine England & Wales operating routes. We considered two main options for disaggregation: (1) use the

same approach as for disaggregating the Scotland route, or (2) use Network Rail's methodology for disaggregating the fixed charge. The two approaches produce similar results. In December 2012, we decided to use Network Rail's fixed charge disaggregation approach. This approach uses route-level assessments of long-run renewals costs. After we had established the opening CP5 RAB and debt assumptions for the nine routes, we then calculated Network Rail's financing costs for each route by applying our CP5 financing cost assumptions to the route-level CP5 RAB and debt in each year of the control period.

Changes to our route-level assumptions

D.21. In the financial incentives chapter (chapter 19) and the monitoring, enforcement and reporting chapter (chapter 23), we explain the scope that Network Rail has to adjust our assessments of route-level income and expenditure.

D.22. In summary:

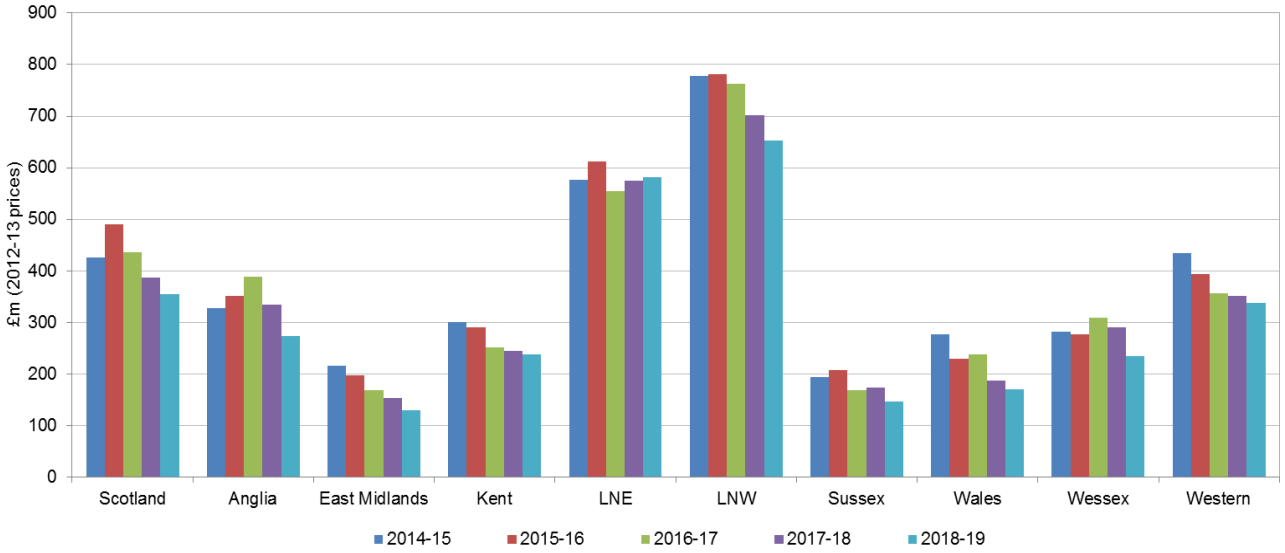
(a) **REBS baselines**. The PR13 final determination income and expenditure assumptions for England & Wales and Scotland will be used as the baselines for REBS in CP5. Network Rail will be able to adjust the REBS baselines for the nine England & Wales operating routes as long as the baselines reconcile, line-by-line to our national England & Wales determination assumptions; and

(b) **CP5 financial monitoring**. For CP5, our financial monitoring will compare Network Rail's financial performance against our PR13 determination income and expenditure assumptions. Network Rail cannot change these baselines.

Summary analysis

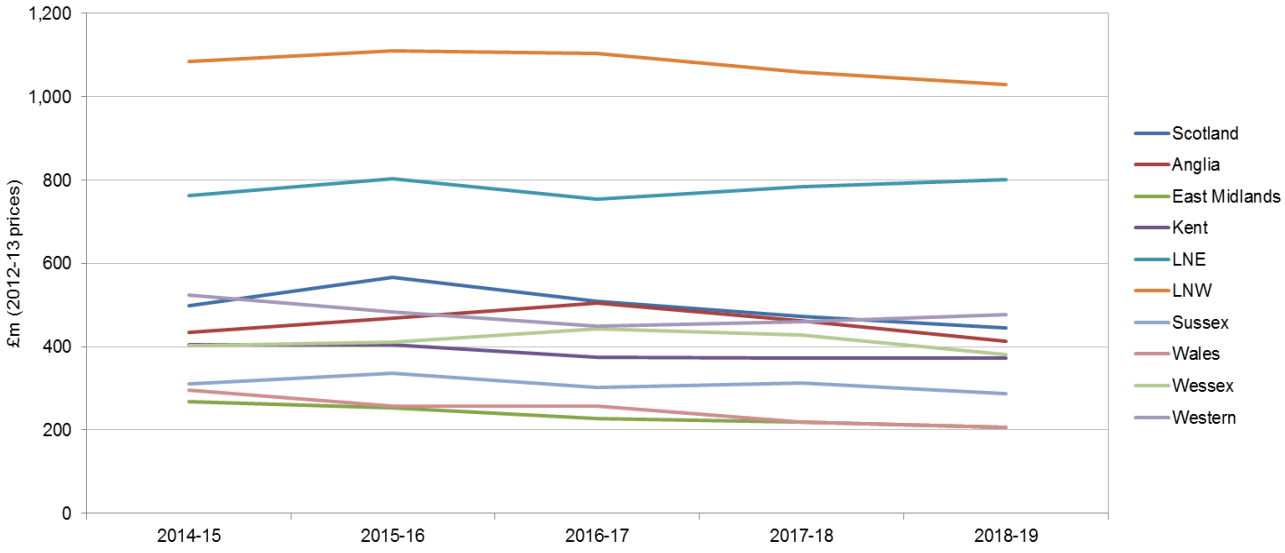
D.23. The REBS baselines for each route in each year of CP5 are summarised in Figure D.1. See below for further details.

Figure D.1: Our assessment of CP5 indicative REBS baselines



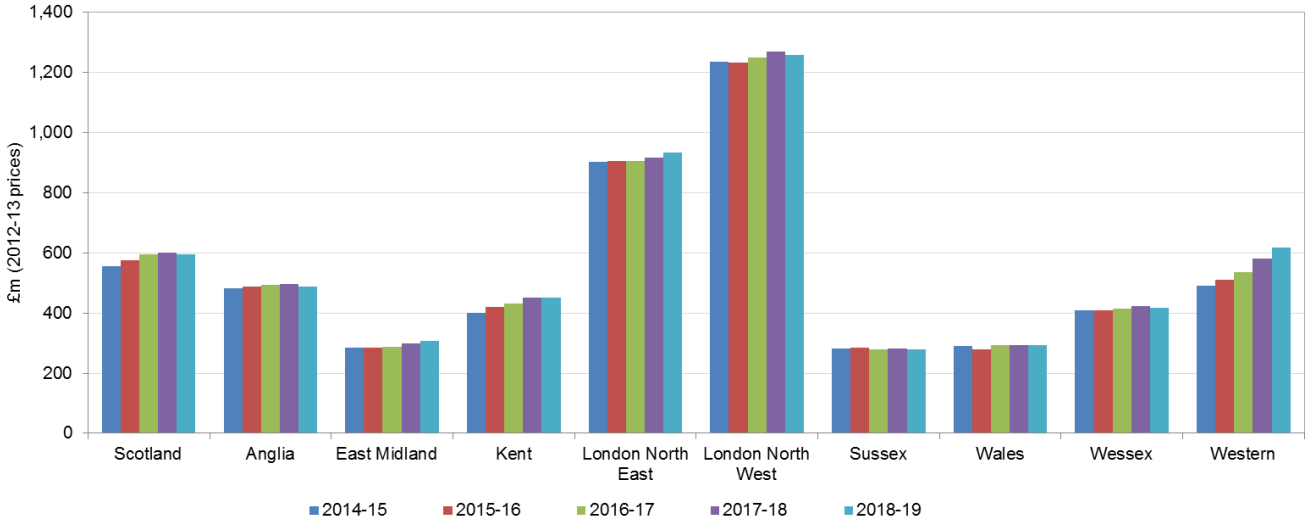
D.24. Our assessment of the indicative annual expenditure by route for support, operations, maintenance, traction electricity, industry costs and rates and renewals is shown in Figure D.2. See below for further details.

Figure D.2: Our indicative assessment of CP5 expenditure by operating route



D.25. Our assessment of the indicative annual CP5 net revenue requirement for each operating route is shown in Figure D.3. See below for further details.

Figure D.3: Our assessment of the indicative CP5 net revenue requirements



Changes since our draft determination

D.26. We have made three key changes to the REBS baselines since our draft determination. We explain the reasons for these changes in more detail in our financial incentives chapter (chapter 19). However, we summarise these changes below:

(a) we have included income from the capacity charge and electrification asset usage charge in REBS baselines to reflect traffic growth;

(b) we have excluded information management renewals expenditure from REBS baselines because this category of expenditure is included in the spend-to-save mechanism; and

(c) caps on upside and downside exposure of 10% are consistent with the RAB roll forward approach to renewals expenditure. This maintains the consistency between the calculation of REBS payments and of the caps on financial exposure[570].

REBS baselines

Overview

D.27. In the next section, we set out the REBS baselines for England & Wales (total) and for each of Network Rail's ten operating routes. REBS includes those elements of

[570] For example, in calculating the 10% downside cap, we will reflect that train operators are exposed to 25% of any underperformance on renewals expenditure, i.e. the part of the downside cap which relates to renewals will be calculated as: baseline renewals expenditure x 10% (downside cap) x 10% (share of underperformance) x 25% (share of renewals underperformance based on RAB roll forward). Please note that the cap on REBS payments applies at the total baseline level and not on a line-by-line basis for each element of income and expenditure.

Network Rail's income and expenditure that we consider train operators are able to influence. On this basis REBS will include:

(a) support costs;

(b) operations costs;

(c) maintenance costs;

(d) renewals costs[571];

(e) Network Rail's share of BTP and RSSB costs;

(f) Schedule 4 & 8 costs; and

(g) property income[572].

D.28. We have also included elements of Network Rail's income that are impacted by traffic growth so that an increase in Network Rail's costs, resulting from traffic growth above our determination assumptions, will be in part offset by an increases in income from the following charges:

(a) variable usage charge;

(b) capacity charge; and

(c) electrification asset usage charge.

D.29. We explain this further in the financial incentives chapter (chapter 19).

REBS baselines – England & Wales total and Scotland

D.30. In the financial incentives chapter (chapter 19), we confirm Network Rail should ensure that the nine final England & Wales REBS route baselines reconcile back to our final determination assumptions for England & Wales, on a line-by-line basis. In Table D.1 we present the total REBS baseline for England & Wales in CP5.

[571] We have excluded information management renewals expenditure from REBS baselines because this category of expenditure is included in the spend-to-save mechanism.

[572] We include the following categories of Network Rail income: retail income, advertising income, concessions income, property sales, property rental income. We have netted off Network Rail's commercial property operating costs from this total. However, we have excluded Network Rail's property income in relation to telecoms because we do not consider that train operators can sufficiently influence this income. We have also excluded Network Rail's non-periodic review income because this category of income is dealt with through the spend-to-save mechanism in CP5. This is consistent with the breakdown we used for our draft determination.

Table D.1: Our assessment of the England & Wales total REBS baseline for CP5

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Expenditure						
Support costs	421	401	376	363	348	1,908
Industry costs (BTP and RSSB only)	72	69	66	64	62	332
Network operations	385	374	358	344	325	1,787
Network maintenance	986	965	930	899	872	4,651
Renewals	2,165	2,174	2,129	2,046	1,901	10,415
Schedule 4 & 8 costs	187	194	195	182	182	939
Total expenditure	**4,215**	**4,178**	**4,053**	**3,898**	**3,688**	**20,033**
Income						
Property income	242	250	262	274	285	1,314
VUC income	198	201	206	213	222	1,041
Capacity charge income	373	376	378	384	399	1,911
EAUC income	13	13	13	14	17	71
Total income	**827**	**840**	**860**	**886**	**923**	**4,336**
REBS baseline	**3,388**	**3,338**	**3,193**	**3,012**	**2,765**	**15,697**

D.32. As we have a separate PR13 determination for Scotland, our REBS baseline assumptions for Scotland, shown in Table D.2, will act as the final REBS route baseline for CP5. In Table D.2, we also show the caps on train operators upside and downside exposure from REBS in each year of CP5.

Table D.2: Our assessment of the Scotland REBS baseline for CP5

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Expenditure						
Support costs	47	44	42	40	38	211
Industry costs (BTP and RSSB only)	8	8	7	7	7	37
Network operations	39	38	37	34	33	181
Network maintenance	106	108	104	102	95	515
Renewals	257	319	271	237	218	1,303
Schedule 4 & 8 costs	20	25	30	22	22	119
Total expenditure	**478**	**542**	**490**	**443**	**413**	**2,365**
Income						
Property income	15	16	17	18	18	84
VUC income	18	18	19	19	20	94
Capacity charge income	17	17	18	18	18	88
EAUC income	1	1	1	1	1	6
Total income	**52**	**53**	**54**	**56**	**58**	**273**
REBS baseline	**426**	**489**	**436**	**387**	**355**	**2,093**
Upside cap	**6**	**6**	**6**	**5**	**5**	**28**
Downside cap	**2**	**3**	**2**	**2**	**2**	**11**

England & Wales indicative REBS baselines

D.33. Tables D.3 to D.11 set out our indicative REBS baselines for the nine operating routes in England & Wales. We also show the caps on train operators upside and downside exposure from REBS for each year of CP5, on the basis of our indicative baselines.

Table D.3: Our assessment of the Anglia REBS baseline for CP5

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Expenditure						
Support costs	43	40	38	37	35	193
Industry costs (BTP and RSSB only)	7	7	7	7	6	34
Network operations	42	41	38	36	34	192
Network maintenance	102	100	98	95	90	484
Renewals	181	207	250	210	166	1,015
Schedule 4 & 8 costs	17	21	24	19	16	98
Total expenditure	**393**	**417**	**455**	**404**	**347**	**2,015**
Income						
Property income	21	22	23	24	25	115
VUC income	16	17	17	18	19	87
Capacity charge income	24	24	24	25	27	126
EAUC income	3	3	3	3	3	14
Total income	**65**	**66**	**67**	**70**	**74**	**341**
REBS baseline	**328**	**351**	**388**	**334**	**273**	**1,674**
Upside cap	**5**	**5**	**5**	**4**	**4**	**23**
Downside cap	**2**	**2**	**2**	**2**	**1**	**9**

Table D.4: Our assessment of the East Midlands REBS baseline for CP5

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Expenditure						
Support costs	24	23	22	21	20	111
Industry costs (BTP and RSSB only)	4	4	4	4	4	20
Network operations	20	19	17	15	15	86
Network maintenance	55	55	53	52	50	264
Renewals	144	129	108	101	85	568
Schedule 4 & 8 costs	15	13	11	10	8	58
Total expenditure	**262**	**244**	**216**	**203**	**182**	**1,107**
Income						
Property income	9	9	9	10	10	46
VUC income	13	13	13	14	15	69
Capacity charge income	24	24	24	25	26	124
EAUC income	0	0	0	1	1	3
Total income	**46**	**47**	**47**	**49**	**52**	**242**
REBS baseline	**216**	**197**	**168**	**153**	**130**	**865**
Upside cap	**3**	**3**	**2**	**2**	**2**	**11**
Downside cap	**1**	**1**	**1**	**1**	**1**	**4**

Table D.5: Our assessment of the Kent REBS baseline for CP5

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Expenditure						
Support costs	38	36	34	33	31	172
Industry costs (BTP and RSSB only)	5	5	5	5	5	25
Network operations	30	29	28	28	24	139
Network maintenance	73	71	68	66	63	341
Renewals	204	196	172	168	175	915
Schedule 4 & 8 costs	16	19	15	15	15	81
Total expenditure	**366**	**357**	**321**	**315**	**313**	**1,672**
Income						
Property income	35	36	38	39	41	189
VUC income	10	10	10	11	11	53
Capacity charge income	20	20	20	20	21	100
EAUC income	1	1	1	1	1	6
Total income	**66**	**67**	**69**	**71**	**75**	**347**
REBS baseline	**301**	**290**	**252**	**244**	**238**	**1,325**
Upside cap	**4**	**4**	**3**	**3**	**3**	**16**
Downside cap	**1**	**1**	**1**	**1**	**1**	**6**

Table D.6: Our assessment of the LNE REBS baseline for CP5

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Expenditure						
Support costs	79	76	71	69	66	360
Industry costs (BTP and RSSB only)	12	12	11	11	10	56
Network operations	71	70	65	62	59	328
Network maintenance	163	160	153	147	143	766
Renewals	370	407	374	412	426	1,988
Schedule 4 & 8 costs	31	39	37	36	47	191
Total expenditure	**726**	**764**	**711**	**737**	**752**	**3,690**
Income						
Property income	35	36	38	39	41	188
VUC income	46	46	49	51	53	244
Capacity charge income	68	68	69	70	73	348
EAUC income	2	2	2	2	3	13
Total income	**150**	**152**	**157**	**162**	**170**	**793**
REBS baseline	**576**	**611**	**554**	**574**	**581**	**2,897**
Upside cap	**7**	**8**	**7**	**7**	**7**	**35**
Downside cap	**3**	**3**	**3**	**3**	**3**	**14**

Table D.7: Our assessment of the LNW REBS baseline for CP5

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Expenditure						
Support costs	111	105	99	95	91	502
Industry costs (BTP and RSSB only)	19	18	17	17	16	86
Network operations	104	100	98	93	90	484
Network maintenance	277	266	259	250	244	1,296
Renewals	458	484	487	451	426	2,307
Schedule 4 & 8 costs	39	42	42	43	36	203
Total expenditure	**1,008**	**1,015**	**1,002**	**948**	**904**	**4,878**
Income						
Property income	53	54	57	60	62	285
VUC income	58	59	61	63	64	305
Capacity charge income	115	116	117	119	120	586
EAUC income	4	4	5	5	5	23
Total income	**230**	**234**	**239**	**246**	**251**	**1,200**
REBS baseline	**778**	**781**	**763**	**702**	**653**	**3,678**
Upside cap	**11**	**10**	**10**	**9**	**8**	**49**
Downside cap	**4**	**4**	**4**	**4**	**3**	**19**

Table D.8: Our assessment of the Sussex REBS baseline for CP5

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Expenditure						
Support costs	25	24	23	22	21	115
Industry costs (BTP and RSSB only)	5	5	5	5	4	24
Network operations	30	28	28	27	26	138
Network maintenance	57	59	52	51	47	267
Renewals	149	165	136	148	126	724
Schedule 4 & 8 costs	10	11	9	9	12	50
Total expenditure	**276**	**291**	**253**	**261**	**236**	**1,317**
Income						
Property income	33	34	35	37	38	177
VUC income	8	8	8	9	9	43
Capacity charge income	40	40	40	41	41	203
EAUC income	1	1	1	1	1	5
Total income	**82**	**83**	**85**	**87**	**90**	**427**
REBS baseline	**194**	**208**	**168**	**174**	**146**	**890**
Upside cap	**2**	**2**	**2**	**2**	**1**	**9**
Downside cap	**1**	**1**	**1**	**1**	**1**	**3**

Table D.9: Our assessment of the Wales REBS baseline for CP5

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Expenditure						
Support costs	23	22	21	20	19	105
Industry costs (BTP and RSSB only)	4	4	4	4	4	19
Network operations	25	24	23	24	21	117
Network maintenance	61	60	59	58	57	294
Renewals	171	136	140	101	91	640
Schedule 4 & 8 costs	18	10	17	8	7	60
Total expenditure	**302**	**255**	**263**	**215**	**199**	**1,235**
Income						
Property income	10	10	10	11	11	52
VUC income	8	8	8	8	9	41
Capacity charge income	8	8	8	8	8	39
EAUC income	-	-	-	0	0	0
Total income	**25**	**26**	**26**	**27**	**28**	**132**
REBS baseline	**277**	**230**	**237**	**188**	**171**	**1,102**
Upside cap	**4**	**3**	**3**	**3**	**3**	**16**
Downside cap	**1**	**1**	**1**	**1**	**1**	**6**

Table D.10: Our assessment of the Wessex REBS baseline for CP5

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Expenditure						
Support costs	34	32	30	29	28	154
Industry costs (BTP and RSSB only)	7	7	7	6	6	33
Network operations	31	30	30	27	26	143
Network maintenance	88	87	83	78	74	409
Renewals	185	185	223	213	170	975
Schedule 4 & 8 costs	15	14	16	19	14	78
Total expenditure	**359**	**355**	**388**	**372**	**317**	**1,792**
Income						
Property income	31	32	34	36	37	170
VUC income	16	16	16	16	16	80
Capacity charge income	28	29	29	29	29	143
EAUC income	1	1	1	1	1	5
Total income	**76**	**78**	**79**	**81**	**83**	**398**
REBS baseline	**283**	**277**	**309**	**291**	**234**	**1,394**
Upside cap	**4**	**3**	**4**	**3**	**3**	**17**
Downside cap	**1**	**1**	**1**	**1**	**1**	**7**

Table D.11: Our assessment of the Western REBS baseline for CP5

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Expenditure						
Support costs	43	41	39	38	36	197
Industry costs (BTP and RSSB only)	8	7	7	7	7	35
Network operations	33	33	31	31	31	159
Network maintenance	109	109	106	104	103	531
Renewals	303	265	239	241	236	1,284
Schedule 4 & 8 costs	25	25	23	23	25	121
Total expenditure	**522**	**481**	**445**	**443**	**438**	**2,328**
Income						
Property income	17	17	18	19	20	91
VUC income	23	23	24	24	26	120
Capacity charge income	47	47	47	48	53	241
EAUC income	0	0	0	1	1	2
Total income	**86**	**87**	**89**	**92**	**100**	**454**
REBS baseline	**435**	**394**	**356**	**351**	**338**	**1,874**
Upside cap	**5**	**5**	**4**	**4**	**4**	**23**
Downside cap	**2**	**2**	**2**	**2**	**2**	**9**

Route-level income and cost assumptions

Overview

D.34. For each operating route, we set out below the following indicative information:

(a) annual operating and capital expenditure assumptions;

(b) revenue requirement calculations; and

(c) key financial information.

Individual route-level income and expenditure assumptions

Table D.12: Our assessment of CP5 expenditure for Scotland

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Support costs	47	44	42	40	38	211
Network operations	39	38	37	34	33	181
Traction electricity, industry costs and rates	40	48	49	52	55	245
Network maintenance	106	108	104	102	95	515
Schedule 4 & 8 costs	20	25	30	22	22	119
Total operating expenditure	**253**	**264**	**261**	**251**	**242**	**1,271**
Renewals	266	327	278	244	225	1,341
Enhancements	468	388	265	156	79	1,356
Total capital expenditure	**734**	**716**	**543**	**400**	**304**	**2,697**
Total expenditure	**987**	**979**	**804**	**651**	**547**	**3,968**

Table D.13: Our assessment of CP5 revenue requirement for Scotland

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	253	264	261	251	242	1,271
Add: Long-run steady state amortisation	216	216	216	216	216	1,078
Add: Regulatory tax allowance	0	-	-	-	0	0
Add: Opex memorandum account	2	2	2	2	2	11
Gross rev. req. before cost of capital	**471**	**481**	**479**	**468**	**460**	**2,360**
Add: Allowed return (real cost of capital)	214	234	250	259	263	1,220
Less: Real equity surplus	(107)	(116)	(118)	(118)	(118)	(576)
Adjusted allowed return	107	118	132	141	145	644
Gross rev. req. pre-sustainability adjustments	**578**	**600**	**611**	**610**	**605**	**3,004**
Add: Amortisation financial sustainability adjustment	30	30	40	50	50	200
Gross revenue requirement	**608**	**630**	**651**	**660**	**655**	**3,204**
Less: other single till income	(52)	(54)	(56)	(59)	(62)	(282)
Net revenue requirement	**556**	**576**	**595**	**601**	**594**	**2,922**

Table D.14: Our assessment of key CP5 financial information for Scotland

£m (nominal prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 closing/ total
Closing debt	3,591	4,156	4,537	4,764	4,871	4,871
Closing RAB	5,639	6,316	6,828	7,216	7,461	7,461
Financing costs (exc. FIM fee)	76	86	100	112	120	494
FIM fee	37	43	49	52	54	235
Total financing costs	114	129	148	164	173	729
Debt / RAB ratio	63.7%	65.8%	66.5%	66.0%	65.3%	65.3%

Table D.15: Our assessment of the indicative CP5 expenditure for Anglia

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Support costs	43	40	38	37	35	193
Network operations	42	41	38	36	34	192
Traction electricity, industry costs and rates	59	72	74	78	83	366
Network maintenance	102	100	98	95	90	484
Schedule 4 & 8 costs	17	21	24	19	16	98
Total operating expenditure	**264**	**274**	**272**	**265**	**257**	**1,332**
Renewals	189	215	257	217	172	1,051
Enhancements	54	60	63	137	64	378
Total capital expenditure	**243**	**275**	**320**	**354**	**237**	**1,429**
Total expenditure	**507**	**549**	**592**	**619**	**494**	**2,761**

Table D.16: Our assessment of the indicative CP5 revenue requirement for Anglia

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	264	274	272	265	257	1,332
Add: Long-run steady state amortisation	161	161	161	161	161	807
Add: Regulatory tax allowance	0	0	0	0	0	1
Add: Opex memorandum account	3	3	3	3	3	15
Gross rev. req. before cost of capital	**428**	**438**	**437**	**429**	**422**	**2,155**
Add: Allowed return (real cost of capital)	160	163	167	173	177	839
Less: Real equity surplus	(74)	(78)	(80)	(80)	(80)	(392)
Adjusted allowed return	86	84	87	93	97	448
Gross rev. req. pre-sustainability adjustments	**514**	**523**	**524**	**522**	**519**	**2,602**
Add: Amortisation financial sustainability adjustment	24	24	32	41	41	162
Gross revenue requirement	**538**	**547**	**557**	**563**	**559**	**2,764**
Less: Other single till income	(56)	(60)	(64)	(68)	(71)	(318)
Net revenue requirement	**483**	**487**	**493**	**495**	**488**	**2,446**

Table D.17: Our assessment of the indicative of the key CP5 financial information for Anglia

£m (nominal prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 closing/ total
Closing debt	2,728	2,867	3,054	3,286	3,374	3,374
Closing RAB	4,042	4,258	4,527	4,858	5,033	5,033
Financing costs (exc. FIM fee)	61	61	65	73	78	338
FIM fee	30	31	33	36	37	168
Total financing costs	91	92	98	108	116	505
Debt / RAB ratio	67.5%	67.3%	67.5%	67.6%	67.0%	67.0%

Table D.18: Our assessment of the indicative CP5 expenditure for East Midlands

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Support costs	24	23	22	21	20	111
Network operations	20	19	17	15	15	86
Traction electricity, industry costs and rates	20	23	23	25	31	123
Network maintenance	55	55	53	52	50	264
Schedule 4 & 8 costs	15	13	11	10	8	58
Total operating expenditure	**135**	**133**	**127**	**123**	**125**	**642**
Renewals	149	133	113	105	89	589
Enhancements	114	156	262	270	231	1,033
Total capital expenditure	**263**	**289**	**375**	**376**	**320**	**1,622**
Total expenditure	**397**	**422**	**501**	**499**	**444**	**2,264**

Table D.19: Our assessment of the indicative CP5 revenue requirement for East Midlands

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	135	133	127	123	125	642
Add: Long-run steady state amortisation	103	103	103	103	103	515
Add: Regulatory tax allowance	0	0	-	-	-	0
Add: Opex memorandum account	2	2	2	2	2	9
Gross rev. req. before cost of capital	**240**	**238**	**231**	**228**	**229**	**1,166**
Add: Allowed return (real cost of capital)	105	112	120	131	140	608
Less: Real equity surplus	(48)	(52)	(53)	(53)	(53)	(259)
Adjusted allowed return	57	60	67	78	87	349
Gross rev. req. pre-sustainability adjustments	**297**	**298**	**299**	**305**	**316**	**1,515**
Add: Amortisation financial sustainability adjustment	16	16	21	26	26	104
Gross revenue requirement	**312**	**314**	**320**	**332**	**342**	**1,620**
Less: Other single till income	(28)	(30)	(31)	(33)	(35)	(157)
Net revenue requirement	**284**	**284**	**288**	**298**	**307**	**1,463**

Table D.20: Our assessment of the indicative key CP5 financial information for East Midlands

£m (nominal prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 closing/ total
Closing debt	1,870	2,083	2,396	2,721	2,982	2,982
Closing RAB	2,715	2,981	3,352	3,753	4,083	4,083
Financing costs (exc. FIM fee)	41	43	51	62	72	269
FIM fee	20	22	25	29	32	127
Total financing costs	61	66	76	90	104	396
Debt / RAB ratio	68.9%	69.9%	71.5%	72.5%	73.0%	73.0%

Table D.21: Our assessment of the indicative CP5 expenditure for Kent

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Support costs	38	36	34	33	31	172
Network operations	30	29	28	28	24	139
Traction electricity, industry costs and rates	53	66	68	71	75	335
Network maintenance	73	71	68	66	63	341
Schedule 4 & 8 costs	16	19	15	15	15	81
Total operating expenditure	**210**	**221**	**213**	**214**	**209**	**1,067**
Renewals	210	202	177	173	179	941
Enhancements	505	512	461	372	139	1,988
Total capital expenditure	**715**	**714**	**637**	**544**	**319**	**2,929**
Total expenditure	**925**	**935**	**850**	**758**	**528**	**3,997**

Table D.22: Our assessment of the indicative CP5 revenue requirement for Kent

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	210	221	213	214	209	1,067
Add: Long-run steady state amortisation	156	156	156	156	156	782
Add: Regulatory tax allowance	-	-	-	-	-	-
Add: Opex memorandum account	3	3	3	3	3	14
Gross rev. req. before cost of capital	**369**	**381**	**372**	**373**	**369**	**1,864**
Add: Allowed return (real cost of capital)	166	189	210	226	236	1,028
Less: Real equity surplus	(74)	(82)	(84)	(84)	(84)	(408)
Adjusted allowed return	92	107	125	142	152	620
Gross rev. req. pre-sustainability adjustments	**462**	**488**	**497**	**516**	**521**	**2,484**
Add: Amortisation financial sustainability adjustment	24	24	32	40	40	159
Gross revenue requirement	**486**	**512**	**529**	**555**	**561**	**2,642**
Less: Other single till income	(85)	(91)	(97)	(103)	(109)	(485)
Net revenue requirement	**401**	**420**	**432**	**452**	**452**	**2,157**

Table D.23: Our assessment of the indicative key CP5 financial information for Kent

£m (nominal prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 closing/ total
Closing debt	3,181	3,807	4,362	4,828	5,028	5,028
Closing RAB	4,467	5,179	5,839	6,443	6,766	6,766
Financing costs (exc. FIM fee)	66	78	95	114	127	481
FIM fee	32	39	46	51	55	223
Total financing costs	98	117	141	166	182	704
Debt / RAB ratio	71.2%	73.5%	74.7%	74.9%	74.3%	74.3%

Table D.24: Our assessment of the indicative CP5 expenditure for LNE

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Support costs	79	76	71	69	66	360
Network operations	71	70	65	62	59	328
Traction electricity, industry costs and rates	67	77	79	84	97	404
Network maintenance	163	160	153	147	143	766
Schedule 4 & 8 costs	31	39	37	36	47	191
Total operating expenditure	**412**	**422**	**405**	**398**	**412**	**2,049**
Renewals	383	420	386	423	436	2,048
Enhancements	274	293	230	328	166	1,291
Total capital expenditure	**657**	**712**	**615**	**751**	**602**	**3,339**
Total expenditure	**1,069**	**1,134**	**1,020**	**1,150**	**1,015**	**5,388**

Table D.25: Our assessment of the indicative CP5 revenue requirement for LNE

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	412	422	405	398	412	2,049
Add: Long-run steady state amortisation	352	352	352	352	352	1,762
Add: Regulatory tax allowance	0	0	0	0	0	2
Add: Opex memorandum account	6	6	6	6	6	32
Gross rev. req. before cost of capital	**771**	**781**	**764**	**758**	**772**	**3,846**
Add: Allowed return (real cost of capital)	358	369	380	390	400	1,898
Less: Real equity surplus	(164)	(176)	(179)	(179)	(179)	(877)
Adjusted allowed return	193	194	201	212	221	1,021
Gross rev. req. pre-sustainability adjustments	**965**	**975**	**965**	**969**	**993**	**4,867**
Add: Amortisation financial sustainability adjustment	54	54	72	90	90	361
Gross revenue requirement	**1,019**	**1,029**	**1,038**	**1,060**	**1,083**	**5,228**
Less: Other single till income	(117)	(124)	(133)	(141)	(150)	(665)
Net revenue requirement	**902**	**905**	**905**	**918**	**933**	**4,563**

Table D.26: Our assessment of the indicative key CP5 financial information for LNE

£m (nominal prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 closing/ total
Closing debt	6,203	6,629	6,946	7,427	7,723	7,723
Closing RAB	9,128	9,726	10,233	10,939	11,431	11,431
Financing costs (exc. FIM fee)	138	139	150	166	179	772
FIM fee	67	72	76	81	85	381
Total financing costs	205	212	226	246	264	1,153
Debt / RAB ratio	68.0%	68.2%	67.9%	67.9%	67.6%	67.6%

Table D.27: Our assessment of the indicative CP5 expenditure for LNW

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Support costs	111	105	99	95	91	502
Network operations	104	100	98	93	90	484
Traction electricity, industry costs and rates	115	136	142	153	160	707
Network maintenance	277	266	259	250	244	1,296
Schedule 4 & 8 costs	39	42	42	43	36	203
Total operating expenditure	**646**	**650**	**640**	**634**	**622**	**3,192**
Renewals	478	503	506	468	443	2,397
Enhancements	460	514	414	437	303	2,129
Total capital expenditure	**938**	**1,017**	**920**	**905**	**746**	**4,526**
Total expenditure	**1,584**	**1,666**	**1,560**	**1,539**	**1,368**	**7,718**

Table D.28: Our assessment of the indicative CP5 revenue requirement for LNW

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	646	650	640	634	622	3,192
Add: Long-run steady state amortisation	440	440	440	440	440	2,200
Add: Regulatory tax allowance	1	1	1	1	1	4
Add: Opex memorandum account	8	8	8	8	8	40
Gross rev. req. before cost of capital	**1,095**	**1,098**	**1,089**	**1,083**	**1,071**	**5,435**
Add: Allowed return (real cost of capital)	444	464	483	499	511	2,402
Less: Real equity surplus	(203)	(218)	(223)	(223)	(223)	(1,090)
Adjusted allowed return	241	246	261	276	288	1,312
Gross rev. req. pre-sustainability adjustments	**1,335**	**1,344**	**1,349**	**1,359**	**1,359**	**6,747**
Add: Amortisation financial sustainability adjustment	67	67	89	112	112	446
Gross revenue requirement	**1,402**	**1,411**	**1,438**	**1,471**	**1,470**	**7,193**
Less: Other single till income	(166)	(178)	(189)	(200)	(211)	(944)
Net revenue requirement	**1,236**	**1,233**	**1,250**	**1,271**	**1,260**	**6,249**

Table D.29: Our assessment of the indicative key CP5 financial information for LNW

£m (nominal prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 closing/ total
Closing debt	7,792	8,463	9,030	9,595	9,958	9,958
Closing RAB	11,404	12,291	13,099	13,956	14,572	14,572
Financing costs (exc. FIM fee)	172	177	195	217	234	995
FIM fee	84	91	98	104	109	487
Total financing costs	256	269	293	321	344	1,482
Debt / RAB ratio	68.3%	68.9%	68.9%	68.8%	68.3%	68.3%

Table D.30: Our assessment of the indicative CP5 expenditure for Sussex

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Support costs	25	24	23	22	21	115
Network operations	30	28	28	27	26	138
Traction electricity, industry costs and rates	45	56	57	60	62	280
Network maintenance	57	59	52	51	47	267
Schedule 4 & 8 costs	10	11	9	9	12	50
Total operating expenditure	**168**	**177**	**169**	**168**	**168**	**850**
Renewals	154	170	141	153	130	748
Enhancements	62	52	83	61	34	292
Total capital expenditure	**216**	**222**	**224**	**214**	**165**	**1,040**
Total expenditure	**384**	**399**	**393**	**382**	**333**	**1,891**

Table D.31: Our assessment of the indicative CP5 revenue requirement for Sussex

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	168	177	169	168	168	850
Add: Long-run steady state amortisation	112	112	112	112	112	562
Add: Regulatory tax allowance	0	0	0	0	0	2
Add: Opex memorandum account	2	2	2	2	2	10
Gross rev. req. before cost of capital	**283**	**292**	**284**	**283**	**283**	**1,425**
Add: Allowed return (real cost of capital)	112	116	120	123	125	597
Less: Real equity surplus	(52)	(55)	(56)	(56)	(56)	(275)
Adjusted allowed return	61	61	64	67	69	322
Gross rev. req. pre-sustainability adjustments	**343**	**353**	**348**	**350**	**352**	**1,747**
Add: Amortisation financial sustainability adjustment	17	17	23	28	28	113
Gross revenue requirement	**360**	**370**	**371**	**379**	**380**	**1,860**
Less: Other single till income	(80)	(85)	(91)	(96)	(101)	(453)
Net revenue requirement	**281**	**285**	**280**	**283**	**279**	**1,408**

Table D.32: Our assessment of the indicative key CP5 financial information for Sussex

£m (nominal prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 closing/ total
Closing debt	1,954	2,083	2,215	2,339	2,400	2,400
Closing RAB	2,870	3,054	3,246	3,441	3,564	3,564
Financing costs (exc. FIM fee)	43	44	48	53	56	243
FIM fee	21	23	24	26	27	120
Total financing costs	64	67	72	78	83	363
Debt / RAB ratio	68.1%	68.2%	68.2%	68.0%	67.3%	67.3%

Table D.33: Our assessment of the indicative CP5 expenditure for Wales

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Support costs	23	22	21	20	19	105
Network operations	25	24	23	24	21	117
Traction electricity, industry costs and rates	11	11	11	13	15	62
Network maintenance	61	60	59	58	57	294
Schedule 4 & 8 costs	18	10	17	8	7	60
Total operating expenditure	**139**	**127**	**131**	**123**	**119**	**638**
Renewals	176	140	144	105	95	660
Enhancements	94	114	132	187	97	624
Total capital expenditure	**270**	**254**	**276**	**292**	**192**	**1,284**
Total expenditure	**408**	**381**	**407**	**415**	**311**	**1,922**

Table D.34: Our assessment of the indicative CP5 revenue requirement for Wales

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	139	127	131	123	119	638
Add: Long-run steady state amortisation	104	104	104	104	104	521
Add: Regulatory tax allowance	0	-	-	-	0	0
Add: Opex memorandum account	2	2	2	2	2	10
Gross rev. req. before cost of capital	**245**	**233**	**237**	**229**	**225**	**1,169**
Add: Allowed return (real cost of capital)	109	115	121	128	132	606
Less: Real equity surplus	(50)	(54)	(55)	(55)	(55)	(268)
Adjusted allowed return	60	62	67	73	78	338
Gross rev. req. pre-sustainability adjustments	**304**	**295**	**303**	**302**	**303**	**1,507**
Add: Amortisation financial sustainability adjustment	16	16	22	27	27	109
Gross revenue requirement	**321**	**311**	**325**	**329**	**330**	**1,616**
Less: Other single till income	(30)	(31)	(33)	(35)	(37)	(166)
Net revenue requirement	**291**	**280**	**292**	**294**	**293**	**1,450**

Table D.35: Our assessment of the indicative key CP5 financial information for Wales

£m (nominal prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 closing/ total
Closing debt	1,947	2,121	2,322	2,547	2,652	2,652
Closing RAB	2,828	3,056	3,317	3,616	3,788	3,788
Financing costs (exc. FIM fee)	42	45	50	58	64	258
FIM fee	21	23	25	27	29	125
Total financing costs	63	67	75	85	93	383
Debt / RAB ratio	68.9%	69.4%	70.0%	70.4%	70.0%	70.0%

Table D.36: Our assessment of the indicative CP5 expenditure for Wessex

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Support costs	34	32	30	29	28	154
Network operations	31	30	30	27	26	143
Traction electricity, industry costs and rates	58	70	72	75	77	351
Network maintenance	88	87	83	78	74	409
Schedule 4 & 8 costs	15	14	16	19	14	78
Total operating expenditure	**225**	**233**	**230**	**227**	**219**	**1,134**
Renewals	192	192	230	220	176	1,010
Enhancements	48	58	113	226	285	731
Total capital expenditure	**241**	**250**	**343**	**446**	**461**	**1,741**
Total expenditure	**466**	**483**	**573**	**674**	**680**	**2,875**

Table D.37: Our assessment of the indicative CP5 revenue requirement for Wessex

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	225	233	230	227	219	1,134
Add: Long-run steady state amortisation	156	156	156	156	156	778
Add: Regulatory tax allowance	0	0	0	0	0	2
Add: Opex memorandum account	3	3	3	3	3	14
Gross rev. req. before cost of capital	**384**	**392**	**389**	**386**	**377**	**1,929**
Add: Allowed return (real cost of capital)	156	159	164	173	183	835
Less: Real equity surplus	(72)	(77)	(78)	(78)	(79)	(384)
Adjusted allowed return	84	82	86	94	105	451
Gross rev. req. pre-sustainability adjustments	**468**	**474**	**475**	**480**	**482**	**2,380**
Add: Amortisation financial sustainability adjustment	24	24	32	40	40	159
Gross revenue requirement	**492**	**498**	**507**	**520**	**522**	**2,539**
Less: Other single till income	(82)	(88)	(93)	(98)	(103)	(464)
Net revenue requirement	**410**	**410**	**414**	**422**	**419**	**2,074**

Table D.38: Our assessment of the indicative key CP5 financial information for Wessex

£m (nominal prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 closing/ total
Closing debt	2,678	2,795	3,014	3,360	3,725	3,725
Closing RAB	3,965	4,157	4,456	4,900	5,352	5,352
Financing costs (exc. FIM fee)	60	59	64	74	85	342
FIM fee	29	31	33	36	40	168
Total financing costs	89	90	96	109	125	510
Debt / RAB ratio	67.5%	67.2%	67.6%	68.6%	69.6%	69.6%

Table D.39: Our assessment of the indicative CP5 expenditure for Western

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Support costs	43	41	39	38	36	197
Network operations	33	33	31	31	31	159
Traction electricity, industry costs and rates	26	27	27	41	63	183
Network maintenance	109	109	106	104	103	531
Schedule 4 & 8 costs	25	25	23	23	25	121
Total operating expenditure	**237**	**235**	**226**	**236**	**259**	**1,192**
Renewals	311	273	247	248	243	1,322
Enhancements	716	774	708	499	299	2,997
Total capital expenditure	**1,028**	**1,047**	**955**	**746**	**543**	**4,318**
Total expenditure	**1,265**	**1,282**	**1,180**	**982**	**801**	**5,510**

Table D.40: Our assessment of the indicative CP5 revenue requirement for Western

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	237	235	226	236	259	1,192
Add: Long-run steady state amortisation	181	181	181	181	181	905
Add: Regulatory tax allowance	-	-	-	-	-	-
Add: Opex memorandum account	3	3	3	3	3	17
Gross rev. req. before cost of capital	**421**	**420**	**410**	**420**	**443**	**2,114**
Add: Allowed return (real cost of capital)	199	234	267	293	311	1,303
Less: Real equity surplus	(87)	(98)	(101)	(101)	(101)	(488)
Adjusted allowed return	111	136	165	192	210	815
Gross rev. req. pre-sustainability adjustments	**533**	**556**	**575**	**612**	**653**	**2,929**
Add: Amortisation financial sustainability adjustment	28	28	37	46	46	186
Gross revenue requirement	**561**	**584**	**613**	**659**	**700**	**3,115**
Less: Other single till income	(69)	(72)	(75)	(78)	(81)	(376)
Net revenue requirement	**492**	**511**	**537**	**580**	**618**	**2,739**

Table D.41: Our assessment of the indicative key CP5 financial information for Western

£m (nominal prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 closing/ total
Closing debt	3,926	4,894	5,783	6,462	6,904	6,904
Closing RAB	5,430	6,503	7,526	8,385	8,992	8,992
Financing costs (exc. FIM fee)	79	99	127	156	177	638
FIM fee	39	49	59	68	74	290
Total financing costs	118	149	186	224	251	927
Debt / RAB ratio	72.3%	75.3%	76.8%	77.1%	76.8%	76.8%

Annex E: Funding of enhancement projects

Summary

E.1. This annex summarises our determination on the funding of enhancement projects. In some cases specific schemes are being funded while in others Network Rail is funded to meet a specification.

E.2. The proposed list of projects in Network Rail's SBP, except for Carstairs and Edinburgh South Suburban electrification, meet the requirements of the HLOSs. These two projects, along with others that are not required by the HLOSs, could be funded through other sources and taken forward through our investment framework.

E.3. Although we have assumed costs for delivering individual projects it is the total cost for England & Wales and for Scotland that we have used to determine how much revenue Network Rail needs. Because there are so many projects at an early stage of development we will revisit these assumptions by the end of 2014-15 through a new **enhancements cost adjustment mechanism**. As part of this process we expect Network Rail to demonstrate engagement with train operators. One way of doing this could be through a commercial gain share agreement (**the enhancements efficiency benefit sharing mechanism**[573]), although we are not mandating this.

E.4. Once ORR has determined the overall portfolio efficient cost, Network Rail is free to budget for individual schemes as it sees fit and the underspend/overspend framework (RAB roll forward policy) will apply to the aggregate costs. Where appropriate, we will undertake an ex-post efficiency review of projects. The exceptions are:

(a) schemes subject to bespoke target price arrangements. In England & Wales, these are Thameslink and Crossrail. In Scotland, these are EGIP and Borders;

(b) the ring-fenced funds, where Network Rail is funded for spending up to the caps shown in Table E.1 and Table E.2; and

(c) the funding allowances we have assumed for R&D (including innovation), depots and ETCS cab fitment.

[573] The enhancements cost adjustment mechanism is the process by which ORR will determine efficient costs; the enhancements efficiency benefit sharing mechanism is the process by which Network Rail and train operators can enter into commercial arrangements to reduce costs.

List of projects

Table E.1: Projects in England & Wales

£m (2012-13 prices)	Determination
Schemes outwith the cost adjustment mechanism and overspend/underspend (o/u) framework	
Thameslink & Crossrail	
Strategic Rail Freight Network fund (including the CP4 rollover of the SFN)	Capped at 246
East Coast Connectivity fund	Capped at 247
Passenger Journey Improvement fund	Capped at 309
Station Improvement fund (including the CP4 rollover for NSIP and Access for All)	Capped at 242
Development fund	Capped at 144
Level Crossing Safety fund (including £29m of extra expenditure identified since the draft determination[574])	Capped at 96
Funding allowance for research & development	Capped at 45
Funding allowance for depots and stabling	
Funding allowance for ETCS cab fitment	
Sub total	**4,897**
Schemes outwith the cost adjustment mechanism but included in the o/u framework	
Birmingham New Street gateway[575]	
Bromsgrove electrification	
Redditch branch enhancement	
Kent power supply upgrade (CP4)	
Barry - Cardiff Queen Street corridor	
Northern Urban Centres (including Liverpool to Leeds journey time improvements)	
Completion of seven day railway initiatives (mobile maintenance units and bi-directional signalling on the Brighton Main Line) [576]	
Sub total	**207**
Schemes subject to the cost adjustment mechanism and included in o/u framework	
Electrification schemes	

[574] Explained in chapter 11

[575] We will treat this project separately as it has a significant third party funding contribution

[576] Explained in the network availability section of chapter 3

£m (2012-13 prices)	Determination
Great Western electrification	
Bridgend to Swansea electrification	
North Trans-Pennine electrification	
Micklefield to Selby electrification	
North West electrification	
MML electrification	
Derby station area remodelling	
The electric spine	
Acton to Willesden electrification (WCML)	
Thames Valley branches	
Walsall to Rugeley electrification	
Welsh Valley Lines electrification	
Other committed projects	
East West rail	
Northern Hub	
IEP programme	
Reading station area redevelopment	
Stafford area improvement scheme	
West Coast power supply upgrade	
Other named schemes	
Oxford station area capacity and enlargement	
Huddersfield station capacity improvement	
Western access to London Heathrow Airport	
Service improvements in the Ely area	
Redhill additional platform	
Waterloo	
Dr Days to Filton Abbey Wood capacity	
Bristol Temple Meads passenger capacity	
HLOS capacity metric schemes	
Micklefield turnback	
South London HV traction power upgrade	
West Anglia Main Line capacity increase	
Bow Junction upgrade with turnbacks	
West of England DMU capability works	

£m (2012-13 prices)	Determination
South Yorkshire train lengthening	
East Kent re-signalling phase 2	
Stevenage and Gordon Hill turnbacks	
Reading, Ascot to Waterloo train lengthening	
West Yorkshire train lengthening	
Uckfield line train lengthening	
MML long distance train lengthening	
East Leeds area	
Route gauge clearance for different EMUs	
Bradford Mill Lane capacity	
Leeds platform 0	
Leeds station capacity	
Leeds platform 17 lengthening	
Chiltern Main Line train lengthening	
North West train lengthening	
New Cross Grid	
Anglia traction power supply upgrade	
Sussex traction power supply upgrade	
Wessex traction power supply upgrade	
London Victoria capacity improvements	
Kent traction power supply upgrade	
LNE routes traction power supply upgrade	
Sub total	**5,931**
Other adjustments[577]	**428**
GRAND TOTAL FOR ENGLAND & WALES	**11,463**

[577] Explained in Table 9.6, R&D allowance deducted to avoid double count.

Table E.2: Projects in Scotland

£m (2012-13 prices)	Determination
Schemes outside of the cost adjustment mechanism and o/u framework	
Scottish Stations fund	Capped at 31
Scottish Strategic Rail Freight Investment fund	Capped at 31
Scottish Network Improvement fund	Capped at 62
Future Network Development fund	Capped at 11
Level Crossings fund (including £3m of extra expenditure identified since the draft determination[578])	Capped at 13
EGIP: Springburn to Cumbernauld	
Borders	
Funding allowance for ETCS cab fitment	
Funding allowance for research & development	
Sub total	**344**
Schemes subject to the cost adjustment mechanism but outside the o/u framework	
EGIP: Edinburgh to Glasgow electrification	
EGIP: Edinburgh gateway	
EGIP: Infrastructure	
Sub total	**474**
Schemes outwith the cost adjustment mechanism but included in the o/u framework	
Completion of seven day railway initiatives (mobile maintenance units and clearance on the ECML) [579]	
Sub total	**8**
Schemes subject to the cost adjustment mechanism and included in o/u framework	
Aberdeen to Inverness journey time improvements and other enhancements	
Highland Main Line journey time improvements	
Rolling programme of electrification	
Motherwell re-signalling enhancements	
Motherwell area stabling	
Other projects to meet the outputs	
Sub total	**477**

[578] Explained in chapter 11.

[579] Explained in the network availability section of chapter 3.

£m (2012-13 prices)	Determination
Other adjustments[580]	**53**
GRAND TOTAL IN SCOTLAND	**1,356**

[580] Explained in Table 9.8, R&D allowance deducted to avoid double count.

Annex F: Further detail on the effect of the financial framework on the level of access charges

Introduction

F.1. This annex sets out:

(a) the total value of the fixed track access charge assuming that there were no network grant payments in CP5. If Network Rail did not receive the amount of network grants assumed in our determination, then access charges would increase by the same amount as the reduction in network grants; and

(b) what Network Rail's revenue requirement and access charges would be if we had used a cost of capital approach, i.e. without making the adjusted WACC adjustments or using the PR08 ring-fenced approach. To calculate the revenue requirement under this funding scenario, we would make the following changes to the calculation of Network Rail's net revenue requirement:

(i) there would be no equity surplus adjustment;

(ii) we would revise the financial sustainability adjustments. To keep this analysis as straightforward as possible, we have assumed that there are no financial sustainability adjustments in this scenario; and

(iii) there would be some small consequential changes to corporation tax.

F.2. Table F.1 sets out the fixed track access charges if Network Rail did not receive the amount of network grants assumed in our determination. Tables F.2 to F.7 set out the calculation of Network Rail's revenue requirement if we had funded its cost of capital without making the adjusted WACC adjustments or using the PR08 ring-fenced approach.

F.3. The effect of network grant and the adjusted WACC approach on Network Rail's charges are also set out in the access charges chapter (chapter 16).

Table F.1: Comparison of fixed track access charges in CP5 including and excluding network grant

£m (2012-13 prices)	Fixed track access charges for CP5	Network grant	Total	Fixed access charges without grant
Great Britain	2,379	19,586	21,966	21,966
England & Wales	1,760	17,661	19,421	19,421
Scotland	620	1,925	2,545	2,545

Table F.2: Our assessment of the CP5 revenue requirement for Great Britain using a cost of capital approach

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	2,687	2,735	2,672	2,640	2,633	13,367
Add: Long-run steady state amortisation (including non-capex amortisation)	1,982	1,982	1,982	1,982	1,982	9,909
Add: Regulatory tax allowance	4	4	4	4	138	153
Add: Opex memorandum account	34	34	34	34	34	172
Gross rev. req. before cost of capital	**4,707**	**4,755**	**4,692**	**4,660**	**4,788**	**23,602**
Add: Allowed return (real cost of capital)	2,030	2,174	2,316	2,449	2,553	11,523
Less: Real equity surplus	-	-	-	-	-	-
Adjusted allowed return	2,030	2,174	2,316	2,449	2,553	11,523
Gross rev. req. pre-sustainability adjustments	**6,737**	**6,929**	**7,009**	**7,108**	**7,341**	**35,124**
Add: Amortisation financial sustainability adjustment	-	-	-	-	-	-
Gross revenue requirement	**6,737**	**6,929**	**7,009**	**7,108**	**7,341**	**35,124**
Less: Other single till income	(764)	(813)	(862)	(911)	(960)	(4,310)
Net revenue requirement	**5,973**	**6,117**	**6,146**	**6,198**	**6,381**	**30,815**

Table F.3: Key financial information for Great Britain in CP5 using a cost of capital approach

£m (nominal prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Closing debt	35,180	38,376	41,310	44,183	45,585	45,585
Closing RAB	52,808	58,176	63,548	69,251	73,433	73,433
Financing costs (exc. FIM fee)	771	803	892	1,003	1,084	4,553
FIM fee	377	413	447	479	502	2,217
Total financing costs	1,147	1,217	1,338	1,482	1,586	6,770
Debt / RAB ratio	66.6%	66.0%	65.0%	63.8%	62.1%	62.1%

Table F.4: CP5 revenue requirement for England & Wales using a cost of capital approach

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	2,434	2,472	2,411	2,389	2,391	12,097
Add: Long-run steady state amortisation (including non-capex amortisation)	1,766	1,766	1,766	1,766	1,766	8,831
Add: Regulatory tax allowance	3	3	3	3	98	112
Add: Opex memorandum account	32	32	32	32	32	162
Gross rev. req. before cost of capital	**4,236**	**4,273**	**4,213**	**4,191**	**4,288**	**21,201**
Add: Allowed return (real cost of capital)	1,815	1,938	2,063	2,184	2,283	10,284
Less: Real equity surplus	-	-	-	-	-	-
Adjusted allowed return	1,815	1,938	2,063	2,184	2,283	10,284
Gross rev. req. pre-sustainability adjustments	**6,051**	**6,212**	**6,276**	**6,375**	**6,571**	**31,485**
Add: Amortisation financial sustainability adjustment	-	-	-	-	-	-
Gross revenue requirement	**6,051**	**6,212**	**6,276**	**6,375**	**6,571**	**31,485**
Less: Other single till income	(712)	(759)	(806)	(852)	(899)	(4,028)
Net revenue requirement	**5,339**	**5,453**	**5,469**	**5,523**	**5,672**	**27,457**

Table F.5: Key financial information for England & Wales in CP5 using a cost of capital approach

£m (nominal prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Closing debt	31,673	34,406	37,060	39,806	41,211	41,211
Closing RAB	47,137	51,795	56,607	61,860	65,733	65,733
Financing costs (exc. FIM fee)	696	721	798	901	977	4,093
FIM fee	340	371	401	430	453	1,995
Total financing costs	1,035	1,092	1,199	1,331	1,431	6,088
Debt / RAB ratio	67.2%	66.4%	65.5%	64.3%	62.7%	62.7%

Table F.6: CP5 revenue requirement in Scotland using a cost of capital approach

£m (2012-13 prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Total operating expenditure	253	264	261	251	242	1,271
Add: Long-run steady state amortisation (including non-capex amortisation)	216	216	216	216	216	1,078
Add: Regulatory tax allowance	0	0	0	14	26	41
Add: Opex memorandum account	2	2	2	2	2	11
Gross rev. req. before cost of capital	**471**	**482**	**479**	**483**	**487**	**2,401**
Add: Allowed return (real cost of capital)	215	236	254	264	270	1,239
Less: Real equity surplus	-	-	-	-	-	-
Adjusted allowed return	215	236	254	264	270	1,239
Gross rev. req. pre-sustainability adjustments	**685**	**718**	**733**	**747**	**757**	**3,640**
Add: Amortisation financial sustainability adjustment	-	-	-	-	-	-
Gross revenue requirement	**685**	**718**	**733**	**747**	**757**	**3,640**
Less: Other single till income	(52)	(54)	(56)	(59)	(62)	(282)
Net revenue requirement	**633**	**664**	**677**	**689**	**695**	**3,358**

Table F.7: Key financial information for Scotland in CP5 using a cost of capital approach

£m (nominal prices)	2014-15	2015-16	2016-17	2017-18	2018-19	CP5 total
Closing debt	3,507	3,971	4,251	4,377	4,374	4,374
Closing RAB	5,671	6,381	6,941	7,391	7,700	7,700
Financing costs (exc. FIM fee)	75	82	93	103	106	460
FIM fee	37	42	46	48	49	222
Total financing costs	112	124	139	151	155	682
Debt / RAB ratio	61.8%	62.2%	61.2%	59.2%	56.8%	56.8%

Annex G: Comparison of PR13 to the Rail Value for Money (RVfM) study

Structure of this annex

G.1. This annex has the following structure:

(a) introduction and background;

(b) key findings of the RVfM study;

(c) sources of efficiencies; and

(d) comparison of RVfM efficiencies to our determination.

Introduction and background

G.2. This annex summarises the purpose and key findings of the Rail Value for Money (RVfM) study led by Sir Roy McNulty and compares the study's recommendations on industry cost savings and efficiencies to our determination.

G.3. The RVfM study was commissioned jointly by DfT and ORR and its findings were published in May 2011. We welcomed and strongly endorsed the findings of the study.

G.4. The aim of the RVfM study was to examine the overall cost structure of all elements of the railway sector and to identify options for improving value for money to passengers and the taxpayer while continuing to expand capacity as necessary and drive up passenger satisfaction. The report specifically did not examine possible cuts to the rail network[581].

Key findings of the RVfM study

G.5. The RVfM study identified a widespread recognition that the industry had problems in terms of efficiency and costs. It also highlighted that unit costs per passenger kilometre have not improved since the mid-1990s and that, based on 2008-09 costs, the industry's costs are 30% higher than European comparators.

G.6. The RVfM study identified a number of key barriers within the industry to improving value for money. These included: the fragmentation of structures and interfaces; the ways in which the roles of Government and industry have evolved; ineffective and misaligned incentives; a franchising system that does not sufficiently encourage cost reduction; management approaches that fall short of best-practice in a number of

[581] The terms of reference of the RVfM study are set out in Annex A of the RVfM Summary report, available at: http://www.rail-reg.gov.uk/upload/pdf/rail-vfm-summary-report-may11.pdf.

areas that are key cost drivers; and a railway culture which is not conducive to the partnership and continuous improvement approaches required for effective cost reduction.

G.7. The RVfM study recommended that the industry should aim to achieve a 30% reduction in unit costs (i.e. costs per passenger-km) by 2018-19, compared to 2008-09 costs. The study suggested a three part solution to improving efficiency:

(a) **changes to create an enabling environment**: this included greater clarity on rail policy, objectives and strategies, stronger and more cohesive industry leadership, changes to structures and interfaces to improve the ways in which rail organisations and people work together, incentives that are more effective and better aligned, a review of fares policy and structures, and greater clarity as to what Government subsidy is buying;

(b) **changes which deliver the major savings**: these focus principally on reaching best-practice in asset management, programme and project management, supply chain management, standards and technology, HR management, and pursuing initiatives in the areas of capacity utilisation, information systems, and new approaches to enable lower-cost regional railways; and

(c) **effective approaches to drive implementation**: developing an implementation plan with the involvement and commitment of all concerned to deliver the recommendations of the study, with a small independent 'change team' working closely with DfT and ORR, and a new industry leadership group – the Rail Delivery Group.

G.8. In support of its recommendations, the RVfM study identified a number of key areas where savings could be realised to deliver improved value for money. The majority of these savings were assumed to result from efficiencies in train operations, rolling stock companies and infrastructure management.

Sources of efficiencies

G.9. The RVfM study drew mainly on two types of analysis to support its recommendations for improving value for money by 2018-19:

(a) a desktop (or 'should cost') analysis, based on evidence that we gathered as part of PR08 and other Great Britain and international railway benchmarking evidence; and

(b) a bottom-up analysis, based on an assessment of the individual savings that could be made if the recommendations of the study were to be implemented in full.

G.10. Table G.1 sets out the areas of the industry that the RVfM study expected to generate savings between 2008-09 and 2018-19. The RVfM study assumed that Network Rail would provide between 67% and 81% of the total savings identified in the report.

Table G.1: Source of total RVfM efficiencies

Total RVfM efficiencies	Should cost assessment		Bottom-up assessment[582]	
£bn (2008-09 prices)	**Low**	**High**	**Low**	**High**
Network Rail	1.8 (71%)	2.3 (67%)	2.2 (80%)	2.8 (81%)
Other (including TOC/ROSCOs)	0.7 (29%)	1.2 (33%)	0.6 (20%)	0.7 (19%)
Total projected savings required	**2.5**	**3.5**	**2.8**	**3.4**

G.11. Our analysis of the RVfM study has focused on the savings that the report attributed to Network Rail, and more specifically those that the RVfM study assumed would be deliverable in CP5. Table G.2 sets out the savings attributable to Network Rail and the rest of the industry in CP5, i.e. excluding efficiencies assumed to be achieved in CP4. For ease of comparison we have presented these savings in 2012-13 prices, as this is the price base for our determination.

G.12. As shown in Table G.2, the proportion of CP5 savings attributable to Network Rail in the RVfM study is between 49% and 73%. Although Network Rail's expected contribution to the RVfM savings is significant (between half and three quarters of the total savings), the study still expected that the rest of the industry should contribute substantial savings, e.g. from passenger operations, rolling stock arrangements and freight operations. In many cases, the savings attributable to Network Rail are also dependent on changes or reforms from other parts of the industry. For example, costs savings from improved alignment of incentives between different industry participants, spreading of peak demand and more track-friendly trains cannot be achieved by Network Rail alone.

Table G.2: Source of RVfM efficiencies in CP5

CP5 RVfM efficiencies	Should cost assessment		Bottom-up assessment[582]	
£bn (2012-13 prices)	**Low**	**High**	**Low**	**High**
Network Rail	0.7 (49%)	1.2 (52%)	1.1 (68%)	1.8 (73%)
Other (including TOC/ROSCOs)	0.7 (51%)	1.2 (48%)	0.5 (32%)	0.7 (27%)
Total projected savings required	**1.4**	**2.4**	**1.6**	**2.5**

Comparison of efficiencies identified by RVfM study

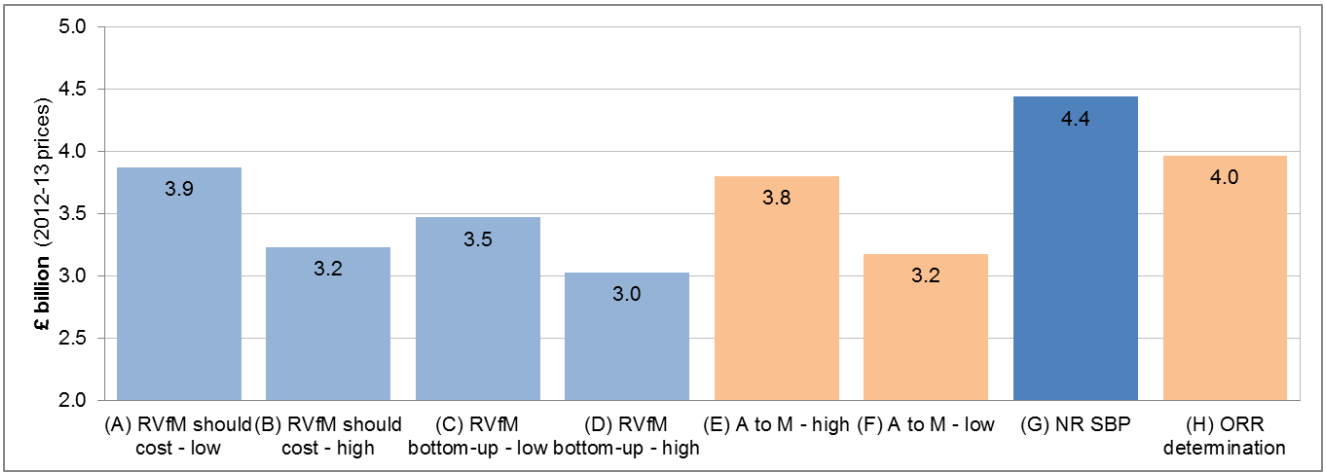
G.13. In chapter 4, we summarise the efficiencies that we expect Network Rail to achieve in its support, operations, maintenance and renewals expenditure by the end of CP5.

[582] In the RVfM study, the bottom-up savings are presented on a funding basis in 2009-10 prices, i.e. including the implications of Network Rail's funding via the RAB. In Tables G.1 and G.2, we have set out the RVfM bottom-up assessment of efficiencies on an expenditure basis to be comparable with the 'should cost analysis'.

Below we compare our PR13 assumptions on Network Rail's post-efficient costs in CP5 to those in the RVfM study[583].

G.14. The RVfM study was based on the industry structure (and costs and revenues) in 2008-09. In Figure G.1 we present the assumed total value of Network Rail's support, operations, maintenance and renewals costs in 2018-19 as per the RVfM study, Network Rail's SBP and our determination.

Figure G.1: Comparison of Network Rail's 2018-19 costs*



*Note to Figure G.1: 'A to M – low' and 'A to M – high' refer to the ranges in our advice to ministers, published in March 2012.

G.15. In financial terms our determination is below Network Rail's SBP but above the RVfM study and our advice to ministers ranges. It is difficult to compare our findings directly with those of the RVfM study, because that study did not take account of increasing outputs or longer term sustainability issues (such as the extra volumes of civils work we now consider need to be delivered). The RVfM study also said that achieving its high estimates for the industry as a whole depended on wide ranging changes across the industry. We are slightly above our advice to ministers range, reflecting the better information we now have.

G.16. In PR13 we have established and drawn on a much deeper and robust base of studies, with newer evidence and analysis, than was available to the RVfM study or at the time of our advice to ministers. Our review sets a strong efficiency challenge and our plans for enhancements efficiency develop this challenge further. Taking all this into account we believe that the efficiency challenge identified in the RVfM study for Network Rail itself will have been fully addressed for CP5.

[583] The RVfM study also set out recommendations for achieving savings of between around £160m and £325m (in 2013-13 prices) in Network Rail's enhancements costs. These savings were only reflected in its bottom-up analysis and for comparability with the RVfM should cost assessment we have excluded enhancements costs from the analysis in this annex.

G.17. It should also be noted that the RVfM study identified savings of £0.5bn to £1.2bn that it considered other parts of the industry, mainly train operators, could make by the end of CP5. These are not addressed in our determination of Network Rail's CP5 revenue requirements.

Annex H: Process for re-opening the price control

Introduction

H.1. The financial framework chapter (chapter 12) explains the circumstances in which the regulatory settlement for Network Rail in CP5 may be re-opened during a control period.

H.2. This annex sets out the procedure that we expect to follow in the circumstances that one or more of the criteria for initiating an access charges review prior to 1 April 2019 (an interim review) is triggered. We have developed this procedure on the assumption that any such interim review would need to be conducted as quickly as possible.

Background

H.3. Our determination provides Network Rail with a revenue stream that, in our view, is sufficient for it to deliver all its regulatory outputs provided that it operates efficiently. In addition, the regulatory framework provides a number of protections to Network Rail in the event of unforeseen circumstances. These protections are described in our determination. It is not the intention, however, that the allowed revenues are sufficient to absorb all significant external cost shocks. In such circumstances, the determination may need to be re-opened during a control period, by means of an interim review.

H.4. As described in our determination and as set out in Schedule 7 of franchise operators' track access contracts, the circumstances in which an interim review may be triggered are:

(a) **material change in circumstances re-opener**: Where there has been or is likely to be a material change in the circumstances:

(i) of Network Rail; and/or

(ii) in relevant financial markets or any part of such markets.

(b) **Scotland re-opener**: Where Network Rail projects its forward three-year average total net expenditure in Scotland to be more than 15% greater than that assumed in the regulatory determination. This would trigger the interim review process for Scotland only. When there is less than three years remaining in CP5, the calculation will be solely for the remaining part of CP5.

H.5. We would need to determine whether the terms of the relevant re-opener provision have been met and, if so, we would then consider whether there is a compelling case for an interim review in the light of our section 4 duties (Railways Act 1993).

H.6. The process under Schedule 4A of the Railways Act 1993 would require the Secretary of State and/or Scottish Ministers (as applicable) to provide a new high-level output statement (HLOS) and statement of funds available (SoFA). The outcome of an interim review may be a change in Network Rail's regulatory requirements and/or allowed revenues. However, it may also be a reaffirmation of the existing regulatory requirements and allowed revenues.

Triggering an interim review

Stage 1: Process commencement

H.7. Should Network Rail think that it has satisfied the conditions of one or more of the re-opener provisions, it will be able to apply to us to request a triggering of the interim review process. It will need to apply to us in writing to do this, setting out:

(a) the re-opener provision(s) under which it is requesting the interim review;

(b) a detailed explanation of the reasons why it thinks it has satisfied the terms of the re-opener, including evidence on the extent to which its efficient costs have been or are expected to be impacted. Network Rail should set out the cost and revenue requirement implications for delivering the HLOSs and also options for reducing outputs to continue to operate within the latest determination. We would expect Network Rail's submission to include relevant financial projections that have been externally verified; and

(c) the actions (if any) it has taken to mitigate any change in efficient costs.

H.8. At this stage we would also consider whether we should, having regard to Network Rail's financial circumstances, be conducting the interim review on an expedited basis. We could do this, in accordance with paragraph 1C of Schedule 4A of the Railways Act 1993, by giving notice of an access charges review on a conditional basis, which would enable DfT and/or Transport Scotland to prepare their HLOSs and SoFAs at the same time as we conduct our assessment to determine whether the terms of the re-openers have been met (see below). We are able to include conditions in any such notice, which would need to be satisfied if we are to proceed with an access charges review. We would propose to make the notice conditional on us concluding at the end of our stage 2 assessment process that the trigger for an interim review had been satisfied.

H.9. If we decide to assess whether an interim review should be carried out, we will notify Network Rail, setting out:

(a) the re-opener provision(s) that we consider may have been satisfied; and

(b) a detailed explanation of our reasons.

Stage 2: Assessment

H.10. Stage 2 will involve an assessment by us of whether the terms of the re-opener(s) concerned have been met and hence whether we should conduct an interim review. We will complete this assessment within two calendar months of notifying Network Rail that we are triggering the process to assess whether an interim review should be carried out.

H.11. We expect that this will involve considerable engagement with Network Rail and may require Network Rail to provide us with specified information to tight timescales to enable us to complete our assessment within the timescale. We would therefore expect Network Rail to make the necessary people and information available.

H.12. The precise details of what the assessment will involve depends on the re-opener(s) concerned.

(a) **Material change in circumstance re-opener**: The regulatory framework, including the re-opener process, is intended to provide a number of protections to Network Rail in the event of unforeseen circumstances. Before initiating a re-opener as a result of a material change of circumstances, we would have regard to Network Rail's view as to whether it felt it needed an interim review of charges and outputs. We would then examine the evidence for whether there has been a material change in circumstances. There are clearly a number of events that might constitute a material change in circumstances, which for example could include a substantial, sustained and unanticipated rise in input prices or interest costs that an efficient Network Rail would face.

(b) **Scotland re-opener**: We would also assess the robustness of Network Rail's net expenditure projections for Scotland. Network Rail will need to ensure, in any case, that the projections it provides to us are externally verified. We would want to understand from Network Rail the assumptions underlying the projections.

H.13. Where our assessment is that either in England & Wales or Scotland, or both, there has been or is likely to be a material change in circumstances, or in Scotland the three year projected average total net expenditure is more than 15% greater than we assumed in our regulatory determination, we will consider whether there is a compelling case for an interim review. We will consider this against our section 4 duties. We would expect to have particular regard to the following duties:

(a) to act in a manner which we consider will not render it unduly difficult for Network Rail to finance its activities;

(b) to promote efficiency and economy on the part of persons providing railway services; and

(c) to protect the interests of users of railway services.

H.14. It will be necessary for us to take into account the views of interested persons, such as the affected funders, during stage 2. In view of the need to conclude stage 2 within

two calendar months, consultees would only have relatively short timescales in which to set out their views. Where appropriate, we would therefore consider whether the best way to understand the views of interested persons might be a hearing.

H.15. Where we are satisfied that the terms of both limbs of the re-opener have been met, i.e. there has been a material change in circumstances, and that there are compelling reasons to undertake a review, we will initiate an interim review. If the issue is confined to a single geographic area (i.e. to England & Wales only or to Scotland only), then we will ensure that the outcome of the review impacts only on the appropriate train operators and funders.

H.16. Where we are not satisfied that the terms of both limbs of the re-opener have been met, there will be no interim review and Network Rail will need to deliver the required regulatory outputs for CP5 in accordance with our PR13 determination.

H.17. Importantly, should there be further changes in Network Rail's financial position, it would be able to ask us to re-open the price control. We would also keep the situation under review as part of our on-going monitoring of Network Rail's financial position.

H.18. It is important to note that our regular monitoring of Network Rail should provide early warning of impending difficulties. For instance, we assess Network Rail's performance against the regulatory assumptions on an annual basis. The expenditure analysis included in our annual assessment of Network Rail's efficiency and finance currently provides our assessment of Network Rail's performance for support, operations, maintenance, renewals, enhancement expenditure and financing costs.

Stage 3: Undertaking an interim review

H.19. If the terms of both limbs of a re-opener are satisfied, we will undertake an interim review of Network Rail's allowed revenues and regulatory outputs.

H.20. Immediately following the conclusion of stage 2 of the initiation process, we will issue a review initiation notice, commencing the formal phase of the review. Alternatively we will, if we have already served a conditional review initiation notice, confirm that the relevant condition has been satisfied. This will require DfT and/or Transport Scotland, as necessary, to restate their HLOS(s) and SoFA(s). The notice would also state the period to be covered by the new regulatory settlement.

H.21. Generally, we would expect that the new settlement would run until the end of the current control period (i.e. end March 2019). However, we may specify an alternative period, for example a new five-year period, where we consider that this would be more appropriate. DfT and Transport Scotland can also set out their opinion on this issue when they provide their restated HLOS(s) and SoFA(s).

H.22. Governments may choose to leave their HLOSs and SoFAs unchanged or to update one or both of them.

H.23. Even if we are not conducting the interim review on an expedited basis (see paragraph H.8) we would consider whether we should rely on paragraph 1C (5)(a) of

Schedule 4A to the Railways Act 1993, in which case the governments would need to provide us with their updated HLOS(s) and SoFA(s) within four weeks of the date of the review initiation notice.

H.24. Immediately following the receipt of the HLOS(s) and SoFA(s), we would begin a thorough review of the efficient cost of delivering the HLOS(s). If one or both of the HLOS(s) have been restated, we would ask Network Rail to provide a further submission with its forecast of the cost of delivering the restated HLOS(s). If the HLOS(s) cannot be delivered within the SoFA(s), we would inform DfT and/or Transport Scotland that this is the case following the process set out in Schedule 4A of the Railways Act 1993.

H.25. We would not generally expect to reassess the regulatory framework unless the particular circumstances of the reason for the re-opener had suggested that this was appropriate.

H.26. We would aim to publish the new draft settlement for consultation within six calendar months of receiving the updated HLOS(s) and SoFA(s). The consultation period would be limited to six weeks to ensure that we provide Network Rail with a revised settlement as quickly as possible but also enabling proper consultation. During the period when we consider the revised HLOS(s) and SoFA(s) we would consider the most appropriate way to take into account the views of interested persons which might include:

(a) focused consultations on issues for which we would expect response times to be not more than one month;

(b) workshops;

(c) bilateral meetings; and

(d) industry hearings.

H.27. We would then aim to publish our new final settlement within one month of the end of the consultation period. Following this, we would then aim to publish the review notice, in accordance with Schedule 4A of the Railways Act 1993, within one calendar month of the publication of the new final settlement.

H.28. The review notice commences the formal implementation phase of the review and includes a number of mandatory timescales. Network Rail would have a period of at least six weeks to object to the review notice. If we did not receive such an objection or any objection that was made was subsequently withdrawn, we would then publish a notice of agreement. Access beneficiaries then have a 28 day period during which they can serve a termination notice. After the expiry of this period the review can be formally implemented by service of a review implementation notice.

H.29. Provided that there is no mismatch between the updated HLOS(s) and SoFA(s) and the timescales set out above are achieved, we should be able to determine the new regulatory settlement within ten months of concluding stage 2 of the initiation process

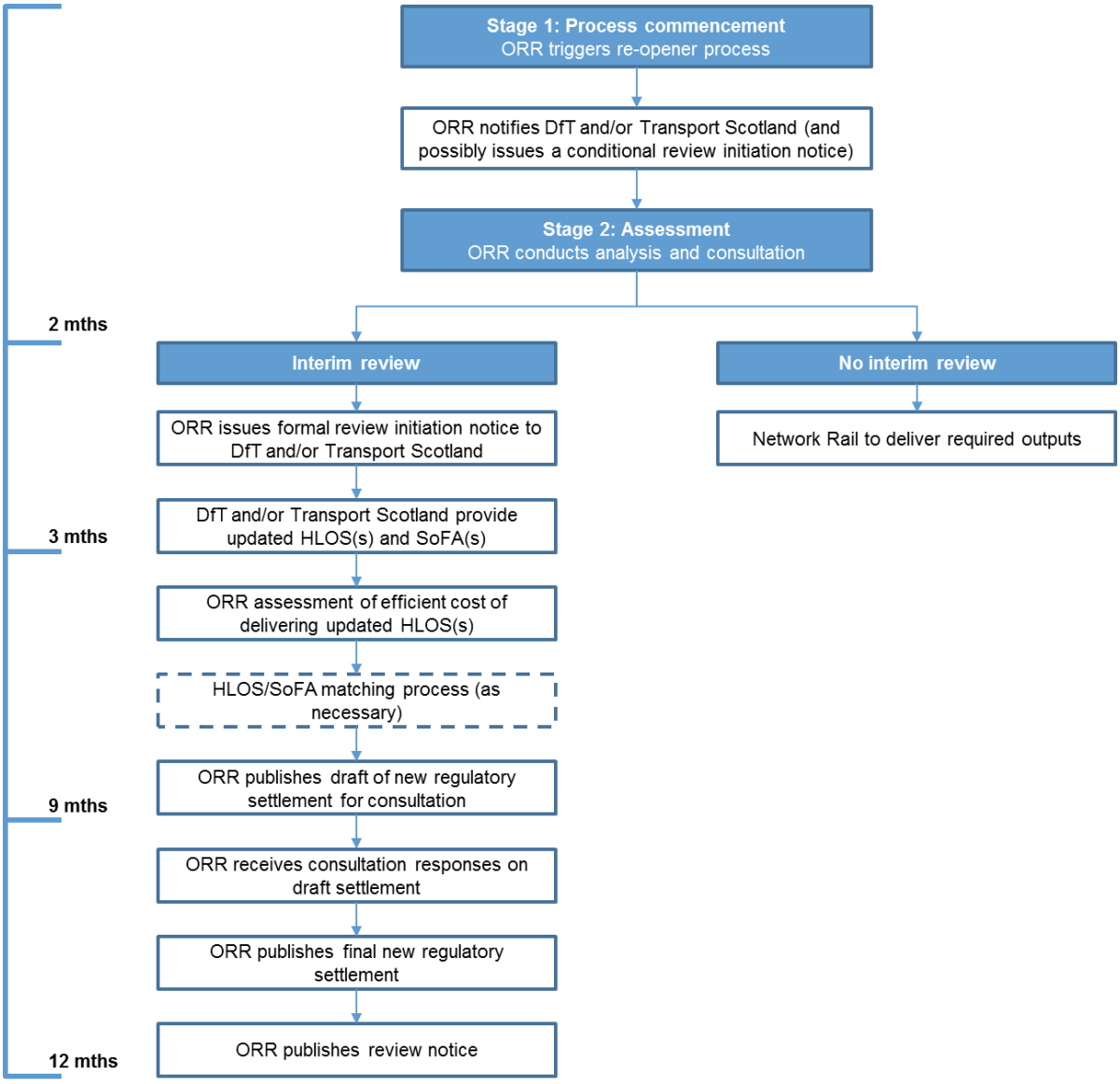
and issuing the review initiation notice. Should the iterative process be required because of a mismatch between the HLOS and SoFA for England & Wales and Scotland, this would affect these timescales. We do not think that we can set out an overall timescale for the iterative process but would expect to set tight timescales for responses by DfT and/or Transport Scotland of not more than one month.

H.30. We have to work within the statutory process and allow for the possibility that there could be a significant amount of analysis and consultation to undertake as part of an interim review. However, wherever possible, we will strive to conduct an interim review in the shortest time practicable in order to minimise the period of uncertainty.

Sequence of events

H.31. The sequence of events for the interim review process is set out in the Figure H.1 below. It assumes that there is no iterative process required as a result of a mismatch between the HLOS(s) and SoFA(s).

Figure H.1: Interim review process – sequence of events with target timescales



Annex I: List of consultancy and independent reporter studies

Introduction

I.1. This annex sets out the studies carried out by our consultants and the independent reporters that have informed our work on this determination. These studies, or executive summaries of them, are either already available on our website[584], or will be available shortly after this determination is published.

Table I.1: List of studies by our consultants and the independent reporters that have informed our determination

Consultancy / reporter study	Consultancy/ reporter firm	Report & publication date
High level review of track access charges and options for CP5	CEPA	June 2010
Review of Network Rail's process to capture enhancement costs - Phase 1	Nichols	December 2010
Rail industry cost and revenue sharing	L.E.K	February 2011
Relative infrastructure managers' efficiency - Evaluation of Gap Analysis Factors	RailKonsult	July 2011
Initial Industry Plan 2011 Review	AMCL	December 2011
Network Rail Materials Costs Benchmarking study	Arup	August 2011
Initial Industry Plan (IIP) 2011 Review	Arup	December 2011
Early cost of capital assessment (Network Rail's allowed return)	First Economics	December 2011 published in March 2012
Using Incentives to Improve Capacity Utilisation	NERA	December 2011 published in January 2012
Network Rail bottom-up benchmarking programme audit	Arup	January 2012

[584] http://www.rail-reg.gov.uk/pr13/publications/consultants-reports.php.

Consultancy / reporter study	Consultancy/ reporter firm	Report & publication date
Assessment of robustness of property income forecasts of Network Rail in the Initial Industry Plan (IIP)	DTZ	January 2012 published in March 2012
Review of Network Rail's process to capture enhancement costs – Phase 2 (Early cost of capital assessment)	Nichols	January 2012
Efficient Expenditure Benchmarking of Network Rail against North American Railroads	RailKonsult	January 2012
Impact of changes in track access charges on rail freight traffic - Stage 1 Report	MDS Transmodal	February 2012
Network Rail bottom-up benchmarking review: benchmarking of operations costs	Arup	March 2012
Scope for improvement in the efficiency of Network Rail's expenditure on support and operations: supplementary analysis of productivity and unit cost change	CEPA	March 2012 Revised final report published in June 2013
Corporate Finance advice on proposals for Network Rail to raise risk capital. Paper 4: Approach to Cost of Capital and Financing	RBC Capital Markets	March 2012
Network Rail's Efficient Enhancement Expenditure	Steer Davies Gleave	March 2012
Review of Analysis in Network Rail's 'Freight Cap' Consultation	Arup	May 2012
Review of Network Rail's Supply Chain Management	Civity	May 2012
The Impact of Changes in Access Charges on the Demand for Coal	NERA	May 2012
Network Rail Project and Programme Management Capability	Halcrow	May 2012
IIP Tier 0 & 1 Model Audits	Arup	June 2012
Response to Network Rail Consultation: Variable Usage Charge Estimates and Freight Caps	Morgan Tucker consulting engineers	June 2012

Consultancy / reporter study	Consultancy/ reporter firm	Report & publication date
Assessment of Network Rail's CP4 and CP5 savings – Asset Management Segment	Civity	July 2012
Possession Management Review for PR13	Lloyd's Register Rail	July 2012
Impact of changes in track access charges on freight traffic. Stage 2 Report: Impact of increases of above 100% on specific commodities.	MDS Transmodal	July 2012
North West Electrification Programme Management Review	Nichols	July 2012
Review of CP4 Regulated Outputs	Arup	August 2012
Assessment of capacity allocation and utilisation on capacity constrained parts of the GB rail network	Sinclair Knight Merz	August 2012
RM3 Evaluation of the capability of Network Rail to deliver its Operating Strategy Programme	ORR	September 2012
Update to 'The Impact of Changes in Access Charges on the Demand for Coal' May 2012 NERA assessment	NERA	October 2012
Review of Network Rail VTISM modelling and allocation to market segments for Freight Avoidable Costs	Arup	November 2012
Reduction in Schedule 4 and 8 payment rates	Steer Davies Gleave (SDG)	November 2012
EC4T Transmission losses (AC and DC): Estimate review, final report	AMCL	December 2012 published in April 2013
Econometric Benchmarking and its uses by ORR: a review	Jon Stern	January 2013
Analysis of road and rail costs between coal mines and power stations	MDS Transmodal	January 2013
Review of Network Availability Forecasts in SBP	Arup	February 2013
Review of Network Availability Alternative Metrics	Arup	March 2013

Consultancy / reporter study	Consultancy/ reporter firm	Report & publication date
Assessment of robustness of property income forecasts of NR Strategic Business Plan (SBP)	DTZ	March 2013 published in September 2013
ERTMS Programme Review	Halcrow	March 2013
Innovation efficiency study	RailKonsult	March 2013
Review of asset management best practice - Inspections and Maintenance	RailKonsult	March 2013
Check of Network Rail's HLOS capacity metrics for CP4 and CP5	Arup	April 2013
Review of Coal Spillage Charge	Arup	April 2013
Review of Network Rail's Access Charge Supplement Calculation	Arup	April 2013
International benchmarking of Network Rail's operations and support functions expenditure	Civity	April 2013
HLOS performance and reliability analysis and targets	Nichols	April 2013
2013 SBP AMEM Assessment	AMCL	May 2013
PR13 Maintenance and Renewals Review	AMCL	May 2013
Audit of Asset Data Quality	Arup	May 2013
PR13 Maintenance and Renewals Review: • Summary report • Policy and WLCC Model Review	Arup	 May 2013 June 2013
Review of Network Rail's carbon reduction calculations and CP5 trajectory	Arup	May 2013
Independent Review and Assurance of Network Rail Buildings & Civil's Transformation Programme	Arup	May 2013
Advice on estimating Network Rail's cost of capital	CEPA	June 2013
Benchmarking employment costs at Network Rail: A research report for the Office of Rail Regulation (ORR)	Incomes Data Services (IDS)	May 2013

Consultancy / reporter study	Consultancy/ reporter firm	Report & publication date
Insurance	Willis	October 2013
Assessment of EAU charge proposals: PR13 review	AMCL	June 2013
PR13 review of Network Rail CP5 efficiency proposals	Arup	June 2013
PR13 review of Network Rail's Maintenance & renewal unit costs used in planning	Arup	June 2013
Bottom-up benchmarking review - 2012 update	Arup	June 2013
Audit of CP5 Regulatory Review Model	BDO LLP	June 2013
Scope for improvement in the efficiency of Network Rail's expenditure on support and operations: supplementary analysis of productivity and unit cost change.	CEPA	June 2013
Update report on the scope for improvement in the efficiency of Network Rail's expenditure over CP5.	CEPA	June 2013
Assessment of Network Rail's Management of Inflation	Credo	June 2013
Review of Network Rail's SBP infrastructure enhancement proposals for CP5	Nichols	June 2013
Impact of Business Change on a Firm's Support, Operations, Maintenance and Renewal Costs.	BDO LLP	July 2013
Standards Efficiency Study	Nichols	July 2013
Shaping Station Stewardship Measure	SSM Working Group, Faithful Gould	July 2013
Review of Network Rail's Corporation Tax and VAT Forecasts	A&M	August 2013
Railway Specific Plant - Review of Case for Investment	Halcrow	August 2013
Audit of CP5 Regulatory Review Model	BDO LLP	October 2013
Updated advice on estimating Network Rail's cost of capital and financing costs	CEPA	October 2013

Consultancy / reporter study	Consultancy/ reporter firm	Report & publication date
Schedule 8 Payment Rates Recalibration Phase A	Halcrow	October 2013
Schedule 8 Payment Rates Recalibration Phase B	Halcrow	November 2013
Review of selected calculations in the freight and charter operator Schedule 8 performance regimes for CP5	Arup	November 2013

Annex J: PR13 stakeholder engagement

Introduction

J.1. This annex gives an overview on the engagement we have carried out with stakeholders throughout PR13.

Our consultations and supporting workshops

J.2. Table J.1 below sets out all of our consultations during the course of PR13 and the main workshop events held by us.

Table J.1: PR13 stakeholder engagement

Published document	Purpose / workshops / seminars
Periodic review 2013: First consultation document, May 2011	The purpose of this document was to: • explain the context, process and timetable for the review to allow stakeholders to plan their engagement; • set out our objective for PR13; and • consult on a range of key issues relating to the approach we will take to determining Network Rail's outputs and access charges for CP5. **Supporting workshops** As part of the consultation process, we held workshops in Edinburgh (5 July 2011); Cardiff (11 July 2011), London (12 July 2011) and Manchester (21 July 2011). During and after this consultation we also held sessions focused on particular areas to help us develop our thinking: • a workshop on the Schedule 8 performance regime on 25 July 2011; • workshops on efficiency benefit sharing and capacity utilisation on 23 September 2011; and • a workshop on the Schedule 4 possessions regime on 11 November 2011.
Establishing Network Rail's efficient expenditure PR13 consultation, July 2011	The purpose of this document was to explain our approach to establishing the level of efficient expenditure for Network Rail in CP5, including the methods we intended to use, the range of studies we intended to undertake and the work Network Rail would do in this area. We held a workshop on this consultation on 21 September 2011. We also held a follow-up workshop on 26 October 2012 to update industry stakeholders on the progress of our work on assessing the efficient levels of expenditure for Network Rail, including how we planned to assess efficient expenditure elements of Network Rail's SBP once it was published in January 2013

Published document	Purpose / workshops / seminars
Invitation to comment on the Initial industry plans, September 2011	This was not a formal consultation, but an opportunity for stakeholders to support and inform ORR's analysis of the Initial industry plans (IIPs) produced by Network Rail and the industry. Our analysis of the IIPs was a key input into our advice to ministers documents, published in March 2012. We also provided all the responses to Network Rail, DfT and Transport Scotland to help feed into their planning work for the HLOSs and SBP.
Consultation on the potential for increased on-rail competition, October 2011	This consultation asked for stakeholder views on the potential for increased on-rail competition.
Consultation on incentives, December 2011	This document followed up our May 2011 consultation document and set out more detailed issues and proposals relating to incentives as part of our work on PR13. We held a workshop on 9 January 2012 to discuss the issues raised in our incentives consultation.
Advice to ministers & ORR's requirements for Network Rail's strategic business plan, March 2012	These documents set out our advice to Scottish Ministers and the Secretary of State on Network Rail's costs and outputs for control period 5 ('CP5'). This was to inform the decisions that the two governments would make on what they wanted the railways to achieve in CP5 and the public funds required to deliver this when they published their 'high-level output specification' (HLOS) and 'statement of funds available' (SoFA). We also issued our requirements to Network Rail for its strategic business plan.
Setting the financial and incentive framework for Network Rail in CP5, May 2012	This document concluded on a number of issues raised in three previous consultations: • our first consultation on PR13; • consultation on the potential for increased on-rail competition; and • our consultation on incentives.
Aligning incentives to improve efficiency: update and further consultation, May 2012	This provided an update, following the first consultation on PR13 and the consultation on incentives, on our position on the introduction of route-level efficiency benefit sharing (REBS) in CP5. It sought views on the options for how REBS would interact with alliancing. We also sought views on proposals to introduce a regulatory mechanism to expose train operators to changes in Network Rail's costs at future periodic reviews, and an alternative proposal for exposing franchised train operators to changes in the variable usage charge.

Published document	Purpose / workshops / seminars
Consultation on the variable usage charge and a freight specific charge, May 2012	This consultation sought views on the likely scale of the variable usage charge for CP5, in order for us to establish a cap on the average level of the variable usage charge. We also consulted on the introduction of a new track access charge for certain rail freight commodities to recover infrastructure costs caused by freight operating on the network that are not currently recovered from other freight charges. We held a workshop on 18 May 2012 and a follow-up workshop on 5 July 2012 to give stakeholders the opportunity to ask questions and discuss our proposals. We also held a number of meetings with stakeholders on issues relating to this workstream.
Network Rail's output framework for 2014-19, August 2012	Following the two HLOSs, this consultation sought views on: the outputs that we should Network Rail for CP5; the main indicators we would use to monitor Network Rail; and the enablers (measures of Network Rail's capability to deliver). We held a workshop on this consultation on 7 September 2012.
Consultation on financial issues for Network Rail in CP5, August 2012	This document consulted on detailed issues relating to the financial framework that would apply to Network Rail in CP5, such as our approach to inflation risk. We held a workshop to discuss the consultation on 5 September 2012.
Consultation on Schedules 4 and 8 possessions and performance regimes, November 2012	Following up on high-level decisions taken through previous consultations, this document sought views on a range of detailed issues relating Schedules 4 and 8 of track access contracts (the compensation train operators receive for the financial impact of planned and unplanned rail service disruption attributable to Network Rail or other train operators). We held a workshop on this consultation on 16 January 2013
Consultation on financial issues for Network Rail in CP5: decisions, December 2012	This concluded on our consultation issued on 1 August 2012.
Volume incentive consultation, December 2012	This consultation set out our package of proposals to improve the effectiveness of the volume incentive. We held a focused industry seminar on this on 28 January 2013
Aligning incentives to improve efficiency: decisions, December 2012	This concluded on our consultation issued on 3 May 2012.
Invitation to comment on Network Rail's strategic business plan, January 2013	Whilst not a formal consultation, we sought stakeholders views on Network Rail's SBP documentation to help inform our analysis. We also held a stakeholder workshop on 13 February 2013 at which Network Rail presented its SBP and we chaired a discussion.

Published document	Purpose / workshops / seminars
Conclusions on the average variable usage charge and a freight specific charge, January 2013	This document concluded on our May 2012 consultation on the variable usage charge and a freight specific charge.
Consultation on a freight specific charge for biomass, February 2013	This consultation was issued following the conclusions document issued on 11 January 2013.
Consultation on electricity for traction charges for control period 5, April 2013	This consultation followed-up our high-level decisions on traction electricity charges in our *Setting the financial and incentive framework for Network Rail in CP5* document from May 2012. In particular, it sought views on the assumed levels of transmission losses for CP5 and how we proposed to reform the volume wash-up.
Consultation on contingency planning for PR13 implementation, April 2013	This set out our proposed approach in the event of a delay to the statutory implementation process.
Draft determination of Network Rail's outputs and funding for 2014-19, June 2013	This set out our proposed determination for CP5 and sought stakeholders' comments. We held conferences in London, Glasgow and Cardiff to enable a discussion on the key issues arising from the draft determination and held meetings with key stakeholders to hear their views on it.
On-rail competition: consultation on options for change in open access, June 2013	This document consulted on potential charging options that would enable greater opportunity for competition from open access passenger train operators.
Consultation on implementing PR13, July 2013	This consultation set out the specific changes we proposed to make to track and station access agreements and Network Rail's network licence to implement our 2013 periodic review (PR13). This was based on the decisions in the draft determination.
Workshop on REBS, July 2013	This discussed our approach to setting REBS baselines and measuring REBS performance.
Draft conclusions on structure of charges and Schedule 8 performance regime for charter operators, August 2013	Following a process of engagement with charter operators and Network Rail following our draft determination, this document consulted on the structure of charges and performance regime for charter operators in CP5. In mid-September, we then consulted on contractual drafting that would implement these decisions.
Engagement on the capacity charge, summer 2013	Following the options we set out in our draft determination, we carried out a process of engagement with the industry in relation to the form of capacity charge that should be applied during CP5. This included RDG, RFOA and train operators and involved a number of meetings and detailed exchanges.

Published document	Purpose / workshops / seminars
Traction electricity cost reconciliation, October 2013	Following on from our July 2013 consultation on implementing PR13, we sought views on the proposed changes to the cost reconciliation (wash-up) for traction electricity and contractual drafting to implement this.

Other engagement

J.3. As infrastructure manager, Network Rail has carried out significant engagement and consultation as part of PR13, particularly in respect of access charges. This work informed its submissions to us. Its website sets out details of this engagement[585]. We have been involved in this work, including through attendance of industry working groups relating to charges, such as the variable track access charge (VTAC) group, capacity charge working group and traction electricity steering group (TESG). Further detail on this is set out in chapter 16 relating access charges.

J.4. We also established industry working groups to discuss issues relating to specific PR13 issues. This includes for example the 'Schedules 4 and 8 for passenger operators' industry group' and 'Schedules 4 and 8 for freight operators' industry group'. These discuss technical and policy issues relating to the update of Schedules 4 and 8 possessions and performance regimes for passenger and freight operators.

J.5. Besides this, we have held many regular and ad-hoc bilateral and multilateral meetings with stakeholders over the course of PR13. This includes the 'QUADs' group which has met since late 2011 to discuss key issues relating to PR13. The QUADs group consists of DfT, Transport Scotland, ATOC, the Rail Freight Operators' Association, Network Rail and ORR.

[585] http://www.networkrail.co.uk/publications/delivery-plans/control-period-5/periodic-review-2013/pr13-closed-consultations/.

Annex K: ORR's statutory duties

Introduction

K.1. We have a number of statutory duties which we must balance when exercising our economic functions. These duties are not in any order of priority and do not point in any one direction. In reaching our decisions, we have considered all of our statutory duties and weighed them as we considered appropriate.

Our statutory duties

K.2. We have the following duties under Section 4 of the Railways Act 1993:

- To promote improvements in railway service performance;
- Otherwise to protect the interests of users of railway services;
- To promote the use of the railway network in Great Britain for the carriage of passengers and goods, and the development of that railway network, to the greatest extent which we consider economically practicable;
- To contribute to the development of an integrated system of transport of passengers and goods;
- To contribute to the achievement of sustainable development;
- To promote efficiency and economy on the part of persons providing railway services;
- To promote competition in the provision of railway services for the benefit of users of railway services;
- To promote measures designed to facilitate the making by passengers of journeys which involve use of the services of more than one passenger service operator;
- To impose on the operators of railway services the minimum restrictions which are consistent with the performance of our functions under Part 1 of the Railways Act 1993 or the Railways Act 2005 that are not safety functions;
- To enable persons providing railway services to plan the future of their businesses with a reasonable degree of assurance;
- To take into account the need to protect all persons from dangers arising from the operation of railways;
- To protect the interests of users and potential users of services for the carriage of passengers by railway provided by a private sector operator, otherwise than under a franchise agreement, in respect of the prices charged for travel by means of those services, and the quality of the service provided;

- To have regard to the effect on the environment of activities connected with the provision of railway services;
- To protect the interests of persons providing services for the carriage of passengers or goods by railway in their use of any railway facilities which are for the time being vested in a private sector operator, in respect of the prices charged for such use and the quality of the service provided;
- In the case of our safety functions other than those we have as an enforcing authority for the purposes of the Health & Safety at Work etc. Act 1974, to have regard to any general guidance given to us by the Secretary of State about railway services or other matters relating to railways;
- To act in a manner which we consider will not render it unduly difficult for persons who are holders of network licences (i.e. Network Rail) to finance any activities or proposed activities of theirs in relation to which we have functions;
- To have regard to any notified strategies and policies of the National Assembly for Wales, so far as they relate to Welsh services or to any other matter in or as regards Wales that concerns railways or railway services;
- To have regard to the ability of the National Assembly for Wales to carry out the functions conferred or imposed on it by or under any enactment;
- To have regard to any general guidance given by the Secretary of State about railway services or other matters relating to railways;
- To have regard to any general guidance given by Scottish Ministers about railway services wholly or partly in Scotland or about other matters in or as regards Scotland that relate to railways and when doing this to give appropriate weight to the extent (if any) to which the guidance relates to matters in respect of which expenditure is to be or has been incurred by Scottish Ministers;
- To have regard to the funds available to the Secretary of State for the purposes of his functions in relation to railways and railways services;
- To have regard to the ability of the Mayor of London and Transport for London to carry out the functions conferred or imposed on them by or under any enactment;
- To have regard, in particular, to the interests of persons who are disabled in relation to services for the carriage of passengers by railway or to station services; and
- To have regard to the interests, in securing value for money, of the users or potential users of railway services, of persons providing railway services, of the persons who make available the resources and funds and of the general public.

K.3. We also have duties under other legislation, as follows:

- Section 17 of the London Olympic Games and Paralympic Games Act 2006 provides that section 4(1) of the Railways Act 1993 shall be treated as including the objective of facilitating the provision, management and control of facilities for transport in connection with the London Olympics. We do not consider this duty will be relevant for CP5.
- Section 21 of the Channel Tunnel Rail Link Act 1996 gives us an overriding duty to exercise our regulatory functions in such a manner as not to impede the performance of any development agreement. We do not expect this duty to be engaged as part of PR13.
- Section 22 of the Crossrail Act 2008 provides that section 4(1) of the Railways Act 1993 shall be treated as including the objective of facilitating the construction of Crossrail.
- Section 72 of the Regulatory Enforcement and Sanctions Act 2008 requires us to keep our functions under review and secure that in exercising these functions that we do not:
  - impose burdens which we consider to be unnecessary, or
  - maintain burdens which we consider to have become unnecessary.

K.4. We also have an equalities duty under Section 149 of the Equality Act 2010 which requires us in the exercise of our functions to have due regard to the need to:

- eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under that Act;
- advance equality of opportunity between persons who share a relevant protected characteristic[586] and persons who do not share it; and
- foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

[586] relevant protected characteristics are – age; disability; gender reassignment; pregnancy and maternity; race; religion or belief; sex; and sexual orientation.