

Route Strategic Plan | 2019 to 2027 Wessex Route



Trusted by our customers to deliver a safe and reliable railway in Wessex Version 4.30 – March 2019

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1. Foreword and summary

Foreword



I am delighted to present Wessex Route's Control Period 6 (CP6) Strategic Business Plan for 2019-2024.

We run one of the busiest parts of Britain's railway, with 230 million passengers and over 500 million tonnekm of freight traveling across our

network every year. Waterloo station is the busiest in the country serving around 330,000 passengers – equal to four full capacity crowds at Twickenham stadium - every day.

Our purpose is to connect people, businesses and communities, in support to economic growth for all. I firmly believe it is only when we put passengers and freight at the heart of our operations, will we ensure our customers safely get to where they want to go on time, whilst keeping them informed and minimising service impacts during any potential disruption.

To deliver our purpose over CP6, and meet our strategic business plan commitments, we have been awarded more than £2 billion of funding this is 20% more than we were awarded in Control Period 5 - which will be invested across the region. This is really good news, as in setting our business plan we listened to our operators and the wider community, to ensure we achieved the best possible outcome for all.

This funding will support the operations, maintenance and renewals needed to operate our existing infrastructure. Service improvements

from enhancement projects will be funded and delivered separately on a rolling basis with the Department for Transport and third-party investors. This can include anything from a new lift at a station to improve access, through to a major capacity enhancement to make room for more trains on our tracks. this additional investment in the railway will bring further economic benefits across the region.

I am proud to be leading a professional team of more than 1,800 people, working 24/7 across the route, delivering value for money services for our communities, passengers and businesses. We will work jointly with our train and freight operating companies, particularly South Western Railway, to ensure we deliver the right outcomes for our customers.

Andy Thomas, Route Managing Director, Wessex Route

We support this plan that NR Wessex has submitted and sign up to the vision and outcomes that the Wessex Route aspires to achieve in the long term. However, SWR are not able to sign off on the PPM targets included within the submission due to the shortfall between these and the

franchise targets set. We, at SWR, urge the ORR to take up all the options that the Wessex Route has included within its costed options which will help to deliver the much needed performance improvements of this essential part of the rail network.



Andy Mellors, Managing Director, South Western Railway

Our Vision



Our Purpose

Connecting people, businesses and communities, which in turn supports jobs and economic growth right across the region, for the benefit of all



Our Mission

To operate, maintain and enhance the rail infrastructure that provides connections between London and the South West



Our Vision

To be trusted by our customers to deliver a safe and reliable railway in Wessex

At a glance



Our Stakeholders

Our complex industry attracts stakeholder influence from many corners, summarised in the diagram below.



We worked closely with our stakeholders, including train and freight operating companies, local authorities, passenger groups, politicians and business groups in defining our priorities for CP6 to make sure we understood their needs and that our objectives were aligned. This included running a series of stakeholder workshops before drafting our CP6 plans. The stakeholder engagement activities and requirements for this plan are captured in Appendix A. Our CP6 stakeholder engagement strategy, appendix H sets out to improve our public facing processes, tools and communication, providing much needed structure to capture system requirements for CP7 and beyond.

The key themes raised by our freight and passenger operators are:

- Better consultation in access planning
- Service Growth for peak commuter routes, freight route (BKE) and North Downs Line
- Fewer timetable failures through better asset reliability and fewer speed restrictions
- Smoother and quicker journeys with better track quality and the removal of Temporary Speed Restrictions (TSRs).
- Specific projects such as Feltham resignalling to improve timetable resilience and recovery
- Growth of East-West freight services
- Reduce freight derailment risk in yards and sidings
- Reduce Heavy Axle Weight restrictions on the network (freight)

Our People

We want to attract, develop and retain great people on Wessex. We are working to create an environment that will allow everybody to reach their full potential and support Network Rail's commitment to creating a more diverse and inclusive railway. We have ring fenced £6 million to improve welfare facilities for our frontline staff, this includes making sure we have fit for purpose toilets and changing rooms at our delivery units for all staff. Our cadre of 90+ Wessex diversity champions are continuing to drive the right behaviours across the route. We are proud to be growing our team of Science Technology Engineering Mathematics (STEM) Ambassadors who support schools across our route to encourage young people into STEM subjects and a future career in the railway.

Strategic Overview

This Strategic Plan is the second step on a 20-year period of extensive upgrades to the Wessex network. In CP5; we have established a strong, devolved organisational structure within our new ROC at Basingstoke and delivered the most complex engineering enhancement project at Waterloo in a century, lengthening platforms at Waterloo to enable a 10car suburban service and reopening the former international terminal to provide extra capacity on the Windsor lines.

In CP6, train performance improvement is the fundamental outcome for the benefit of all operators in CP6, alongside continuing our level crossing safety strategy and developing a series of complex enhancements for delivering in CP7 and beyond. Key to this long-term outlook is that in CP6 we must:

- Increase our stakeholder engagement activity
- Provide better access to information regarding the constraints and opportunities of our infrastructure
- Undertake CP7+ development and design
- Prepare the existing infrastructure to seamlessly absorb the necessary service alterations from the proposed CP7 enhancements
- Secure associated 3rd party investments and

Our Strategic Business Plan is set within the context of the following environmental stimuli, that will create new risks, opportunities and constraints to which the organisation must anticipate and respond well.

Stimulus	Impact
New investments through Open for Business and Business Development and UK Industry Strategy	A growth in 3 rd party investors changing our network, contributing <5% of Wessex Route's total income in CP6. We need to improve our transparency and engagement to make it easier for investors to identify valuable funding opportunities and trust in our ability to capitalise on them.
Timetabling and Performance Reviews	A growing demand for service means more trains on our network. Operations, Maintenance and Enhancement need to work seamlessly to maximise network availability for our customers.
Brexit – economic uncertainty	There may be less money available for the UK to invest in rail, however, the economy will need a rail network capable of stimulating economic growth in key locations. The supply chain may get nervous around financial uncertainty and the cost of imported materials may rise.
Sustainable Development Goals – carbon and land use	Network Rail is responsible for a significant green infrastructure, major power distribution network, property portfolio, telecoms and drainage networks. Pressure is growing to reduce carbon emissions and running costs for all businesses, making railway assets valuable to a broader number of investors.
CP7 development plans	Major projects including CrossRail2, the possible Clapham Junction redevelopment and Digital Railway will be running concurrently during CP7 and centre around the busy London Mainline. These projects will stress diversionary routes, alternative stabling and infrastructure.

Our Priorities

Underpinning every customer service improvement is a fundamental need for greater co-ordination, to respond effectively to new risks, opportunities and constraints. In the short term this improves timetable delivery and in the long-term resilience for delivery of the suite of CP7 London-based enhancement programmes. We will recognise our achievement when we are seen by our customers as leaders in Asset Management.



Our priorities, above, serve as our internal compass for responding to our stakeholders and flow into our Strategic Objectives, shown in our Sunburst diagram. The complete line of sight is shown in Chapter 2.

Wessex Route Vision and Objectives 'Sunburst Diagram'



Below is the summary of our investment split by operations, maintenance, renewal and Digital Railway:

	CP5	CP5 (£m)		CP6 (£m)							
	18/ 19	CP5 Total	19/ 20	20/ 21	21/ 22	22/23	23/24	CP6 Total	24/ 25	25/ 26	
Operations & Support	71	265	99	85	81	85	91	441	137	137	
Maintenance	103	424	123	123	123	115	114	598	118	118	
Renewals	121	891	172	238	307	325	287	1329	298	301	
Digital Railway*	3*	4*	6*	10*	25*	31*	39*	111*	51*	58*	
Total expenditure	298	1,584	400	456	536	556	531	2,479	604	614	

* Funding source and levels to be confirmed separately to this submission

The outcomes of our plans will deliver the following enterprise level outcomes for resilience in our key performance areas. These heat maps are aligned to our Enterprise Risk Registers.

T = Target, N = Now



Our work in CP6 and passenger benefits

In collaboration with our train and freight operating companies we will be working hard over the next five years to provide a more reliable and safer railway, which is easier to access, with more space for our passengers.



Our work will include significant resignalling, at Feltham in west London, and Farncombe to Petersfield in Surrey and Hampshire, replacing outdated infrastructure with the latest technology. This will improve the reliability of our infrastructure in these areas, and means these signalling teams can, for the first time, be co-located at our state-of-the-art Railway Operating Centre in Basingstoke. This will help to improve the passenger experience as we will be able to provide better live passenger information and faster service recovery.

We will be replacing more than 200 miles of rail, twice the distance between Waterloo and Bournemouth stations, across the route. Combined with increased maintenance, this will improve track quality and allow us to remove more temporary speed restrictions, helping more passengers reach their destination on time. We will be laying almost 20 miles of new power cables and replacing old conductor rail, which carries the electrical current. New remote monitoring will be introduced to spot developing electrical faults and intervene before they fail. This will reduce the risk of failure of electrical assets that power our trains.

Improvements to our structures includes re-glazing Waterloo station's Victorian roof to provide a brighter station environment. Passengers will also benefit from a new destination shopping centre, set to open under the former Waterloo International Terminal in 2020. In Woking we will be collaborating with Surrey County Council to strengthen and widen Victoria railway bridge, allowing the local authority to make the road below a dual carriageway, and include a cycle and walkway either side. And in Dorset we will be replacing two old bridges in Yetminster, with modern, more reliable structures suitable for a modern railway.

From track engineers through to signallers, we will be investing in over 400 new posts to help us better maintain the railway and respond to incidents faster. This includes the creation of a new heavy maintenance team who will have the kit and expertise to undertake significant maintenance engineering work, such as removing large areas of water logged ballast; an increase in our team of flight engineers, based at our railway operating centre and responsible for monitoring our infrastructure for emerging faults; and a new team of admin staff to reduce the paperwork burden on frontline colleagues, allowing them to focus on the railway.

More funding in CP6 will also enable our two delivery units to proactively manage our infrastructure, instead of reacting to faults. We will also be investing an extra £2 million a year to manage lineside vegetation, reducing delays in autumn and making the railway safer.

Our work to improve safety includes reducing the gap between the train and curved platforms at Clapham Junction and Guildford station. We will also be closing 17 high risk level crossings and replacing nine half barrier crossings with full barriers across the route. While improving safety on the railway, this will also help us increase line speeds in some locations. Our earthworks funding will reduce the risk of landslips onto our tracks, particularly at our largest cuttings in Honiton, Crewkerne and Gillingham, on the West of England line, and our heavily used main line embankments at Wimbledon and New Malden.

Wider enhancement work, which has yet to be funded, but we expect to develop in CP6, includes: grade separation at Woking Junction and a new platform at Woking station, which would provide more space on our network; congestion relief schemes at Wimbledon and Surbiton; agreeing a plan to redevelop Clapham Junction; delivering a number of access for all schemes, pending approval from Department for Transport, to improve accessibility at our stations; and a power supply upgrade to support more trains on the network which will lay the groundwork for increasing the number of trains. Ongoing work which will be completed in CP6, thanks to third party funding, includes the rebuilding of Guildford and Twickenham stations and the opening of a new Reading Green Park station, creating more space for passengers.

Safety Outcome

Our safety risk will continue to be managed within the national risk appetite. We have prioritised the key behavioural safety initiatives that deliver broader benefits and create a strong safety culture upon which we can grow. CAPEX investment has been prioritised to target the highest risk areas from our safe asset vision e.g. safe cess and better access points, through to 2029. Our Route Home Safe Plan aims to realise as much safety benefit and planning efficiency as possible. Circa £55m of national electrical safety funding is dedicated to improving compliance with the Electricity at Work Regulations in Wessex. This is part of our long term electrical safety strategy spanning multiple control periods.

Performance Outcome

Train performance, like safety, is the fundamental purpose behind everything we do. Train performance in CP5 has deteriorated and is subject to a determined drive to former stronger collaborations with our new and existing operator partners. The recent Donovan report has strengthened our focus on joint performance improvement plans between Wessex and SWR, which is likely to span the first 2 years of CP6. Wessex has created a Joint Performance Improvement Centre with its operators to serve as a hub of transformational activity to create a step change in the quality of our timetable delivery.

Delivering major infrastructure schemes, such as CrossRail2 and Digital Railway will place a greater strain on infrastructure that means there is an increased imperative for excellent asset performance. Therefore, in CP6 we are building up the resilience of existing infrastructure to best mitigate performance impact.

Value Outcome

Optimal value has been obtained from our assets through balancing well targeted capital investment on highly critical renewals and extending asset life through maintenance and inspection. Although this maximises asset value, we are close to our asset sustainability thresholds; CP6 offers circa £88m to invest in closing the gap between the national average and Wessex route average for track and earthworks sustainability.

We will take full advantage of the opportunity of devolution to configure our Organisation to deliver the very best value from our agreed funding. Much of this depends on our People Strategy, to help our workforce perform at its best and inspire news ways to improve productivity.

We are building up our Business Development team to attract 3rd party investment in our diverse asset base, which has value outside of train services that can be offered to businesses and communities, to augment CP6 funding and to reduce the need for further public subsidy. There is enormous social and environmental value potential, if existing redundancy in the railway portfolio can meet developer needs.

Political/ Reputation Outcome

Reputation is generated from trust, which is central to our Vision. Our biggest reputational issue is our failure to meet the CP5 PPM targets, which we plan to address through our performance improvement activities. There will also be an increase in physical work on the railway, which increases the risk of service disruption and disturbance to lineside neighbours. Through our maintenance and renewal delivery strategies we are improving the way we plan works, to minimise disruption and to help us communicate better when it is unavoidable. We are working hard with our communications team to increase the transparency of our business, to demonstrate that we are delivering good value for the money we are entrusted with by UK government.

2. Route objectives

Our Line of Sight Diagram, below, shows how Stakeholder Priorities, detailed in Appendix A, flow into our Route Objectives, and how the Route Objectives are met through our investment plans, which are detailed in Chapter 8. In the previous chapter we reviewed the 10 Route Priorities that provide a structured link between our stakeholder needs and our Route Objectives, described in our Vision Sunburst diagram. Our scorecard sets out proposed targets for measuring our success in achieving our objectives.



Long term scorecard

Our plan is predicated on the key assumptions laid out in Appendix B and will be impacted should these assumptions change. The scorecard outputs align to the requested funding requirement. Drivers of our performance are described in more detail in the relevant chapters 3 to 8.

RED Very challenging, likely to require substantial organisational and cultural change to achieve and/or highly dependent on third party involvement		AMBER Cha	allenging, likely to r ange to achieve and	equire moderate or d/or dependent on t	ganisational and c hird party involven	ultural nent	GREEN Achievable, builds on existing organisational and cultural capabilities and little or no dependency on third parties for delivery				
Safety - (20%)	Targets	Weighting	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Achievability
	Worse than Target		0.530	0.477	0.429	0.215	0.193	0.196	0.196	0.196	
Lost Time Injury Frequency Rate (LTIFR)	Target	5.0%	0.482	0.434	0.390	0.195	0.176	0.170	0.170	0.170	
	Better than Target		0.434	0.390	0.351	0.176	0.158	0.170	0.170	0.170	
	Worse than Target		60%	60%	60%	60%	60%	60%	60%	60%	
Risk Management Maturity Model (RM3)	Target	5.0%	80%	80%	80%	80%	80%	80%	80%	80%	
	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
	Worse than Target		60%	60%	60%	60%	60%	60%	60%	60%	
Train Accident Risk Reduction (TARR)	Target	5.0%	80%	80%	80%	80%	80%	80%	80%	80%	
	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
Top 10 Milestones to	Worse than Target		6	6	6	6	6	6	6	6	
Reduce Level Crossing	Target	5.0%	8	8	8	8	8	8	8	8	
Risk	Better than Target		10	10	10	10	10	10	10	10	
Financial Performance - (20%)	Targets	Weighting	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Achievability
Financial Performance	Worse than Target		-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	
Measure (FPM) – Gross	Target	4.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Profit & Loss	Better than Target		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
Financial Performance Measure (FPM) – Gross Renewals	Worse than Target		-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	
	Target	5.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Better than Target		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	

Financial Performance	Worse than Target		-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	
Measure (FPM) – Gross	Target	4.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	[
Enhancements	Better than Target		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	[
	Worse than Target		+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%	
Forecasting Accuracy	Target	2.0%	+/- 5%	+/- 5%	+/- 5%	+/- 5%	+/- 5%	+/- 5%	+/- 5%	+/- 5%	
	Better than Target	-	+/- 2%	+/- 2%	+/- 2%	+/- 2%	+/- 2%	+/- 2%	+/- 2%	+/- 2%	
	Worse than Target										
Cash Compliance	Target	5.0%									
	Better than Target	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Investment - (5%)	Targets	Weighting	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Achievability
	Worse than Target		80%	80%	80%	80%	80%	80%	80%	80%	
Top Investment Milestones	Target	5.0%	90%	90%	90%	90%	90%	90%	90%	90%	[
Willestones	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
Asset Management - (12%)	Targets	Weighting	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Achievability
	Worse than Target		90%	90%	90%	90%	90%	90%	90%	90%	
Renewals – 7 Key Volumes	Target	5.0%	95%	95%	95%	95%	95%	95%	95%	95%	
Volumes	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
	Worse than Target		-3.5%	-7.1%	-10.9%	-14.8%	-18.8%	0.0%	0.0%	0.0%	
Composite Reliability	Target	0.0%	1.0%	2.0%	3.0%	3.9%	4.9%	2.0%	4.0%	6.0%	
	Better than Target		3.5%	6.9%	10.1%	13.3%	16.3%	4.0%	8.0%	12.0%	
Composite	Worse than Target		-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	
Sustainability Index (CSI)	Target	0.0%	-4.8%	-4.8%	-4.8%	-4.8%	-4.8%	-4.8%	-4.8%	-4.8%	
	Better than Target		-5.0%	-5.0%	-5.0%	-5.0%	-5.0%	-5.0%	-5.0%	-5.0%	
	Worse than Target		-4%	-4%	-4%	-4%	-4%	-4%	-4%	-4%	
Number of Service Affecting Failures (SAF)	Target	5.0%	1%	1%	1%	1%	1%	1%	1%	1%	
Affecting Failures (SAF)	Better than Target		4%	4%	4%	4%	4%	4%	4%	4%	

Train Performance - (25%)	Targets	Weighting	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Achievability
Consistent Route	Worse than Target		2.91	2.86	2.87	2.72	2.67	2.67	2.67	2.67	
Measure – Performance (CRM-P)	Target	0.0%	2.77	2.72	2.73	2.59	2.54	2.54	2.54	2.54	
Network Rail Caused Delay Minutes Better than Target		2.63	2.58	2.59	2.46	2.41	2.41	2.41	2.41		
	Worse than Target		94.4%	94.4%	94.4%	94.4%	94.4%	94.4%	94.4%	94.4%	
Freight Delivery Metric (FDM-R)	Target	1.0%	95.3%	95.3%	95.3%	95.3%	95.3%	95.3%	95.3%	95.3%	
(Better than Target		95.7%	95.7%	95.7%	95.7%	95.7%	95.7%	95.7%	95.7%	
	Worse than Target		1,125,093	1,125,093	1,096,156	1,067,219	1,044,070	1,044,070	1,044,070	1,044,070	
NR Wessex Delay Minutes	Target	6.0%	1,044,070	1,044,070	1,044,070	1,044,070	1,009,346	1,009,346	1,009,346	1,009,346	
initiates	Better than Target		934,110	934,110	934,110	934,110	934,110	934,110	934,110	934,110	
V	Worse than Target		84.6%	84.6%	85.6%	86.5%	87.0%	87.0%	87.0%	87.0%	
PPM	Target	4.0%	87.0%	87.0%	87.0%	87.0%	87.5%	87.5%	87.5%	87.5%	
	Better than Target		90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	
	Worse than Target		78.6%	78.6%	78.6%	78.6%	78.6%	78.6%	78.6%	78.6%	
GWR Measure (PPM North Downs line)	Target	1.0%	82.6%	82.6%	82.6%	82.6%	82.6%	82.6%	82.6%	82.6%	
	Better than Target		84.6%	84.6%	84.6%	84.6%	84.6%	84.6%	84.6%	84.6%	
X Country Measure	Worse than Target		25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	
(right time arrivals at	Target	2.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	
Reading)	Better than Target		35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	
	Worse than Target		65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	
GWR Measure (Portsmouth - Cardiff)	Target 1.0%	1.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	
(Portsmouth - Cardiff)	Better than Target		75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	
	Worse than Target		4.5%	4.5%	4.4%	4.2%	4.1%	4.1%	4.1%	4.1%	
CaSL	Target	2.0%	4.1%	4.1%	4.1%	4.1%	4.0%	4.0%	4.0%	4.0%	
	Better than Target		3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	

	Worse than Target	2.0%	61,599	61,599	61,599	61,599	61,599	61,599	61,599	61,599	
minutes Wessex)	Target		58,666	58,666	58,666	58,666	58,666	58,666	58,666	58,666	
	Better than Target		55,732	55,732	55,732	55,732	55,732	55,732	55,732	55,732	
Performance	Worse than Target	4.0%	80%	80%	80%	80%	80%	80%	80%	80%	
Improvement Centre	Target		90%	90%	90%	90%	90%	90%	90%	90%	
Milestones	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
	Worse than Target	2.0%	80%	80%	80%	80%	80%	80%	80%	80%	
Joint Seasonal Plans	Target		90%	90%	90%	90%	90%	90%	90%	90%	
	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
	Worse than Target	2.0%	61,599	61,599	61,599	61,599	61,599	61,599	61,599	61,599	
GTR Measure (NR delay minutes Wessex)	Target		58,666	58,666	58,666	58,666	58,666	58,666	58,666	58,666	
minutes wessexy	Better than Target		55,732	55,732	55,732	55,732	55,732	55,732	55,732	55,732	
Performance	Worse than Target	4.0%	80%	80%	80%	80%	80%	80%	80%	80%	
Improvement Centre	Target		90%	90%	90%	90%	90%	90%	90%	90%	
Milestones	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
	Worse than Target	2.0%	80%	80%	80%	80%	80%	80%	80%	80%	
Joint Seasonal Plans	Target		90%	90%	90%	90%	90%	90%	90%	90%	
	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
Locally Driven Customer Measures - (18%)	Targets	Weighting	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Achievability
	Worse than Target		76%	76%	76%	76%	76%	76%	76%	76%	
NRPS - SWR (Annual Average)	Target	1.5%	77%	77%	77%	77%	77%	77%	77%	77%	
	Better than Target	-	78%	78%	78%	78%	78%	78%	78%	78%	
	Worse than Target		83%	83%	83%	83%	83%	83%	83%	83%	
NRPS - Waterloo	Target	0.5%	84%	84%	84%	84%	84%	84%	84%	84%	
	Better than Target		85%	85%	85%	85%	85%	85%	85%	85%	

	Worse than Target		0.52	0.54	0.58	0.63	0.69	0.69	0.69	0.69	
Freight Growth	Target	1.0%	0.58	0.60	0.64	0.70	0.77	0.77	0.77	0.77	
	Better than Target		0.64	0.66	0.71	0.77	0.84	0.84	0.84	0.84	
	Worse than Target		0%	0%	0%	0%	0%	0%	0%	0%	
Stakeholder Advocacy	Target	1.0%	5%	5%	5%	5%	5%	5%	5%	5%	
	Better than Target		10%	10%	10%	10%	10%	10%	10%	10%	
	Worse than Target		3	3	3	3	3	3	3	3	
Joint Recognition	Target	3.0%	5	6	6	7	7	7	7	7	
	Better than Target		7	7	7	9	9	9	9	9	
	Worse than Target		85%	85%	85%	85%	85%	85%	85%	85%	
Joint Competency Measure	Target	3.0%	90%	90%	90%	90%	90%	90%	90%	90%	
	Better than Target		95%	95%	95%	95%	95%	95%	95%	95%	
Percentage Operational	Worse than Target		90%	90%	90%	90%	90%	90%	90%	90%	
Contingency Plans in	Target	4.0%	95%	95%	95%	95%	95%	95%	95%	95%	
Place	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
Lineside neighbours -	Worse than Target		328	328	328	328	328	328	328	328	
number of work	Target	1.0%	298	298	298	298	298	298	298	298]
complaints	Better than Target		268	268	268	268	268	268	268	268	
	Worse than Target		50%	50%	50%	50%	50%	50%	50%	50%	
Employee Engagement - Your Voice Score	Target	1.5%	51%	51%	51%	51%	51%	51%	51%	51%	
	Better than Target		52%	52%	52%	52%	52%	52%	52%	52%	
	Worse than Target		44%	44%	44%	44%	44%	44%	44%	44%	
Employee Engagement - Your Voice Response	Target	1.5%	46%	46%	46%	46%	46%	46%	46%	46%	
	Better than Target		48%	48%	48%	48%	48%	48%	48%	48%	
TSR Speed Restriction Reduction Plan delivered	Worse than Target	2.0%	80%	80%	80%	80%	80%	80%	80%	80%	
	Target		90%	90%	90%	90%	90%	90%	90%	90%	
	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	

Regulatory Floors for CP6 Scorecard

To give greater clarity on the minimum levels of performance and sustainability expected by the regulator (ORR) for CP6, our plan includes regulatory floors for the key metrics in these areas.

These floors, set out in the following table, will act as a level below which ORR would consider undertaking formal investigation for licence breach.

Further information on the methodology used to calculate these regulatory floors is in Appendix K.

Regulatory Floors	19/20	20/21	21/22	22/23	23/24
Consistent Route Measure – Performance	3.34	3.28	3.28	3.11	3.04
Freight Delivery Metric (FDM-R)	93.1%	93.1%	93.1%	93.1%	93.1%
Network Sustainability – 7 key volumes	90%	90%	90%	90%	90%

3. Safety

3.1. Safety Objectives

Safety - (20%)	Targets	Weighting	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Achievability
	Worse than Target		0.530	0.477	0.429	0.215	0.193	0.196	0.196	0.196	
Lost Time Injury Frequency	Target	5.0%	0.482	0.434	0.390	0.195	0.176	0.170	0.170	0.170	
	Better than Target		0.434	0.390	0.351	0.176	0.158	0.170	0.170	0.170	
Risk Management Maturity Model (RM2)	Worse than Target		60%	60%	60%	60%	60%	60%	60%	60%	
	Target	5.0%	80%	80%	80%	80%	80%	80%	80%	80%	
	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
	Worse than Target		60%	60%	60%	60%	60%	60%	60%	60%	
Train Accident Risk Reduction (TARR)	Target	5.0%	80%	80%	80%	80%	80%	80%	80%	80%	
	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
Top 10 Milestones to Reduce Level Crossing Risk	Worse than Target		6	6	6	6	6	6	6	6	
	Target	5.0%	8	8	8	8	8	8	8	8	
	Better than Target		10	10	10	10	10	10	10	10	

Key stakeholder priorities	Response
Better infrastructure condition (Operating Companies)	Our Passenger Train Accident Risk measures the success of our asset delivery plans by the volume of renewals. Asset performance is measured and analysed to target renewals at life expired or low resilience assets. We will improve our targeting as we advance our analytical capability with further outputs from intelligent infrastructure. A strong performance in delivery will lead to a reduction in Service Affecting Failures and improve ride quality.
Reduction of Level Crossing Risk (ORR, public, MPs, LA)	Our Route level crossing strategy continues to tackle the highest risk sites and is measured through the delivery of our Top 10 Milestones to reduce level crossing risk.

Suicide Prevention (TOCs, public)	Wessex and SWR are working with The Samaritans and will install barriers at hotspots, where there is a business case to do so. We have also introduced dedicated resource to focus on the reduction of trespass and fatalities.
Improve Workforce Health Safety and Welfare	Wessex Route uses LTIFR as the KPI for Safety Measures and has set a target in line with becoming a UK leader in safety. Improvements in CP6 will be delivered by our Route Workforce Safety Plan, summarised below.
(TU, Workforce, DfT)	 Nil exceedances of working time regulations Better quality site supervision and PGSI Focus effort to increase the quality of behavioural close calls Implement 'Faster, Safer Isolations' Year on year reduction in repeat-cause incidents RSSB is currently working with NWRs safety teams to evaluate the outputs of our route plans and to review the methodologies and measures by which we will progress. Our accommodation strategy is undertaking facilities improvements to ensure every employee has the essential welfare needs whenever and wherever they are working on our infrastructure.

3.2. Safety Activity Prioritisation and Risk Outcome

Su	nmary of objectives	To reduce passenger, train, workforce and public accident risk and in doing so deliver a sustainable improvement to business safety by 2024. The ability to continuously monitor and improve our planning and delivery of safe work is central to our Route Safety Strategy.								
No.	Key constraints (C), risks (R) and opportunities (O)	What we plan to do	Owner	Time scale						
1	R: The CP5 renewal shortfall increases the risk of train collision, crash or derailment caused by Asset Failure, causing passenger fatalities or harm	This risk is managed through the Wessex Train Accident – Derailment ERR and supported in local risk logs. We will recover Service Affecting Failure risk with increased renewal in CP6 and heightened maintenance to mitigate the risk of loss of system control, loss of train support and objects on the line.	DRAM	Apr 2024						
2	R: Falling from the platform edge where large stepping distances occur poses risk of passenger harm	This risk is managed through our Buildings Asset Management Risk Log. In CP6 we will deliver a combined operations and infrastructure plan (including operational property and stations) that improves passenger safety at stations, including platform/train interface at Clapham and Basingstoke, and congestion relief schemes	DRAM RAM(B)	Apr 2024						
3	R: There is a risk of workforce harm from being struck by a train whilst working in the live railway environment	This risk is managed through the Wessex Workforce Safety ERR. We will reduce the amount of time spent working on certain tasks by establishing technological solutions to reduce trackside access i.e. Eddy Current, Plain Line Pattern Recognition (PLPR) and Faster, Safer, Isolations plan. We will reduce the number of injuries through our behaviour safety plan, which is supported by the central home safe plan.	HoS	Apr 2024						
4	R: There is a risk of Workforce harm arising from inadequate or misapplication of processes and procedures	This risk is managed through the Wessex Workforce Safety ERR. We will reduce LTIFR through encouraging behavioural solutions to improve our techniques in manual handling, driving and avoiding slips, trips and falls. We will improve our facilities to improve safety in our work places and reduce tolerance of unsafe working environments. We will enable and inspire our workforce to embed Planning and Delivering Safe Work (PDSW) as best practice	RMD	Apr 2024						
5	R: There is a risk of poor workforce wellbeing arising from prolonged exposure to noise, vibration and operational working	This risk is managed through the Wessex Workforce Safety ERR. We will reduce occupational ill-health, including Hand Arm Vibration (HAV); noise induced hearing loss, fatigue and stress through awareness, training and resources. We will continue to use training and technology to reduce road risk, and we will manage fatigue through capped work travel	соо	Apr 2024						
6	R: There is a risk of trains striking members of the public at Automatic Half Barrier level crossings, resulting in public fatality	This risk is managed through the Wessex Level Crossings ERR We will upgrade 40% of our 26 Automatic Half Barrier (AHB) level crossings on passenger lines to Manually Controlled Barrier - Obstacle Detectors (MCB-OD) and Manually Controlled Barrier - Closed Circuit Television (MCB-CCTV).	DRAM	Apr 2024						
7	O: There is an opportunity to design out Trespass & Vandalism at key locations through our security strategy.	We will continue to reduce risk of trespass at level crossings with closures, renewals or enhancements. NSRP will provide funding to make security improvements around our key buildings and stations. We will maintain our partnerships with the British Transport Police (BTP), organisations and local communities to identify priority locations and prevent trespass.	DRAM	Apr 2029						
8	O: There is an opportunity to reduce our carbon emissions	We will maximise our environmental benefits through achieving the ISO 14000 standard for our Environmental Management System upon which we will develop strategy and plans to reduce carbon usage throughout our operations.	DRAM	Apr 2029						



Political/ Reputation



Summary of risk outcome (T = Target and N = Now, Heat map methodology is given in Appendix I) Workforce Safety risk will be managed by prioritising behavioural safety initiatives that offer greatest value. Asset interventions target highest risk areas that benefit from safe asset vision investment until 2029. We will refresh PDSW to improve safety benefit and efficiency. Electrical safety, both in workforce risk and infrastructure compliance with the Electricity at Work Act Regulations, is also a significant factor.

3.3. Safety Strategy

Wessex continues to aim towards our Safety Vision of Everyone Home Safe Every Day. We have developed a set of safety strategies that will focus plans towards becoming a world class safety leader, which will be recognised when we reach our LTIFR target of 0.17. Our strategy focusses on improving employee engagement, culture, infrastructure and working environments.



Over CP6 we aim to reduce Lost Time Injuries period average to zero. Our Route Scorecard measures our success through tracking LTIFR, Close Calls and Level Crossing Safety Risk.

We will work with Central STE to fully deliver our Route Home Safe Plan, which includes:

- Improved behavioural safety, through a change in culture, supported by using the close call system to reduce injuries arising particularly from manual handling, slips trips and falls and driving
- Investment in technology to reduce exposure of workers to third rail

risk, including Eddy Currents, PLPR and Faster, Safer Isolations

• Improved workforce accommodation to support a higher standard of safe working environment

To deliver our vision, our Safety Culture will create a desire to work safer in our people, to this end we will

- Increase Safety Leadership through continuing our programme of Our Safety Workshops
- Continue to improve engagement between teams, management and communities to raise HSE culture
- Develop tools and training to foster a proactive safety culture
- Implement the Stop Think communication programme

3.3.1. Specific Safety Improvement Schemes

Our Asset Management Plans will create safer conditions for our passengers and members of the public in CP6. We will:

- Reduce Level Crossing risk through a concentrated effort to eradicate Automatic Half Barrier crossings across the Route
- Improve passenger safety at stations through canopy and platform renewals, congestion relief and Passenger/ Train Interface improvements at Clapham Junction and Basingstoke Stations
- Continue to reduce infrastructure failures by managing asset condition in line with asset policies
- Get better at managing our impact on the environment by implementing a robust environmental management system.
- Electrical Safety Strategy to reduce workforce harm from 3rd rail

3.4. Occupational Health and Wellbeing Strategy

Our CP6 Route Safety, Health and Wellbeing Strategy has been developed to support the Route's aims and objectives and will be reviewed on an

Wessex Route Strategic Plan

annual basis by the Director of Route Health, Safety, Quality and Environment. The four areas we will focus on in CP6 are:

- Fatigue: we have intent to deliver a funded fatigue management plan to reduce the amount of overtime worked on the railway
- Safe trackside working, the technological solutions we introduce will reduce the need to work trackside and will improve the safety of working alongside the DC conductor rail
- Manual Handling, continuous improvement will focus on improving our behaviour and our use of the close call system
- Level Crossings, the majority of the Route's remaining half barrier level crossings will be replaced with newer, safer crossings in CP6



This strategy is not just about achieving compliance, but will assist in realising:

• Efficient, proactive and pragmatic ways of delivering health and safety

- A safe and healthy environment for workforce
- A robust health and safety culture across the Route, supported by training, resource and budget to implement improvements
- Effective means of protecting stakeholders, including our workforce, passengers and lineside neighbours from harm

3.5. Security Strategy

In CP5, Wessex has undertaken a portfolio of activities to identify Critical National Infrastructure and has supported DfT inspections for security, including:

- DfT poster campaigns to raise passenger awareness
- Security risk assessments at critical infrastructure
- Stakeholder (government, industry and public) management and communications post-incident Media Relations
- Train planning contingencies, including emergency timetabling and diversions (Route contingency plans to support diversions where possible (Command and Control)
- Training programme for Station Staff to manage major event trauma and response
- Effective incident/crisis management plans/doctrine in place to enable effective response to incidents.
- Create security culture through employee engagement and awareness raising campaign in place to strengthen NR security culture

In CP6, with the support of STE, Wessex will continue to deliver an infrastructure base that complies with the National Railway Security Programme. Compliance with our Security standards will be delivered through inclusion within the scope of our existing infrastructure plans.

4. Train performance

4.1. Train Performance Objectives

Train Performance - (25%)	Targets	Weighting	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Achievability
Consistent Route	Worse than Target		2.91	2.86	2.87	2.72	2.67	2.67	2.67	2.67	
Measure – Performance (CRM-P) Network Rail	Target	0.0%	2.77	2.72	2.73	2.59	2.54	2.54	2.54	2.54	
Caused Delay Minutes	Better than Target		2.63	2.58	2.59	2.46	2.41	2.41	2.41	2.41	
	Worse than Target		94.4%	94.4%	94.4%	94.4%	94.4%	94.4%	94.4%	94.4%	
Freight Delivery Metric (FDM-R)	Target	1.0%	95.3%	95.3%	95.3%	95.3%	95.3%	95.3%	95.3%	95.3%	
(,	Better than Target		95.7%	95.7%	95.7%	95.7%	95.7%	95.7%	95.7%	95.7%	
	Worse than Target		1,125,093	1,125,093	1,096,156	1,067,219	1,044,070	1,044,070	1,044,070	1,044,070	
NR Wessex Delay Minutes	Target	6.0%	1,044,070	1,044,070	1,044,070	1,044,070	1,009,346	1,009,346	1,009,346	1,009,346	
	Better than Target		934,110	934,110	934,110	934,110	934,110	934,110	934,110	934,110	
	Worse than Target		84.6%	84.6%	85.6%	86.5%	87.0%	87.0%	87.0%	87.0%	
РРМ	Target	4.0%	87.0%	87.0%	87.0%	87.0%	87.5%	87.5%	87.5%	87.5%	
	Better than Target		90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	
	Worse than Target		78.6%	78.6%	78.6%	78.6%	78.6%	78.6%	78.6%	78.6%	
GWR Measure (PPM North Downs line)	Target	1.0%	82.6%	82.6%	82.6%	82.6%	82.6%	82.6%	82.6%	82.6%	
	Better than Target		84.6%	84.6%	84.6%	84.6%	84.6%	84.6%	84.6%	84.6%	
	Worse than Target		25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	
X Country Measure (right time arrivals at Reading)	Target	2.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	
	Better than Target		35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	
	Worse than Target		65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	
GWR Measure (Portsmouth - Cardiff)	Target	1.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	
	Better than Target		75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	

	Worse than Target		4.5%	4.5%	4.4%	4.2%	4.1%	4.1%	4.1%	4.1%	
CaSL	Target	2.0%	4.1%	4.1%	4.1%	4.1%	4.0%	4.0%	4.0%	4.0%	
	Better than Target		3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
	Worse than Target		61,599	61,599	61,599	61,599	61,599	61,599	61,599	61,599	
GTR Measure (NR delay minutes Wessex)	Target	2.0%	58,666	58,666	58,666	58,666	58,666	58,666	58,666	58,666	
	Better than Target		55,732	55,732	55,732	55,732	55,732	55,732	55,732	55,732	
Performance	Worse than Target		80%	80%	80%	80%	80%	80%	80%	80%	
Improvement Centre	Target	4.0%	90%	90%	90%	90%	90%	90%	90%	90%	
Milestones	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
	Worse than Target		80%	80%	80%	80%	80%	80%	80%	80%	
Joint Seasonal Plans	Target	2.0%	90%	90%	90%	90%	90%	90%	90%	90%	
	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	

Key stakeholder priorities	Response
Improve Track Quality and	Track Quality has improved year on year over CP5. Unfunded track safety measures were introduced in CP5 which resulted in a rise in
reduce TSRs (all TOC and FOC)	TSRs that will be addressed in CP6 with a considerable increase in the volume of track interventions.
Timetabling and Capacity:	The December 2020 timetable will introduce a range of service changes, including earlier/later services, peak services, and benefits
Faster Trains to Dorset	enabled by the Waterloo Capacity Upgrade. The proposal for a grade-separated junction at Woking is undergoing evaluation and
Earlier/ later services	modelling to extend these benefits further west on the mainline. It is hoped that the Woking scheme will be approved through the
More peak services	investment decision framework. The Network Rail System Operator team continues to work with Dorset stakeholders to investigate
3tph on North Downs Line	solutions that will resolve issues relating to the West of the Route.
	There is an aspiration to increase the service frequency on the North Downs line from 2tph to 3tph, as well as introduce new rolling
(TOCs, Local Authorities:	stock to service the Reading-Gatwick line. The proposal is under consideration and there is a need to conduct level crossing safety
Dorset Mole Valley)	improvements as well as performance modelling across Western, Wessex and South-east routes.
	Performance Improvement is a key priority for Wessex, we are determined to overturn the 8-year decline in our timetable delivery. We
	have established a joint track-train performance improvement group with our TOCs and FOCs to urgently identify and embed the
Performance Improvement	behaviour and actions for improving the reliability of our infrastructure, operations and recovery activities.
(all stakeholders)	Wessex Route will continue to embed Business Continuity methodology, to identify the assets, systems and processes that are critical to
	delivering the timetable, to target performance resilience plans. We are working with the Network Rail System Operator to grow a
	better capability for modelling timetable impacts of infrastructure incidents, to improve the quality of our business continuity plans.
Stabling for Stock in Wessex	As 701s go into service there will be improved availability of stabling in CP6. Our Route Plan will not provide additional stabling, but it
Inner (SWR)	may be considered for CP7 if there is a viable business case.

4.2.	Train	performance	activity	prioritisation	and risk	outcome
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Summ	ary of objectives To improv collaborat proposals	PPM in the short term through embedding continuous improvement culture across our infrastructure and operations teams and improving our re working with all our TOCs and FOCs. We will work with Digital Railway, Rolling Stock Companies and DfT to ensure the deliverability of new timetable							
No.	Key constraints (C), risks (R) and opportunities (O	What we plan to do	Owner	Customers impacted	Timescale				
1	R: There is a risk that PPM reactionary delay will rise due to service growth introduced in the December 2020 timetable change	his is managed through the Wessex PPM Target ERR. We will collaborate with train operators to build a uccessful timetable, focussing on peak service management to mitigate incidents at peak times when esilience is low.		All TOCs	Dec 2020				
2	O: there is an opportunity to improve train performance due to the waterloo capacity upgrad	Reopening of WIT provides an opportunity to improve performance. Physical works and operational planning will be completed prior to the December 2020 timetable.	соо	All TOCs	Dec 2020				
3	O: There is an opportunity to improve train service recovery through collaborative working with our TOCs and FOCs	This is managed through the Wessex PPM Target ERR. We will implement joint performance improvement plans to improve our train service recovery (see Appendix A). We have introduced new teams into maintenance and operations to respond to incidents and increase delay analysis.	соо	All	Apr 2024				
4	O: There is an opportunity to increase the availability of our network through the introduction of intelligent infrastructure	We are growing 'predict prevent' capability, in line with Asset Policy, to better target our planned proactive maintenance for fewer service affecting asset failures.		All	Apr 2024				
5	O: There is opportunity to improve performance through developing a performance culture	nere is opportunity to improve performance We have introduced a Route Performance Group that includes NWR, all TOCs and FOCs. This group will begin to link performance data to our assets, fleet and behaviours that will drive a behavioural shift.		All	Apr 2024				
6	O: There is opportunity for Traffic Management and Digital Railway to transform performance	We will install Digital Railway enabled technology in our CP6 resignalling schemes, develop our DR programme for CP7 implementation and derive a business case for isolated Traffic Management.	DRAM	All	CP7				
7	O: There is opportunity to reduce short notice change and improve planning efficiency	We will produce robust maintenance and renewal plans and engage early in TOC/ Route track access discussions	соо	All TOCs	Apr 2024				
8	R: There is a risk that service increases in the December 2020 timetable cannot be fully powere	This is managed through the Wessex PPM Target ERR. We will provide our operator with information on our power constraints prior to the timetable acceptance process	DRAM	All	Ongoing				
9	R: There is a risk of a more delayed starts to services due to possession overruns, as we deliver a larger programme of works in CP6	This is managed through the Wessex PPM Target ERR. We will undertake lessons learnt from CP5 programmes to reduce this risk and continue to improve understanding of operational contingency planning.	соо	TOCs and passengers	Apr 2024				
10	R: Asset reliability deteriorates further than anticipated	This is managed through tactical risk logs and asset plans. We will implement signalling and track circuit improvement action plans, reduce track faults and TSRs and deliver Waterloo resilience Workstreams.	соо	RAM (Sig) RAM (T)	Apr 2024				



Political/ Reputation



Summary of risk outcome (T = Target and N = Now, Heat map methodology is given in Appendix I)

CP5 performance recovery is a significant challenge that requires continued focus and close collaboration. Emphasis is being given to the causes of infrastructure failure, operating issues and train service recovery. Opportunities to reduce DPI exist within the proposed operating model through providing dedicated operations and maintenance resources. However, current proposed infrastructure interventions (enhancements), and forthcoming projects (Digital Railway and Crossrail2) present challenges to overcome, to mitigate their inevitable performance impact.

Network Rail

4.3. Operational Performance Strategy

Increasing use of our rail network over the last 10 years has created stresses on our rail network that now regularly delays large numbers of passengers. Using lessons learnt from our performance data, we have modelled our key risks and opportunities over CP6.

CP6 PPM Forecast Worst Case Assumptions		Mid Case (Target)	Best Case	Notes		
Timetable $0.4\% \lor Y2$ Change $0.8\% \lor Y3$		NA	0.4% 个 Y2 0.8% 个 Y3	Comparison with 2005 Timetable change that increased PPM by 7%		
Feltham Resignalling	0.375% ↓ Y1	0.25% ↓ Y1 0.35% ↑ Y2	0.525% 个 Y2	Impact is based on comparison with Waterloo Capacity		
Farncombe- Petersfield Resignalling	arncombe- etersfield 0.375% ↓ Y1 esignalling		0.525% 个 Y2	Impact is based on comparison with Waterloo Capacity		
Extreme Weather events	0.5% ↓ Y1	NA	0.3% 个 Y1	Comparison to St Jude's storm		
Predict & Prevent maintenance	NA	0.1% 个 Y1 thru to 0.4% 个 Y5	0.15% 个 Y1 thru to 0.6% 个 Y5	Mid Case: progressively increase number of trains arriving on time per day by 2 in Y1 to 8 in Y5		
Passenger Numbers	0.22% ↓ ҮоҮ	0.18% ↓ ҮоҮ	0.07% ↓ ҮоҮ	Central model with uplift for regional bias		
Reactionary Delay	NA	0.2% 个 Y1 0.02% 个 YoY	0.3% 个 Y1 0.03% 个 YoY	Mid Case: increase number of trains arriving on time per day by 3 in Y1		

The following additional risks have been identified by the Holden review into performance on Wessex Route:

CP6 PPM Forecast Assumptions	Target
Crew Management	0.4% 个 Y3 0.1% 个 Y4,5
Industrial relations	0.3% ↑ Y3
New Fleet	0.3% 个 Y3 0.1% 个 Y4,5
Additional Stabling	0.6% ↑ Y5
Control Improvements	0.4% 个 Y3 0.3% 个 Y4 0.1% 个 Y5

These model parameters result in the performance trajectory below.



The greatest uncertainty is associated with proposals for increased traffic volume in the new timetable, proposed for December 2020, which will see an increased Sunday service and more early morning trains. The change may reduce timetable contingency and access, whilst increasing

infrastructure wear and track access demand for maintenance. A safe balance between level of service and infrastructure maintenance is at the heart of the timetable consultations, which are currently underway.

Further pressure on train performance will be brought to bear by the planned re-signalling schemes, which we know will lead to a short-term decline in performance.

Further reductions in reactionary delay should result from the full introduction of the SIO / IOs, ongoing review of the route contingency plans and adopting standardised practices. These have all been considered within the performance trajectory model.

Several TOC attributed benefits have been considered for the performance trajectory including the introduction of a harmonised fleet as well as crew management during standard operations or disruption which may also lead to a reduction in NR caused delay minutes. The mid and best-case trajectories both see a positive factor applied due to the reduction in reactionary delay that these schemes may deliver.

There is a disparity between the SWR franchise PPM target and the Route PPM target of around 5%. To realise the SWR franchise PPM target, the Route and SWR have a framework in place to jointly manage our performance opportunities and risks to greatest effect. If all best case modelled outcomes can be realised, we can close the gap by around 2%. There is a risk that worst case outcomes are realised, which would add further 2%. The Holden recommendations make up a further 3% PPM benefit.

4.3.1. Route Performance Improvement

Wessex Route and our TOCs and FOCs are determined to turn around our performance decline and strive to meet our customers' expectations to run more trains on time every day. In response we have established a

joint 'track and train' Route Performance Improvement Centre to improve collaboration at every level in identifying and embedding successful performance improvement activity.



The Route Performance Group will provide a co-ordinated approach to analyse and deliver of a wide range of performance initiatives. The framework above helps to structure these initiatives by network availability (asset reliability, fleet, crew), operating plan (robust timetable) and service recovery. The Group has been created to run for the first two years of CP6 until a data-driven performance culture is well embedded within business as usual.

The Performance Improvement Programme introduces managed levels of change into each part of the business. Improvement ideas are collected and evaluated for impact and effort. The team will investigate the most impactful proposals, through the Go-Look-See process and data collection. The investigation will result in the selection of an appropriate course of action and a monitoring regime to capture the effectiveness of the change. A visualisation area has been created to record the monitoring in one place to help recognise emerging successes.

Within our core route strategies across Operations, Maintenance and Renewals investment plans, customer performance will benefit from:

- Excellent delivery of the re-signalling schemes, using the best lessons learnt from major projects nationally
- Fewer signalling asset failures and better service recovery on the Portsmouth line from Farncombe to Petersfield renewal
- Weather resilience improvements on West of England line
- Eliminate TSRs from level crossing sighting by end of CP6
- Implementation of advanced RCM equipment to be better able to predict failure of signalling power systems, including core to earth and core to core faults, and to include fault location functionality to reduce fault finding timescales in event of a power loss fault

Our current Joint Performance Improvement Plans are provided in Appendix A.

4.3.2. Trespass and Vandalism

Wessex is committed to reducing Trespass and Vandalism incidents through our joint approach with SWR; The NR and SWR leads work closely together in our Route Crime Reduction team, which has active participation from the Wessex Route operations and business change teams, and includes the following activities:

- Expansion of the 'complimentary policing' involving SWR's Rail Community Officers, local BTP officers and Network Rail's Mobile Operations Managers and Emergency Intervention Units (EIUs).
- Continued community engagement promoting railway safety involving

members of the Wessex Route management team that undertake a programme of visits to local schools each year.

- Close liaison with the BTP; notably the continuation of the 'BTP Embedded Inspector' in the Integrated Control Centre. There are plans for this presence to be expanded in CP6 to become 24/7.
- Intelligence to better task our T&V reduction activities.
- Investment in physical barriers e.g. platform end gates New technology to identify, confirm and assist response to incidents at unattended stations e.g. drones and smart CCTV

4.4. Capacity and Timetabling Strategy

Wessex Route works in a trinity with System Operator and Train Operators towards delivering a zero-defect timetable that's safe, robust and able to accommodate growth.





We work together to make sure that our timetable decision making takes full account of infrastructure capability, maintenance access requirements, franchise capacity commitments and expected performance levels. Capacity Planning has committed to delivering increased Whole System Modelling and simulation capability to improve the resilience of our timetables.

Wessex Route will be supporting the System Operator's review of the Access Planning Process, with clear system capability and maintenance access footprint. The review will include our train operators such that they can be engaged in access planning arrangements from the outset.

4.4.1. Timetabling

Wessex Route, our Operators and the System Operator, have an important opportunity in December 2020 to introduce the full benefits of the Waterloo Capacity enhancements to our customers. A substantial increase in the use of the reopened Waterloo International Terminal (WIT) will see up to 13 trains per hour will start to use the five platforms from May 2019 onwards. Opportunities to optimise the timetable will be seized in December 2020 so that consistent operating issues with the working timetable can be removed. Increased operational resilience is being sought through the identification of additional berthing locations which can be used in perturbation. These berthing locations – which form a strand of Wessex Route's Future Access Strategy – will also provide the opportunity for longer periods of engineering access across key sections of the Route.

Wessex, SWR, GWR and System Operator are building internal relationships that improve knowledge sharing between customer, fleet and infrastructure to identify the risks and opportunities associated with new fleet and timetabling changes. Our operations teams are looking to develop better timetable resilience, by working with our customers and central planners to understand what opportunities there are to: plan with greater accuracy, better manage dwell time at pinch points and improve perturbation recovery using connected driver advisory system (CDAS) as a forerunner to ETCS.

4.4.2. Capacity

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Wessex Route engages with the Network Rail System Operator to align its Strategic Plan with the capacity growth and connectivity outputs shown in the Route Study, August 2015. On the peak main lines, passenger growth is expected to grow by 40% by 2043. CrossRail2 will enable new capacity for regional journeys between Surbiton and London Waterloo, the most densely operated stretch of mainline in the UK.

In liaison with the FNPO team, Wessex supports a growth in freight volumes from Southampton docks, transporting cars and aggregate to the north, and East-West aggregate transportation. This will require an increase in train paths available on the mainline and robustness of the Reading Basingstoke line, for which there is not a suitable diversionary route. The FNPO strategy for CP6 is shown in Appendix H.

There is little capacity remaining on the current infrastructure, under the current operating model. More accurate planning rules in addition to some automation of the modelling systems used by capacity planning will improve the granularity of the timetable, with the potential to realise further operating capacity on existing infrastructure without introducing performance risk.

Network Rail System Operator has undertaken its route studies to identify infrastructure changes needed to increase the capacity of the Wessex network. A summary of the schemes in the enhancement pipeline is provided in section 9.2 for 'Planning a Better Network'

5. Locally driven measures

5.1. Locally driven objectives

Locally Driven Customer Measures - (18%)	Targets	Weighting	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Achievability
	Worse than Target		76%	76%	76%	76%	76%	76%	76%	76%	
NRPS - SWR (Annual	Target	1.5%	77%	77%	77%	77%	77%	77%	77%	77%	
Average)	Better than Target		78%	78%	78%	78%	78%	78%	78%	78%	
	Worse than Target		83%	83%	83%	83%	83%	83%	83%	83%	
NRPS - Waterloo	Target	0.5%	84%	84%	84%	84%	84%	84%	84%	84%	
	Better than Target		85%	85%	85%	85%	85%	85%	85%	85%	
	Worse than Target		0.52	0.54	0.58	0.63	0.69	0.69	0.69	0.69	
Freight Growth	Target	1.0%	0.58	0.60	0.64	0.70	0.77	0.77	0.77	0.77	
	Better than Target		0.64	0.66	0.71	0.77	0.84	0.84	0.84	0.84	
	Worse than Target		0%	0%	0%	0%	0%	0%	0%	0%	
Stakeholder Advocacy	Target	1.0%	5%	5%	5%	5%	5%	5%	5%	5%	
	Better than Target		10%	10%	10%	10%	10%	10%	10%	10%	
	Worse than Target		3	3	3	3	3	3	3	3	
Joint Recognition Events	Target	3.0%	5	6	6	7	7	7	7	7	
	Better than Target		7	7	7	9	9	9	9	9	
laint Compatancy	Worse than Target		85%	85%	85%	85%	85%	85%	85%	85%	
Measure	Target	3.0%	90%	90%	90%	90%	90%	90%	90%	90%	
ivieasure	Better than Target		95%	95%	95%	95%	95%	95%	95%	95%	
Percentage Operational	Worse than Target		90%	90%	90%	90%	90%	90%	90%	90%	
Contingency Plans in	Target	4.0%	95%	95%	95%	95%	95%	95%	95%	95%	
Place	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
Lineside neighbours -	Worse than Target		328	328	328	328	328	328	328	328	
number of work	Target	1.0%	298	298	298	298	298	298	298	298	
complaints	Better than Target		268	268	268	268	268	268	268	268	
Freedowee Freedowert	Worse than Target		50%	50%	50%	50%	50%	50%	50%	50%	
Employee Engagement -	Target	1.5%	51%	51%	51%	51%	51%	51%	51%	51%	
four voice score	Better than Target		52%	52%	52%	52%	52%	52%	52%	52%	
	Worse than Target		44%	44%	44%	44%	44%	44%	44%	44%	
Employee Engagement -	Target	1.5%	46%	46%	46%	46%	46%	46%	46%	46%	
Tour voice Response	Better than Target	1	48%	48%	48%	48%	48%	48%	48%	48%	

	Worse than Target		80%	80%	80%	80%	80%	80%	80%	80%
Reduction Plan delivered	Target	2.0%	90%	90%	90%	90%	90%	90%	90%	90%
	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%

Key stakeholder priorities	Response
Passenger Satisfaction	Works at Stations
Complaints regarding noise and disruption for our neighbours	With CP6 seeing a considerable increase in investment, we know there will be more construction activity than CP5 on the railway. We are mindful of the impact our work and behaviours have on those around us, so we will be driving up our engagement with communities who live near our railway lines. We will favour face to face to contact where possible, give our neighbours suitable notice of noisy and disruptive work and seek to clearly explain why any changes to their local area are being proposed, such as a level crossing closure. We will also continue to work with our frontline staff and contractors to make sure we are always working with consideration for others. We will measure our success through reducing railway work complaints through CP6.
D&I	Accommodation Strategy to provide an inclusive, productive working environment at all staffed depots
TSR reduction (all operators)	We are targeting known TSR risk sites as part of the Joint Performance Improvement Centre and have a plan in place to manage the risk and reduce the occurrence of TSRs

5.2. Locally Driven objectives activity prioritisation and risk outcome

Sum	imary of objectives	To generate and maint their own business outco	tain the trust of our customers, by delivering on the most important employee, safety and performance aspects that affect mes and lives.							
No.	Key constraints (C), risks (R) and opport	unities (O)	What we plan to do	Owner	Customers impacted	Timescale				
1	O: There is an opportunity to increase ou working collaboratively with our lead TO	ir value for money by C	We will develop a collaborative maturity with South Western Railway in the management of operations and delivery interfaces. This means aligning franchise commitments to Route Objectives and establishing the processes and systems to share information and resources	FD	South Western Railway	Ongoing				
2	O: There is an opportunity to improve tru our operators through alignment of obje	usting relationships with ctives and metrics.	We will set shared goals for performance on the Route Scorecard and continually review our success in achieving these joint measures through our customer engagement plan (Chapter 2).	Exec	All	Ongoing				
3	O: There is an opportunity to increase ne deliver journey time improvements throu	etwork capacity and ugh new rolling stock	We will prioritise the necessary renewals and enhancements to support the introduction of new rolling stock.	DRAM	All	Ongoing				
4	O: There is an opportunity to improve pe through the implementation of the Digita	erformance and capacity al Railway	We work with operators to develop and deliver technological solutions that enable the Digital Railway programme.	DRAM	All	CP6/7				
5	R: There is a risk of a rise in Railway work longer periods of train service and a nota of work in CP6 year 1.	complaints due to able change in volumes	This is managed in local action plans. We will develop a plan to improve our relationships with our lineside neighbours that includes a review of the effectiveness of our communication plans and renewed focus on workforce behaviours	соо	Local	Apr 2024				
6	O: There is an opportunity to deliver value through early possession planning based on transparent possession costs		We will optimise our possession plans with our operators through early sharing of our robust maintenance and renewal plans and assess the costs/ impacts of different possession options	соо	Local	Apr 2024				
7	O: There is an opportunity to improve pe operators affected by inter-route posses	erformance for national sions	We will establish integrated regional possession plans with Western and Southeast Routes to provide business continuity for our freight and national passenger operators.	соо	FNPO	Apr 2020				
8	O: There is an opportunity to Increase our mainline capacity in AM peak through enhancement schemes at key sites		We will develop and seek funding for the Woking flyover enhancement scheme to release more peak time train paths on the mainline	RMD	All	Apr 2024				
9	R: There is a risk of rising delay incidents due to declining signalling reliability of aging equipment		This risk is managed through our local risk logs. Our plans will deliver re-signalling schemes at Feltham and Farncombe-Petersfield, developed for staged deployment in CP6	RAM (Sig)	All	Apr 2024				
10	C: Increasing off peak services proposed in December 2018 will constrain the availability of possessions for maintenance		We will agree a mutually beneficial access strategy. We will reduce our demand on track access through efficient work planning and technological solutions to reduce our possession requirements e.g. PLPR and to increase our productivity e.g. Faster Safer Isolations.		All operators	Ongoing				
11	O: There is an opportunity to improve Jo and national operators	urney times for freight	We will establish RAM FNPO engagement to determine potential journey improvements, through reviewing timetable and line speed changes, specifically CrossCountry services between Winchester and Basingstoke and Freight services between Reading and Basingstoke	DRAM	FNPO	Ongoing				

Political/ Reputation



Summary of risk outcome: (T = Target and N = Now, Heat map methodology is given in Appendix I) Further, broader customer engagement is required to deepen trust in our ability to deliver service improvements, whilst clarifying and communicating our challenges. The risks and opportunities depend on greater collaboration, starting with shared metrics and growing into shared information and resources such that our investments deliver tangible value to all our customers.

5.3. People

To Summary of objectives vita pro		To continue growing a self, teams and others vital for sustaining fut proposed.	to continue growing as a high performing organisation by attracting and managing talented, engaged and diverse people, and providing the vocational support to manage self, teams and others, in a real-time operational environment. The attraction and development of graduates and apprentices for both engineering and project delivery, is vital for sustaining future organisational growth. A right size competent organisation is fundamental to the planning and delivery of the increasing volumes of work proposed.							
No.	Key constraints, risks and opportunities		What we plan to do	Owner	Customers impacted	Timescale				
1	C: We depend on retaining qualified and experienced people to fulfil a sustainable succession plan.		We will further our development of talent and succession plans through people capability focus groups and by placing emphasis on line managers, through the performance review process, to develop career roadmaps with team members to help personal and team career management.	RMD (and Exec leaders)	none	Ongoing				
2	O: We have an opportunity performance of our Route the more diverse and inclusive	to increase the hrough building a route organisation	We will deliver a diversity and inclusion programme for the route that encourages and supports individual uniqueness at every level	HoHR	none	Dec 2020				
3	O: We have an opportunity talent pipelines into long ter in the railway through build partnerships with colleges a	to create sustainable rm technical careers ing up local nd universities	We will deliver a Route-based engineering and project management pipeline with local educational institutions to attract qualified future talent for Apprentice, Graduate and other career development programmes in Wessex Route.	HoHR DRAM	none	Apr 2024				
4	O: We have an opportunity to improve our workforce safety and productivity through maximising our Frontline leadership capability		We will support our front-line leaders through structured, work place mentoring, coaching and development opportunities, such as Team leader development, Section Manager development, and Great People Manager training	COO HoMD	none	Ongoing				
5	R: We have a risk of Mental Health issues due to low awareness amongst managers of how to recognise or manage them.		We will work to develop interventions on this specific topic that will upskill our leaders throughout the organisation allowing mental health to be understood, discussed and managed appropriately.	HoHR Wellbeing Manager	none	Apr 2024				
6	O: We have an opportunity to improve our workforce safety by addressing the human factors behind behavioural safety.		We will contribute to improving the route safety culture by developing a reward structure that recognises and reinforces safe behaviours	HoRSHE HoHR	none	Ongoing				
7	R: There is a risk of strike ac due to poor Industrial Relati	tion and disruption ions	We will meet our obligations within the Trade Union Agreement, specifically to develop a competency framework, implement TU engagement and communication plans for regular and proactive communication and set up area council meetings for management and TU to liaise on key topics.	RMD	none	Ongoing				





Summary of risk outcome: (T = Target and N = Now, Heat map methodology is given in Appendix I) The success of Wessex Route is in the commitment and passion of its people. Following a move to Basingstoke, it is vital that we develop new local talent streams to sustain our workforce growth. At the same time our plans aim to retain our home-grown talent by recognising and developing the true potential of each unique individual. We will improve our TU Relations by fostering a proactive and trusting relationship that will reduce the likelihood of industrial action.

5.4. Our People Strategy

Our People Objective for CP6 is for our teams to 'bring their whole self to work'. This means we will broaden the diversity and inclusivity of our workforce to maximise individual potential and business performance. In CP5 we integrated our TOC and Route teams in the Basingstoke Campus facilities to create a more inclusive culture. In CP6 our plans will:

- Enable success through our people
- Establish an open, diverse and inclusive organisation, where everyone can make a difference and bring their whole selves to work
- Promote network rail as an employer of choice, attracting the best talent available from the widest pool
- Unlock the full potential of our people to create a high performing culture
- Sustain a highly skilled workforce, equipped to deliver work priorities now and in the future
- Develop our frontline leaders to lead their people to achieve their business targets

The aim of the Wessex's People strategy is to achieve the following objectives:

- Provide recruitment pipelines and healthy succession plans for critical resources across the route
- Attract and retain a high performing competent workforce
- Increase the diversity of our workforce
- Improve our engagement levels throughout the route
- Provide a performance management process that supports our people to maximise their full potential and increase their levels of performance
- Provide our people with a great place to work

• Provide the business with the right resources at the right time

5.4.1. Diversity & inclusion

We are committed to becoming an open, diverse and inclusive organisation where everyone feels supported to be themselves and the variety and differences between people are valued. When everyone is better engaged and able to fully contribute to our business, we will improve safety, performance and the value that we individually and collectively provide.

We will meet this goal through:

- Supporting all managers with the necessary training and development to be inclusive leaders
- Rolling out the Everyone Learning programme, to be accepted and embraced at all levels of our organisation
- Promoting and supporting our staff networks and diversity champions
- Working with our local communities and networks to increase our employer brand as an inclusive and diverse organisation
- Listening to, supporting and caring for our people
- Challenging behaviour which is not in keeping with this goal

6. Sustainability and asset management capability

Asset Management - (12%)	Targets	Weighting	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Achievability
Deneuvele 7 Key	Worse than Target		90%	90%	90%	90%	90%	90%	90%	90%	
Kenewais – 7 Key	Target	5.0%	95%	95%	95%	95%	95%	95%	95%	95%	
volumes	Better than Target		100%	100%	100%	100%	100%	100%	100%	100%	
Commonite Delighility	Worse than Target		-3.5%	-7.1%	-10.9%	-14.8%	-18.8%	0.0%	0.0%	0.0%	
Longosite Reliability	Target	0.0%	1.0%	2.0%	3.0%	3.9%	4.9%	2.0%	4.0%	6.0%	
	Better than Target		3.5%	6.9%	10.1%	13.3%	16.3%	4.0%	8.0%	12.0%	
Composite	Worse than Target		-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	
Sustainability Index	Target	0.0%	-4.8%	-4.8%	-4.8%	-4.8%	-4.8%	-4.8%	-4.8%	-4.8%	
(CSI)	Better than Target		-5.0%	-5.0%	-5.0%	-5.0%	-5.0%	-5.0%	-5.0%	-5.0%	
Number of Service	Worse than Target		-4%	-4%	-4%	-4%	-4%	-4%	-4%	-4%	
Affecting Failures	Target	5.0%	1%	1%	1%	1%	1%	1%	1%	1%	
(SAF)	Better than Target		6%	6%	6%	6%	6%	6%	6%	6%	

6.1. Sustainability and Asset Management capability objectives

Key stakeholder priorities	Response
Improve Asset Reliability (operators)	 Over CP5 we have consistently delivered the volumes of work we committed to year on year; we have improved our Composite reliability index by nearly 30% and we aim to continue to do so throughout CP6. Our CP6 Infrastructure Objective is to improve reliability against a trend of an aging asset population. The Composite Reliability Index shows that we have improved the management our assets, successfully reducing the overall number of service affecting failures by 20%. This also contributes to a decline in annual infrastructure incident count. To perpetuate this trend, we will: Continue adoption of Intelligent Infrastructure technological capabilities to predict and prevent the failure of critical and vulnerable assets Increase maintenance planning capability to increase proactive maintenance volumes rather than reactive Develop our organisation to demonstrate our asset management excellence, aligned to IS055000, which will help us achieve an optimal balance of renewal, maintenance and operational decisions.
Reduce Service Affecting Failures	In CP6 we aim to have no major incidents caused by infrastructure, measured through Wrong Side Failures with a risk score of 50+. We will deliver the deferred re-signalling scheme at Feltham as a priority, alongside other strategically important targeted renewals. There is a strong focus on well-resourced maintenance plans, particularly for Track and Signalling, to proactively
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(ORR, all operators)	prevent failures impacting on train services and passengers. The successful delivery of well-planned maintenance is proven to improve asset reliability, which in turn will reduce infrastructure incidents and create a reduction in Schedule 8 payments.
Efficiency (funders, DfT)	In CP6, through striving towards Asset Management excellence, we will increase the co-ordination of activity between Renewal, Maintenance and Operations to enable demonstrably effective working.
Long Term sustainability (DfT)	In CP5 Wessex has managed cash compliance carefully within reduced financial targets, which has necessitated making tough decisions to trade between long term sustainability and short-term asset performance. As part of the CP6 planning process, we have increased our plan by £88M since draft determination, specifically for sustainability funding, in recognition of underfunding in CP5, which will help us move closer to the national average.
Increase System Capacity to accommodate more services (LA, LEP, TOC, FOC)	 In CP6, Wessex Route, alongside Network Rail System Operator, will help meet the need for more passenger seats and more freight tonnage, delivered in conjunction with the new timetables proposed for December 2018 and December 2020, through: Early, efficient access planning for routine preventative maintenance activities Implementing a localised Traffic Management scheme to better Managing congestion at key sections of the Route Developing the enabling strategies for our long term Digital Railway vision, to roll out the Digital Railway Route-wide by 2034 Developing our portfolio of 'London Gateway' enhancements and third-party schemes, scheduled for CP7
Greater Weather Resilience (all)	There are no major resilience schemes allowed for within CP6, however, we have increased our drainage workbanks, and have several coastal and estuarine defences in our Civils portfolios, which will improve our resilience to normal weather conditions.

6.2. Sustainability and Asset Management capability activity prioritisation

Summary of objectives		Our objective is to safely and sustainably improve train performance by reducing the number of Service Affecting Failures caused by Assets, delivered through increased targeted renewals volumes to recover the deficit created by shortfalls in CP5 funding. We will optimise the balance of work between maintenance and renewal to reduce our whole life costs and work with our operators to minimise disruption and maximise value for our passengers.				
No.	lo. Key constraints (C), risks (R) and opportunities (O)		What we plan to do	Owner	Time scale	
1	C: Wessex mus Telecommunic	t sustain Signalling and ations (S&T) asset reliability	We will optimize our management of these assets through providing more freedom to balance renewal and maintenance interventions on a risk-based approach, rather than adhering to fixed Operating Expenditure (Opex), including Telecoms.	DRAM	April 2024	
2	R: Costs for the Ryde Pier on the Isle of Wight may be taken from the Route budget and therefore deplete funding that enables delivery of our Route Objectives		Secure agreement with BRT and P+R that central funds will be made available for delivery of this scheme.	DRAM	April 2019	
3	R: There is a risk of rising Asset failures due to our level o renewals being lower than the minimum policy modelling volumes, resulting in a reduced CRI and CSI		This risk is managed in the Wessex failure to maintain and manage assets. We will undertake a blend of maintenance and renewal to mitigate the impact of failures at the expense of efficient delivery during CP5 and CP6; however, this is unsustainable beyond CP6. We will make increasing use of Remote Condition Monitoring and surveillance where asset performance is likely to differ from the model.	DRAM	April 2029	
4	O: There is an opportunity to improve the targeting of ou asset interventions through further improvement of our asset data, resulting in higher risk reduction / £		We are working towards ISO 8000 Data Quality to improve our governance of asset data. We will gather and use new asset information from PLPR and Eddy Current in CP5 to better focus interventions and reduce workforce risk. With full implementation of infrastructure control and Remote Condition Monitoring on points and track circuits we will be able to focus resource on failure prevention. We will increase data flow and data availability through a shared performance, maintenance and asset system, to improve strategic decision making	DRAM	Apr 2019 Apr 2024	
5	 R: There is a risk that there will not be sufficient track access for our renewal plans due to increases in timetabled train services O: There is an opportunity to improve our efficiency by improving the robustness of our workbank planning 		This risk is managed through local action plans. RAM and IMDMs will adopt the ABP tool as a base for agreeing work volumes, budgets and resourcing levels. We will work with IP and WD to focus on increasing the quality of the development processes to establish fixed and stable scopes of work, initiate early development of schemes and drive a determined adherence to planning timelines.	DRAM	Apr 2018 Apr 2024	
6	 R: There is a risk of catastrophic failure of geotechnical assets caused by extreme weather that would result in a train accident and high reactive repair costs 		This risk is managed through the geotechnical asset management plans. We will mitigate catastrophic geotechnical failures from extreme weather through installing and proactively maintaining robust drainage systems at the highest risk sites. We will install and maintain Remote Condition Monitoring systems to trigger interventions based on the detection of small changes, to mitigate the safety and financial risks arising from a larger Service Affecting Failure.	RAM (G)	Apr 2024	
7	 O: There is an opportunity to reduce investment costs and service downtime through better co-ordination of activity 		We will grow our Asset Management Capability to ISO 55001 standard. We will ensure our people have the expertise, resources and information necessary to be empowered and accountable in discharging their duties. We will keep developing a culture that encourages adaptive collaboration in all parts of the Route to contribute to achieving our Route Vision.	RMD	Apr 2021	
8	 R: There is a risk of major service disruptions and high project costs in CP7 and CP8 due to a bow wave of scheduled signalling renewals and enhancement works 		This is a significant strategic risk that will be managed in a new Wessex ERR. We will ring-fence our CP6 resignalling schemes at Feltham and Farncombe to Petersfield to sustain the supply chain and reduce demands on limited track access opportunities and engineering resource during CrossRail2 and Digital Railway implementation	DRAM	Apr 2024	

Political/ Reputation



Network Rail

6.3. Asset by Asset Key Outputs

Key Targeted Renewals Map



Asset area	Key outputs
Track	 <u>CPS Performance</u> Our Track asset performance has improved since the start of CP5 although Yr5 has seen a significant deterioration. This has been driven by the sustained hot weather period resulting in loss of geometry work and swifter and more extensive desiccation on embankments resulting in a high level of speed restrictions and rough rides. The overall improvement from the start of CP5 has been as a direct result of a series of targeted S&C/PL renewals, several High Output campaigns and focused maintenance intervention. Improvements have been seen in various key indicators: Reliability has improved: Track Reliability Index is 12% better than CP4 exit and Service Affecting Failures reduced from 876 MAA to 612 at the end of 17/18, of which SAF (points) down from 331 MAA at CP4 exit to 174 at the end of 18/19 Super Reds have reduced by 27% over CP5 Serious Defects and Breaks stands at 2.30 better than CP5 exit target of 3.10% L2/100km has improved to record levels and stands at 33.7, better than CP4 exit of 45.13 The final determination of the CP5 track renewals programme has been significantly curtailed, leaving few interventions in the last 2 years. This is a consequence from failing to deliver at target rates, adjustments being made to offset Schedule 8 overspends and the introduction of cash compliance targets mid-CP. This means some large schemes have been deferred to CP6 and there is a greater deterioration in track sustainability measures. These deferred works increase the pressure on maintenance activity in achieving the target levels of track performance. £75m has been agreed to increase renewal activity to close (but not fully eliminate) the sustainability gap from the SBP to the STE Policy modelled volumes. Track maintenance volumes have been included as well as additional sustainability volumes, to mitigate the asset performance risk resulting from the remaining gap between route plans and Polic
	Management improvement Plan, which covers all teams (RAM, maintenance, works delivery, IP(1)). In terms of types of intervention, plain line (PL) and switches & crossings (S&C) volumes are lower than core policy across all intervention types – driven mainly by the exclusion of High Output activity from CP6. A balance has been found whereby full renewal activity is targeted at life-expired assets at critical junctions on the mainline and partial renewal/refurbishments improve poor performing assets elsewhere. The introduction of rail milling as part of the RCF maintenance intervention allows a reduction in re-railing activity compared to the CP5 forecast.



Signalling	Current Position Approximately a third of the interlocking areas are currently beyond their 25-year design life and another 10% are nearing the end of their designed operating life. This has a significant impact on performance and may also increase the risk of wrong side failures. There is a measurable 3-fold increase in the number of signalling failures within these asset age groups compared to IXL areas that are less than 10 years old. Significant CAPEX funding is currently being utilised to renew life expired and degraded signalling cables to mitigate their impact on train performance. The CP6 plan caters for the complete re-signalling of Feltham and Wokingham, which was deferred in CP5 in response to the SCMT process. The additional funding plan includes Farncombe-Petersfield re-signalling (also deferred in CP5). CP6 Strategy The renewal of Feltham and Farncombe-Petersfield in CP6 will both reduce the total number of signalling failures and significantly improve service recovery following any failures within these areas. The strategy for the rest of the assets is to maintain the current level of asset performance through targeted external renewals. However, this will impact the sustainability of the signalling scheme is planned to have the highest level of compatibility currently available with Digital Railway technology but will not be a DR installation. We continue to review the business case for an ETCS overlay in the Feltham area, which we believe will be viable for delivery. Maintenance Renewal Balance Over the last 2 years, interlocking areas that are more than 30 years old have generated 4 times more volume of reactive OPEX and CAPEX work than interlocking areas that are less than 10 years old. This trend will continue in CP6 as the current workbank mainly consists of applying short term interventions in the form of tareg
•	CP6 Strategy
Level Crossings	We will continue our CP5 work to close high risk level crossings. There are 315 level crossings remaining and we propose to close 17 (5%) during CP6 where it is feasible to do so. Where closures are not feasible, we have 28 conversions and improvement schemes planned to mitigate risks. Our focus is on Automatic Half Barrier style crossings, which are highest priority under risk, condition and obsolescence; 9 out of the 20+ life expired "Penguin" style AHB level crossings will be converted to MCB-CCTV in CP6, alongside AHBs included in Feltham and Farncombe to Petersfield schemes.

	<u>Current Position</u> The reliability of structures assets has increased in CP5 through the recovery of examination compliance and programmes of targeted intervention on high risk defects through maintenance to improve the CRI position. However, the CP5 plan assumed that funding for years 3 -5 would be secured through the Civils Adjustment Mechanism. As this was not concluded the volume of work is reduced and this has led to deterioration in the overall condition profile, particularly in the metallic bridge inventory and therefore the CSI asset sustainability target for the control period will not be met. In addition to an overall deterioration in condition, the assessment backlog recovery has shown that a large percentage of our bridge inventory is being managed at reduced factors of safety.
Structures	<u>CP6 Strategy</u> Within the constraints of the baseline CP6 expenditure target, renewals are targeted mainly at intervening on assets to restore capability, with a high volume of strengthening activity compared to CP5, but with a significant reduction in whole life cost activity such as painting and brickwork repairs. This will ensure that our assets remain safe for operational use without long term network restrictions but with a continued deterioration in the portfolio condition. The intervention strategy will ensure that safety standards are met at all assets and on assets where there is greatest passenger benefit, investment has been optimised to sustainably reduce train performance risk. Overall, the reliability index has consistently performed
	Maintenance-Renewal Balance Asset condition deterioration will be mitigated through an increase in operational costs compared to CP5 and targeted maintenance. This will allow for the CRI CP5 exit position to be maintained, a large reduction in the volume of unconstrained maintenance backlog and an improved workforce and public safety risk profile.
	<u>Current Position</u> Earthworks asset performance is only measured in the route by the sustainability index. The earthworks reliability measure is captured at national portfolio level as the rolling 5-average number of failures in a given period, to allow in part for seasonal fluctuations. At a national level, the portfolio is forecast to exit CP5 1-2% better than CP4 exit but remains 5% behind target. A considerable element of the betterment on CP4 is the reversing out of the St Jude Storms from the 5- year average.
Geotechnical	The sustainability index is a weighted average condition score. There is a steady worsening of condition over CP5 on all SE routes, in Wessex from 1.72 at CP4 exit to 1.80 (forecast) for CP5 exit. This is largely due to sub-sustainable investment, significant storm damage in 2013/14 and improved defect detection arising from better management of vegetation.

Geotechnical	CP6 StrategyOur CP6 objective is to manage the safety risk of our asset and we will achieve this by undertaking targeted renewals at failing assets and preventative interventions to reduce failure risk on our cuttings. We aim to maintain the same level of earthworks reliability in CP6 to CP5 through increasing our volumes of preventative drainage schemes, remote condition monitoring and early, 'soft engineering' solutions.The interventions in CP6 are based around mitigating safety risk through 3 main programmes of work – Remote Condition Monitoring (installation and maintenance of existing), embankment renewal of embankments which are already showing signs of failure to prevent catastrophic failure during extreme weather and Soil Cutting Crest Ditch Work. The interventions are based on a bottom up work bank where the sites with the highest likelihood of failure and highest subsequent consequence of failure have been prioritised. On large soil cuttings a refurbishment has been proposed where a renewal would be cost prohibitive. However, renewals on embankments are favoured over refurbishments due to the need to remove the root cause of the instability, which is usually not removed during a refurbishment.Maintenance-Renewal Balance The current volume of maintenance intervention allows us to mitigate areas where a more effective renewal or refurbishment has been deferred because of the affordability challenge. We have therefore increased spend in the maintenance/OPEX area to reduce the safety risk on these assets and have several deferred renewals from CP5 that will be carried through for renewal in CP7.
	<u>Current Position</u> The drainage asset portfolio consists of a large stock of largely Victorian piped drainage and many miles of open channel and unlined ditch. In most cases many of the pipes remain in good order, but the systems do not perform well as short lengths of pipe run can collapse, joints can displace, and many systems are simply blocked with silt and roots. Unless a system flows freely throughout its length it does not perform a drainage function, leading to wet ground that can negatively impact track quality, and lead to drainage system collapse and allow the track to flood.
Drainage	<u>CP6 Strategy</u> During CP6 the focus is on spot repairs and mechanical clearance of existing systems to restore connectivity to bring these systems back into use. This will be backed up with an increase in maintenance to keep systems flowing once restored. Work will be concentrated in areas with known track quality problems, and at complex junctions to prevent track quality problems developing in these high-risk areas. System renewal will be undertaken at locations where track renewal is planned, to create deployment efficiencies in track access and site management, and to maximise service life of new track formations.

Drainage	Off track drainage consists largely of unlined ditches, these have had very little attention in recent decades; the focus in CP6 will be to locate, record and restore those assets that could reduce risk in soil cuttings, or which form part of the track drainage system. In high risk soil cuttings, the focus will be to assess system capacity to modern standards and to enhance the systems where required. Maintenance-Renewal Balance The drainage portfolio is not yet fully captured into a single asset register and we continue to capture first time data into Ellipse. Maintenance teams will be bolstered in CP6 to ensure that systems are inspected and that systems rehabilitated in CP5 6 remain free flowing. A programme of mechanical drainage maintenance will be instigated for the first time in recent history. Complete asset knowledge will enable a more thorough understanding of the importance of this asset class and is likely to lead to higher levels of maintenance, renewal and refurbishment in CP7 and beyond.
	<u>Current Position</u> The reliability of assets within the Buildings portfolio has improved through CP5 to date because of targeted planned preventative maintenance activities. However, this improvement has not been to the expected level, due in part to the deferral of projects because of budget reductions. This has also impacted the Buildings CSI measure with the overall station stewardship measure (SSM) scores worsening. The ongoing operational property structural assessment programme (OPSAP) has identified several station assets that require strengthening in future years.
Buildings	<u>CP6 Strategy</u> Works within CP6 will be focused primarily on improving passenger and workforce safety, reducing the performance impact of property-related faults and improving welfare facilities for staff. This will be achieved through targeted works to reduce the risk of objects falling from height at our stations, reducing slip, trip & fall hazards at stations and the renewal of plant and fabric within our lineside buildings. The intervention strategy is to deliver works for legal compliance, then planned preventative maintenance. This provides the core of the work bank, alongside minor emerging works and targeted renewals. Renewals will be focused mostly on strengthening and repair projects. The work bank will be subject to a review to ensure it is coordinated as far as possible with the commitments made to DfT by SWR. The delivery strategy for CP6 is to ensure the best-value deliverer in terms of safety-risk and cost is allocated to each renewals project. It is also expected the scopes will have narrow focus to allow the maximum benefit for the limited funding. The B&C Works Delivery team will increase in headcount as the mix of work type sees an increase of smaller scale interventions.

	<u>Current Position</u> The performance of E&P Assets has been satisfactory in CP5 except for DC cables connecting to the conductor rail and signalling power systems. The number of traction power SAFs related to DC cable failures continues to reduce from previous levels mainly due to the replacement programme for DC cable lugs and cable doubling which runs until CP7. The number of non-traction power SAFs is staying roughly steady despite the completion of earth fault monitoring RCM and associated targeted repairs and renewals of signalling power assets on condition basis.
Electrification and Plant	<u>CP6 Strategy</u> We will continue the programme of replacing poorly performing DC cable lugs and carry out targeted condition-based renewals across the traction power asset to mitigate the risk of safety and increased service affecting failures within CP6, and to avoid assets being taken out of service as end of life. For signal power assets we are focusing on reducing DPI of catastrophic incidents through proactive replacement of signalling power cables, improved system architecture and the implementation of improved RCM equipment. The work bank is based on using asset policy interventions – we are planning interventions primarily where we expect equipment to reach end of life or fail within the next 5 years, and where equipment is already running in a degraded mode in CP5. Otherwise, funding is provided to repair specific assets on a reactive basis during CP6.
	<u>Maintenance-Renewal Balance</u> The maintenance - renewal ratio for CP6 has increased from CP5. Additional Opex budget has been included for: additional technical staff in the maintenance organisation to conduct improved asset performance analysis and failure investigation and additional response staff to respond more quickly to faults, in response to the increase in maintenance because of an aging asset base additional technical staff and equipment to maintain new equipment that has been installed for Electrical Safety Compliance. Most of Capex interventions are renewals as these are the best value for money for the asset. There is a small amount of funding for the refurbishment of conductor rails, to mitigate high wear or poor fish-plated joint condition in localised areas.
ASPRO	<u>Current Position</u> During CP5, the ASPRO team has built upon the successful delivery of Outside Party funded schemes to establish itself as a viable delivery route for more complex and ambitious schemes. We have done this through transforming into a highly motivated and high performing team, through culture change, training and experience. In CP5 we have led the delivery of Twickenham Station re-development, LCR retail development in Waterloo station and delivered several SWR franchise obligations. Alongside these programmes of work, ASPRO has been actively involved in setting up the Wessex framework for attracting external funding through the ongoing 'Open for Business' programme.

ASPRO	<u>CP6 Strategy</u> We will continue to build our reputation as a committed, collaborative and transparent partner for delivering 3 rd Party and Outside Party schemes. With key projects such as Reading Green Park Station, Guildford and Elizabeth House due to commence in the first part of CP6, it is vital for the ASPRO team to make sure we continue to be adequately sized, with the competence and commitment to ensure the benefits of these projects are achieved. Through collaboration with Business Development, Sponsorship, Property and the system operator, ASPRO will help shape Wessex's appetite for route enhancement via 3 rd party funding and investment in the railway.
	<u>Current Position</u> Wessex was one of the first routes to introduce GSM-R cab mobile fitment, which took in place 2012 and suffered a high number of failures in the following year. As a result, a new, higher baseline was agreed at the end of CP4 that accounted for the GSM-R related failures. Since the end of CP4, telecoms asset reliability has continuously improved over a period of five years and is now the best it has been since the start of the control period. The last three periods show the number of failures is in single figures, with the year to date and rolling 13 period figures also being at their lowest since the start of the control period.
Telecoms	 <u>CP6 Strategy</u> The National Telecoms strategy has been designed to deliver the following passenger benefits: Improve quality of customer information through the renewal of a total of 3006 SISS assets on Managed stations and 3864 SISS assets on TOC stations, enhanced through the introduction of assets such as Station Management Systems and the provisioning of station networks. Support improvements to incident management and station management during perturbation through SISS renewals Reduce telecoms asset failures through FTN & IP Battery replacements and improved safety through reduced battery leakage, GSM-R HMI renewal, PETS (x30 crossings renewal) Reduce maintenance complexity through elimination of obsolete equipment, including Voice Recorders, PETS and Concentrator (x5) We will achieve this through our £39.3m planned investments, which are focussed on Managed Station SISS and TOC SISS.
Asset data	Asset Data Management: This is a basic requirement to be able to trust our timely, accurate and well utilised data to make better business decisions. Asset Data Governance work will continue to deliver basic quality requirements. Central change and information services will need to be reviewed to meet regulatory requirements and basic foundations.



6.4. Long Run Forecast

This graph describes the long-term expenditure forecast to control period 12, assuming expenditure levels for CP6 are consistent with the levels outlined in this plan. This information is in 18/19 prices not cash prices, therefore the costs will not align to other numbers within the strategic plan or the data book.

Beyond the end of CP6, the assumed level of investment is that to retain the character (condition and performance) of the asset at CP6 levels.

Individual asset condition and output long term trajectories for this long-term level of spend can be found in Appendix E.

In summary, the greatest risk for Wessex is the bow wave of life expired signalling equipment in CP8. It is vital that in CP6 Wessex delivers Feltham and Farncombe to Petersfield re-signalling schemes and Waterloo and Wimbledon resignalling in CP7 to avoid severe operational restrictions in CP8. The benefit of this bow wave is that it will expedite roll out of Digital Railway by the end of CP8.

Expenditure and implications		Mitigations
٠	The overall long term	Average Remaining Life
	constrained budget for Wessex is 80% to 90% of	• Track will see a gradual but sustained rise in asset age, however managed through increased maintenance to reduce the number of Service Affecting Failures.
	the BASELINE budget each control period.	• Earthworks condition continues to fall and the risk of service affecting failure will rise. Management of this risk will be through increasing Remote Condition Monitoring and preventative works such as drainage improvements.
•	In CP6: Track, E&P, Off Track reduced to 60% of the BASELINE budget	 The number of Signalling, Telecoms and E&P assets that are life expired continues to rise. At the given baseline, there would be a bow wave of Signalling renewals required in CP8 that would be undeliverable through resource requirement and excessive disruption to train services.
•	Why? We have taken a difficult system-led	 Operational Property PARL declines from 55% to 45% by CP9. Of greater concern is the increase in PARL <20% from 35% to 50% by CP9.
	decision to safeguard the renewals which have the	• Structures poor condition PLBE will remain relatively static at current levels for overbridges, but with a slowly worsening profile for underbridges from CP7 to CP12.

-		
	greatest un-mitigatable impact on Train Safety and Performance, which sit within the Civils and	 SICA remaining life for Signalling assets drops to 11.5 years at the end of CP6 in the constrained scenario due to 72% of assets with less than 10 years of SICA ARL left. This leads to significant investment being required in CP7 and beyond, which will gradually increase the SICA ARL to 13.7 years by the end of CP9 before increasing to 19 years by the end of CP10. However, this would be coherent with a wholesale DR implementation.
	Signalling portfolios.	Long term consequences and Mitigations
•	CP7 ONWARDS: Constraints are borne evenly across all Asset groups, at around 80% - 90% of the BASELINE budget	 The 'under train' assets will be managed more proactively through better use of data and technology to provide early warnings for safety, increasing through CP6, and to enable early, efficient interventions from CP7. Faster Safer Isolations in CP6 and the arrival of Digital Railway from CP7 will enable more productive possession working; therefore, will enable better asset performance at the same rate of investment. In the short term, track maintenance costs will be higher to balance the shortfall in track renewals. In the long term, unless there is a step change in Track Capital funding, sustainability will become a performance problem in mid to late-CP7 where the volume of work required to maintain or improve track performance will outstrip capability Operational Property are likely to see a growing trend of wrong-side failure and incidents as the proportion of assets with PARL<20% increases. This will require greater funding to react to these items, reducing the available funding for renewals to help improve the portfolio. This will probably lead to reputational issues as these are the primary customer-facing assets.
		 Structures faults will be relatively static, but this metric only covers a small proportion of the portfolio. Risks around walls and culverts are continuing to grow and are likely to require funding to prevent safety issues, reducing available funding on bridges, reducing the condition metric more than shown on this graph. Re-Signalling of Feltham and Farncombe-Petersfield will improve reliability and performance of the suburban and the Portsmouth direct route. However, reliability of Signalling assets along the SWML, down to Dorchester, will deteriorate in CP6 resulting in an increase in number of sites with worsening wire degradation and red earths that could have serious safety and performance implications. Also, lessons learnt from the deferral of Feltham and Farncombe-Petersfield show that assets nearing the end of their life could degrade rapidly with unknown consequences. These will be managed through a combination of targeted spot renewals as well as reactive work, which will put a significant strain on both OPEX and CAPEX budgets for CP6 and beyond. E&P renewals will move to a fix on failure approach, significantly increasing the risk of power loss caused by multiple failures. This will require more Oney to allow for more faulting and technical staff to mitigate the increasing levels of
		asset failure.

6.5. Sustainable Development strategy

In Wessex Route we recognise that our assets and knowledge are part of a 'system of systems' which integrate to provide social, economic and environmental sustainability to global, national and regional communities. At the highest level, the UN has set out 17 global sustainable development goals for sustainability, shown below.



The UK sustainable development strategy has ten key principles to delivering these goals. These principles include long termism, peoplefocus, cost benefit analysis, precautionary action to mitigate major events, polluter pays and technological innovation. In rail we are responding, through focussing on the capability of our workforce and our relationships with our partners, sharing our system knowledge and determining our influence on other infrastructure systems, to ensure that our investment of public money balances the needs of the present without comprising the needs of future generations.

Our CP6 Route Strategic Plan most strongly influences the following:

SDG	Description	Response
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	Build Resilient Infrastructure, promote inclusive and sustainable industrialisation and foster innovation	Captured in our Infrastructure Strategy and Intelligent Infrastructure Strategy (for innovation) and measured through Asset Sustainability target, chapter 5 in this plan.
11 SUSTAINABLE CITIES	Make cities and human settlements inclusive, safe, resilient and sustainable	Captured in our Capacity Strategies and development of CP7 Gateway projects to increase train services in alignment with regional planning and market study figures, Appendix I
13 CLIMATE ACTION	Take urgent action to combat climates change and its impacts	Captured in our Environmental Management Strategy and Weather Resilience and Climate Change Adaption Plans, chapter 6.5.2

6.5.1. Social & environmental performance

One of the SDG 11 targets is to increase the integration of infrastructure through national and regional development planning. The greater

autonomy that devolution provides for Wessex Route enables us to work more closely with our stakeholders and local communities on our proposed schemes. We have worked collaboratively with local authorities, the Environment Agency & lineside neighbours on jointly resolving complex flooding and drainage issues and will continue broaden the extent of our engagement where it adds value.

We will pay more attention to our ability to influence air quality in cities and implement environmental initiatives locally by proactively seeking opportunities to use energy more efficiently and to include long term and sustainable options from the design stage of our assets. We will support and encourage our contractors in meeting legal and societal requirements to protect the environment and will do so through leading by example.

In CP6 we will formalise the activities in our Environmental Strategy and identify development opportunities through assessment and accreditation to ISO 14000 Environmental Management.

6.5.2. Weather Resilience

In CP5 work was undertaken to improve the understanding of Coastal & Tidal flood risk and significant works were undertaken to reduce flood risk at Fulwell in the Thames Valley, and River Axe on the Salisbury – Exeter Line. Further resilience works have been funded at sites of regular flooding for construction in CP5 Y5; these are located at Hedge End between Fareham & Eastleigh, at Sway in the New Forest on the Bournemouth main line and at Sherborne on the Salisbury to Exeter Line.

Wessex Route actively engages with the flood risk management community, alongside Western Route we support a flood risk working group jointly attended by the EA (Environment Agency). We are also actively involved in the development of a large EA sponsored flood defence scheme near Datchet in the Thames Valley, several EA sponsored schemes in the Surrey CC area, an EA sponsored scheme on the Isle of White, and we are jointly working with East Devon DC to support delivery of flood defence improvements at Feniton.

Core work in Geotech, Drainage, Bridge Scour, Lineside tree removal and ongoing vegetation management, and operational improvements, including improved seasonal preparedness can lead to significant resilience improvement.

Whilst there is no specific funding for weather resilience schemes afforded in our plan, the following projects will improve the weather resilience of our network, where policy-aligned renewals have been identified.

Port Creek Viaduct

This large viaduct crosses a tidal creak, it floods at spring tides and flooding will become more frequent as sea levels rise. Due to the low level of the track the railway line forms a low spot in flood defences to Portsea Island. Wessex has actively engaged with the Environment Agency and Portsmouth City Council on the construction of new flood defences. In the long term, before the mid 2040's, both the railway and the defended community will need a replacement bridge to remain resilient to flooding. This is likely to be progressed in our CP7 or CP8 plans.

Yetminster Bridges

The last two bridges at greatest risk from scour are due to be replaced with new structures in CP6 year 1. Both bridges are at risk of inundation during periods of wet weather requiring the Weymouth to Yeovil line to be shut to manage safety. The works will enable the removal of long standing speed restrictions and freight restrictions and reduce maintenance complexity. If resilience funding can be obtained, a larger scheme to increase the capacity of the river bridges will be commissioned, which will further reduce the frequency of line closures.

Poole Harbour

The stone pitched embankments that connect the Poole Harbour viaducts to each other and to high ground are subject to increasing rates of erosion due to increasingly stormy conditions and increasing sea levels. This risk is managed by a programme of inspection and spot repairs. If resilience funding is forthcoming these embankments will be robustly improved with rock armour, removing the need for reactive repairs following storms and significantly reducing the possibility of line closing damage to the asset occurring.



6.6. Technology (R&D) strategy

A central NR pipeline for new technology already exists and is available to Wessex Route as a solutions catalogue. Central Research, Development and Technology projects that form the pipeline will continue to be progressed to the end of CP5, to the extent that funding allows.

National Research & Development Programme	Indicative Nature of solutions (CP6)
Safety	Detecting objectsTrack worker safetySafer level crossings
Punctuality (train performance)	COMPASSTelecoms capacity projects
Value for Money (Asset Management)	• DifCam
Value for Money (Renewals)	• EULynx
Capacity (enhancements)	 Avoiding Bridge reconstruction to enhance gauge Battery powered trains and double decker trains
Stakeholders (satisfaction and reputation)	

Solutions that are being progressed with the expectation of being available for deployment in CP6 and beyond are summarised in the table of National Research and Development Programmes, along with the primary performance area to which they contribute. The solutions catalogue is reviewed regularly for potential future applications, to achieve better value outputs as development progresses.

6.7. Innovation strategy

Our Route innovation strategy is currently captured in our Intelligent Infrastructure strategy, which draws on the strength of Route and Central NR collaboration on several projects, shown in the table below that will begin to add value in CP6.

Intelligent Infrastructure Work Package Title	CP6 Benefit
Fault and Defect Management	LOW
Predicting Failures & Degradation	HIGH
System Model & Asset Criticality	HIGH
Long-Term Workbank and RAMP Tool	MED
Work Delivery Planning	HIGH
Materials and Inventory	MED
Asset Register, Work Breakdown Structure and Compliance Management	LOW
Small Assets and Traceability	LOW
Cost Management / Unit Rate Integration	MED
S&C Dynamic Inspection	MED
Design for Reliability	LOW

The greatest benefits are likely to be realised through the following work streams, and are core to us realising planned efficiencies in our maintenance strategy:

6.7.1. Predicting Failures and degradation

A new platform will be created that integrates data from multiple systems, including near real time monitoring and alignment to geographical location, and hosts a standard set of tools for Asset Management, Maintenance and Operational analysis and decision making.

6.7.2. System Model and Asset Criticality

We will create a 'Virtual Railway' data model that identifies how individual assets contribute to the railway-as-a-system, including the expected operational performance and safety impact of a specific asset failing. An enhanced system model informs the expected performance



and safety impact of a specific asset failing.

This will enable production of system criticality model which understands Network Rail's infrastructure as a system and can articulate the likelihood /consequence of an asset failing.

6.7.3. Work Delivery Planning

This project will improve the planning and co-ordination of Capex and Opex work, thereby reducing conflict and late notice change, which will improve our efficiency, through:

- 1. Early work order generation for cyclic maintenance work.
- 2. Alignment of possessions and routine maintenance cycles

3. Integration of our asset management system and resource planning systems

4. Implementation of planning and optimisation tools, which will automatically generate a delivery plan, based on resource capacity and

work delivery constraints

PURPOSE

5. Development of tools that automatically generate the safety critical information required for undertaking the activity.

6.8. Asset management capability

In concert with a central over-arching strategy, we will continue to deliver our route Asset Management Improvement Plan (AMIP) to achieve alignment to ISO55000; focussing particularly on the definition of asset management processes within the route so we can demonstrate their consistent application and drive continuous improvement.

Clear

Better

Asset Managemen

Our delivery plan seeks to deliver safe asset performance within a constrained financial settlement. The plan mitigates physical asset risk by prioritising works across an integrated workbank and balancing maintenance and renewal interventions, using policy compliance

requirements, route expertise and the needs of our customers to guide the prioritisation and define the required outcome.

Our maintenance volumes comprise three key components:

Cyclical: Planned proactive tasks that recur at a specified frequency, and can be planned from Ellipse using Activity Based Planning

Reactive: tasks triggered in response to a fault report, based on a forecast using infrastructure reliability history and Ellipse

Refurbishment: we recognise that our renewal rate does not sustain asset life at CP5 entry level, therefore extra inspections and maintenance are planned to mitigate this risk.

Furthermore, E&P renewals have been deferred from CP5 to fund signalling power electrical safety improvements (SIN119) in response to enforcement action on earthing at location cabinets. We continue to work with the STE community as external assurance of these decisions.

Our approach to cross asset prioritisation has been delivered in a staged process through peer review. Each discipline developed a work bank based on pro rata budget to CP5. An initial peer review of the work banks and associated risks identified the biggest risk in Signalling following deferrals in CP5. There has therefore been some rebalancing between the Track budget and the Signalling budget. This allowed for a substantial part of the Feltham re-signalling programme to be planned in CP6.

We have collectively reviewed how to apportion the CP6 investment that is additional to CP5 budget. Asset discipline heat maps have been used to facilitate a risk-based approach. The biggest risk is in Signalling therefore Wessex has allocated the full £177m necessary to complete the Feltham re-signalling scheme in CP6. The remainder is allocated to Buildings to repair the Waterloo concourse roof, to address the risk to safety and reputation. As our plans mature we will work with Sponsors, Access and Delivery stakeholders to model integrated work banks. This will enable cross-asset prioritisation and create efficiencies through de-confliction and optimised planning. We intend to reinvest these efficiencies into further volume, to accelerate reaching policy compliance.

6.9. Specific Sustainability Targeted Investment

At Draft Determination there was a shortfall in track sustainability in Wessex, arising from under investment in CP5 and further exacerbated with the proposed funding levels for CP6. The Final Determination takes this into account and provides funding for the following packages of work:

ID	Name	Net cost in CP6 (£m)
WSX001	Track S&C Renewal and Refurbishments	20.25
WSX002	Track PL Renewal, Re-railing and Refurbishments	60.06
WSX003	Geotech interventions (high risk assets)	7.10
Total		87.41

These works banks have been selected because:

- They effectively address the variance from modelled sustainable volumes in the Strategic Business Plan
- The interventions enable our efficiencies through economy of scale in the Track Renewal portfolio
- The interventions are considered deliverable, these schemes were proposed in the original CP6 submission, and the delivery assumptions applied during this process are still valid. The work

has been programmed for delivery in years 3-5 to allow EAS negotiations to take place for possessions, GRIP4TRACK process and supply chain resource planning.

• The renewals will reduce the likelihood of operational safety mitigations. The earthwork sites comprise 63% of the CP5 deferred renewal volume, where reactive intervention is considered likely. Completing the work proactively improves efficiency and reduces network disruption.

The effect of the additional funding on Wessex's Composite Sustainability index is shown below. There is 0.5% betterment in CP6, despite which, Wessex continues to be less sustainable than the National average.



Wessex Composite Sustainability index Comparison

7. Financial performance

7.1. Financial Performance Data

Financial Performance - (20%)	Targets	Weighting	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Achievability
Financial Performance	Worse than Target		-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	
Measure (FPM) – Gross	Target	5.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Profit & Loss	Better than Target		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
Financial Performance Measure (FPM) – Gross Renewals	Worse than Target		-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	-20.0	
	Target	5.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Better than Target		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
Financial Performance	Worse than Target		-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	
Measure (FPM) – Gross	Target	5.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Enhancements	Better than Target		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
	Worse than Target										
Cash Compliance	Target	5.0%									
	Better than Target		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Key stakeholder priorities	Response
To deliver all CP6 commitments within allocated forecast (DfT)	By accurate forecasting with our delivery partners we will ensure that we understand, manage and mitigate the risks associated with cash compliance. We will work with our operators to deliver the committed performance levels thus mitigating the risks of schedule 8 payments.
To deliver train performance (all operators)	Within our cash envelope ensure that funds are prioritised in a way that delivers improvements to the current levels of train performance.
Deliver the efficiency committed within our plan (ORR, tax payers)	Robust plans in place to deliver efficiency, with an appropriate governance structure see Appendix F
Cost certainty (DfT, 3rd party investors, ORR)	We will work with our delivery partners to carry out work, including enhancements and work on the behalf of 3rd parties, within agreed funding limits. This will start with accurate estimating and value engineering and end with efficient implementation and operational handback, to ensure value for money in all we do.

7.2. Financial Performance Activity Prioritisation

ey constraints (C), risks (R) and opp D) There is a risk of schedule 8 costs du	ortunities	What we plan to do	Owner	Customers	Time	
There is a risk of schedule 8 costs du				impacted	scale	
t position being below the SBP assu	e to the CP5 mptions	We have set up the Route Performance Improvement Centre together with our operators which will bring track and train together to reverse the downward trend we have seen across CP5. We have allocated funding to focus on those improvement schemes which will deliver benefit to mitigate as our schedule 8 risk as far as possible	соо	SWR	Apr 2024	
There is an opportunity to improve luce schedule 8 payments through ju th the new franchise	PPM and oint working	We will develop joint working and governance structures to support the improvement of PPM and continue to review the impact of our work throughout the control period to maximise performance delivery.	соо	SWR	Apr 2024	
There is a risk of reduced track acces der the new franchise due to higher mmitments, leading to financial inef	re is a risk of reduced track access opportunity the new franchise due to higher timetable nitments, leading to financial inefficiency We will continue the work we have done with SWR as part of the Holden recommendations to secure the access needed to maintain our railway.					
Any changes to Feltham resignalling ge strain on delivering cash complia	changes to Feltham resignalling will put a We will work closely with the project team to fully assess any tangible cost changes and to mitigate their impact as far as possible.					
There is a risk of incurring additional anges to business standards	is a risk of incurring additional cost through to business standards This is managed through the ERR: failure to manage change. We will include a headwind provision for standard change based on our experience of CP5 and knowledge of CP6, and work with Safety, Technical and Engineering (STE) to minimise the financial impact of such changes					
There is a risk in establishing effectiv ategies with our deliverers	ve contracting	RFD DRAM	None	Apr 2024		
We have an opportunity to optimise source using the ABP tool	e manpower	We will use activity-based costs to determine the correct requirement for the organisation and then develop a detailed resource plan which through natural attrition and re-deployment of resources achieves the optimum outcome	COO HoHR	None	Apr 2024	
To proactively pursue efficiencies th maging our liabilities.	Actively pursue efficiencies through our liabilities. Route Liabilities will investigate and determine the rightful legal status of our structures within the CP6 workbank to identify any opportunities for removal or reduction in status which may produce significant saving to the Route.				Apr 2024	
t Thur The Age	here is a risk of schedule 8 costs du position being below the SBP assu here is an opportunity to improve uce schedule 8 payments through j i the new franchise here is a risk of reduced track acce er the new franchise due to higher mitments, leading to financial inef ny changes to Feltham resignalling e strain on delivering cash complia here is a risk of incurring additiona nges to business standards here is a risk in establishing effective tegies with our deliverers Ve have an opportunity to optimise purce using the ABP tool	here is a risk of schedule 8 costs due to the CP5 position being below the SBP assumptions here is an opportunity to improve PPM and uce schedule 8 payments through joint working a the new franchise here is a risk of reduced track access opportunity er the new franchise due to higher timetable umitments, leading to financial inefficiency ny changes to Feltham resignalling will put a e strain on delivering cash compliance here is a risk of incurring additional cost through nges to business standards here is a risk in establishing effective contracting tegies with our deliverers Ve have an opportunity to optimise manpower burce using the ABP tool	here is a risk of schedule 8 costs due to the CP5 position being below the SBP assumptionstrack and train together to reverse the downward trend we have seen across CP5. We have allocated funding to focus on those improvement schemes which will deliver benefit to mitigate as our schedule 8 risk as far as possiblehere is an opportunity to improve PPM and uce schedule 8 payments through joint working in the new franchiseWe will develop joint working and governance structures to support the improvement of PPM and continue to review the impact of our work throughout the control period to maximise performance delivery.we will develop joint working and governance structures to support the Holden recommendations to secure the access needed to maintain our railway.we will continue the work we have done with SWR as part of the Holden recommendations to secure the access needed to maintain our railway.we will work closely with the project team to fully assess any tangible cost changes and to mitigate their impact as far as possible.here is a risk of incurring additional cost through rages to business standardsWe will work closely with the BR: failure to manage change. We will include a headwind provision for standard change based on our experience of CP5 and knowledge of CP6, and work with Safety, Technical and Engineering (STE) to minimise the financial impact of such changes tegies with our delivererswe have an opportunity to optimise manpower purce using the ABP toolWe will use activity-based costs to determine the correct requirement for the organisation and then develop a detailed resource plan which through natural attrition and re-deployment of resources achieves the optimum outcomewe vake an opportunity to optimise manpower purce using the ABP toolWe will use act	here is a risk of schedule 8 costs due to the CP5 position being below the SBP assumptionstrack and train together to reverse the downward trend we have seen across CP5. We have allocated funding to focus on those improvement schemes which will deliver benefit to mitigate as our schedule 8 risk as far as possibleccoohere is an opportunity to improve PPM and ace schedule 8 payments through joint working it the new franchiseWe will develop joint working and governance structures to support the improvement of PPM and continue to review the impact of our work throughout the control period to maximise performance delivery.Ccoohere is a risk of reduced track access opportunity to financial inefficiencyWe will continue the work we have done with SWR as part of the Holden recommendations to secure the access needed to maintain our railway.Ccoony changes to Feltham resignalling will put a es train on delivering cash complianceWe will work closely with the project team to fully assess any tangible cost changes and to mitigate their impact as far as possible.DRAMhere is a risk of incurring additional cost through and Engineering (STE) to minimise the financial impact of such changesDRAMhere is a risk in establishing effective contracting tegies with our deliverersThis is managed through our cash ER8. We will create a stable long-term work bank which allows infrastructure Projects (IP) and the route.RFD DRAMVe have an opportunity to optimise manpower turce using the ABP toolWe will use activity-based costs to determine the correct requirement for the organisation and then develop a detailed resource plan which through natural attrition and re-deployment of resources achieves the optimum outcomeCOO HoHR	here is a risk of schedule 8 costs due to the CP5 position being below the SBP assumptionstrack and train together to reverse the downward trend we have seen across CP5. We have allocated funding to focus on those improvement schemes which will deliver benefit to mitigate as our schedule 8 risk as far as possibleCOOSWRhere is an opportunity to improve PPM and uce schedule 8 payments through joint working the new franchise here is a risk of reduced track access opportunity er the new franchise due to higher timetable mitments, leading to financial inefficiencyWe will develop joint working and governance structures to support the improvement delivery.COOSWRny changes to Feltham resignaling will put a estrain on delivering cash complianceWe will continue the work we have done with SWR as part of the Holden recommendations to secure the access needed to maintain our railway.DRAMNonehere is a risk of incurring additional cost through nges to business standardsThis is managed through the ERR: failure to manage change. We will include a headwind provision for standard change based on our experience of CPS and knowledge of CP6, and work with Safety, Technical and Engineering (STE) to minimise the financial impact of such changesDRAMNonewe have an opportunity to optimise manpower purce using the ABP toolWe will use activity-based costs to determine the correct requirement for the organisation and then develop a detailed resource plan which through natural attrition and re-deployment of resources achieves the optimum outcomeCOOSWRor concervery the impact efficiencies through paging our liabilities.We will use activity-based costs to determine the correct requirement for the organisation and then develop a	

Political/ Reputation



Summary of risk outcome: (T = Target and N = Now)

We will deliver our route efficiency strategy which will in turn ensure we deliver efficiently and mitigate our financial risks as far as possible.

We have learnt the lessons of CP5 and will ensure we have a robust plan where funding is aligned to our outputs and efficiencies are clearly defined with a governance strategy that monitors and ensures delivery.

Network Rail

7.3. Financial Sustainability Strategy

The financial sustainability strategy of Wessex Route depends upon the three key focus areas of: cost reduction, managing risks and introduction of new products and services. In our planning of CP6, Wessex Route has worked with our deliverers to understand our true cost base, the external market forces that drive headwinds and tailwinds and internally the drivers of efficiency and inefficiency, see Chapter 11.

7.3.1. Cost Reduction

The railway industry is a complex network of third party relationships, with suppliers, partners and customers who all need to extract value from their activities. In Wessex route we recognise that a stable work bank is a key ingredient of Capex efficiency. Changes in volumes of work creates instability for our supply chain, leading to poor planning and sub-optimal resource allocation, which ultimately lead to rising unit rates.

We have developed a stable workbank across CP6, working with our industry partners, to have an access strategy that allows efficient working, as well as letting work in suitable packages which allows our contractors to make effective use of their resources and innovation, which in turn leads to a lower unit rate. It allows us to minimise the amount of late notice change (which is costly) and through effective planning we will reduce wastage. We have validated our base unit rates by work-type and we have used lessons learnt from CP5 to plan the right level of contingency. We will exercise effective change control to fully assess the implications of any proposed changes.

Our operational efficiency initiatives will deliver results by improving the effectiveness of our processes to be right first time, to reduce rework and backlog and improve asset performance.

Our key schemes that deliver efficiency, see Appendix F, are:

- Activity Based Planning tool creating a stable right size organisation to manage our dependence on sub-contracting and excessive overtime that is complemented with an access plan that is fit for purpose
- Better Every Day introducing small incremental improvements to our stable base plans to eliminate waste using Lean methodology
- Train-borne PLPR and Eddy Current track monitoring will reduce our number of visual inspections, freeing staff to undertake more maintenance
- Remote Condition Monitoring on Earthworks and Power assets will identify precursors to failures, reducing time taken to diagnose faults
- Faster, Safer Isolations means that fewer contracted safety staff are needed to establish an electrical isolation, which increases the work window in a possession and reduces the safety risk to staff

7.3.2. Managing Risk

The key headwind faced in CP5 has been to manage our Schedule 8 overspend due to poor train performance. Furthermore, the Route Security Strategy has driven costs of £650k pa through additional requirements at Waterloo Station and Basingstoke ROC. Therefore, in CP6, financial sustainability must be built upon a stable foundation of train performance improvement if we are to offer genuine value for money. Our train performance risk is managed through joint performance improvement plans, which see increased maintenance activity in Year 1.

7.3.3. New products and services

Our Route teams are working with the Network Rail System Operator and Business Development teams to develop greater operator and 3rd party value opportunities that would attract new funding into our network, see sections 9.2 and 9.7.

8. Activities & expenditure

8.1. Cost and volume summary

This plan is predicated on the key assumptions laid out in Appendix B and will be impacted as these assumptions change. Changes from earlier submissions are tabled in Appendix I.

RENEWALS COSTS (post headwinds and efficiencies in cash prices)

	Unit of	Funded by	CP5 (£m)			CP	6 (£m)			CP7	(£m)
	Measure	Funded by	18/19	19/20	20/21	21/22	22/23	23/24	CP6	24/25	24/25
Track	£m	Renewals	33	58.9	62.1	74.3	96.2	97.1	388.6	107	104.2
Conventional Signalling	£m	Renewals	33.1	45.7	77.9	102.5	126.4	101.8	454.2	159.6	159.6
Structures	£m	Renewals	16.6	16.3	24.5	44.6	27.0	33.6	146.1	27.6	27.6
Earthworks	£m	Renewals	12.3	11.3	15.2	19.9	18.7	14.5	79.7	21.6	21.6
Drainage	£m	Renewals		2.4	3.4	4.7	6.1	6.3	22.8	3.9	3.9
Buildings	£m	Renewals	6.3	18.6	26.3	24.0	12.1	4.4	85.4	15	15
Electrification & Fixed Plant	£m	Renewals	30.3	18.3	28.7	36.9	39.1	29.8	152.7	55.9	55.9
Total Renewals	£m	Renewals	131.6	171.5	238.1	306.8	325.4	287.4	1329.3	381.4	381.4
Digital Railway*	£m	DR Programme	3*	6*	9.6*	24.8*	30.5*	39.4*	110.3*	70.7*	70.7*
Total Renewals + Digital Railway	£m	All	133.1	177.5	247.7	331.6	355.9	326.8	1439.6	430.5	430.5

*Digital Railway is not funded within the core submission and is yet to be confirmed.

KEY VOLUMES

			CP5			CF	P6			C	P7
	Unit of Measure	Funded by	18/19	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26
Plain Line	Linear track km	Renewals	30.20	110.1	111.3	123.4	145.4	146.8	637.1	60	60
S&C	No. of S&C units	Renewals	184	39	59	67	67	68	300	45	59
Conventional Signalling	SEU	Renewals	25	125	62	91	265	61	604	10	25
Digital Railway	SEU	DR Programme	tbc								
Earthworks	5ch	Renewals	246	263	294	312	304	297	1470	326	374
Underbridges	Number of assets	Renewals		10	8	7	9	5	39		
Underbridges	m2 plan deck area	Renewals	588	983	1724	1506	1742	2576	8531	1700	1700
Wire runs	No. of	Renewals									
Conductor Rail renewal	Km	Renewals	10.13	10.7	10.7	10.7	10.7	10.7	53.5	10.7	10.7

OPEX COSTS (post headwinds and efficiencies in cash prices)

	CP5 (£m)	CP6 (£m)						CP7 (£m)		
	18/19	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	
Track	41.439	33	40	41	42	43	199	46	46	
Off track	4.706	2	3	3	3	3	15	6	6	
S&T	19.547	13	17	17	18	18	84	22	22	
E&P	6.535	7	9	9	9	9	43	9	9	
DU HQ	8.706	22	23	21	20	20	105	9	9	
DU/WD Maintenance Excl. B&C	80.933	77	92	91	92	94	446	92	92	
Non-DU Maintenance: CEFA, Plant, Telecoms	9.674	31	18	17	9	7	82	10.670	10.670	
Reactive Maintenance	78	15	14	14	14	14	71			
Maintenance	102.807	123	123	123	115	114	598	118	118	
Operations	53.111	66	68	69	69	69	341	74	74	
Support	18.153	33	17	12	16	22	100	63	63	
Operations & Support	71.264	99	85	81	85	91	441	137	137	
Risk fund			22	38	48	49	156			
Total Controllable Costs	174.071	222	231	241	248	254	1,195	255	255	
Non-Controllable Costs	0.516	0.7	0.6	0.6	0.6	0.6	3.2	0.6	0.6	
Headcount										
Permanent	2002	2280	2263	2409	2431	2432	2432	2432	2432	
Agency	18	18	14	14	14	14	14	14	14	

DIGITAL RAILWAY (in 17/18 prices) – subject to funding

	Development stage:	SOBC	BCR	3.15
SWML	Expected delivery year	ETCS 2029-2033 TM 2022-2026	Appraisal period	60 years

Summary description

[include brief description of scheme and summary problem/opportunity statement]

Problem/Opportunity statement: Demand on the South West Main Line is forecast to increase by 40% to 2043, currently there is crowding from Basingstoke and Woking which is over 20 minutes from London. The fast lines from Surbiton operate the highest number of services on a single line resulting in a high proportion of reactionary delay. A number of signalling assets are due for life expiry in CP6 and CP7, current plans for Crossrail 2 assume that signalling assets between New Malden and Wimbledon are renewed in the mid 2020s, in advance of some of the current renewal dates, this presenting an opportunity to renew with digital technology.

Scheme: ETCS Level 2 no signals between London Waterloo and Woking, Integrated Traffic Management London Waterloo to Woking and isolated Traffic Management across the rest of the route, option for C-DAS. Conventional enhancements to support capacity benefits - Up Main Relief line extension to Vauxhall, Feltham Depot, Power Supply Upgrade, London Waterloo passenger capacity.

Implementation cost (£m)					Assumed funding source (£m)							
	CP5 (last 3 years)	CP6	CP7 & beyond	Total		CP5	CP6	CP7 & beyond	Total			
Digital Infrastructure	4.6	98.5	690.6	793.7	Core Route Budget (OMR)	0.0	2.3	529.8	532.2			
Business Change	0.7	8.2	14.2	23.1	National Productivity Investment Fund	0.0	0.0	-	0.0			
Freight National Passenger Operator	0.0	0.0	0.0	0.0								
OTMs in-cab fitment	0.0	5.2	144.8	150.0	Sub-Total (assumed core NR funded)	0.0	2.3	529.8	532.2			
Sub-Total (assumed core NR funded)	5.3	111.9	849.6	966.9	Franchise in-cab fitment	0.0	8.2	195.5	203.7			
Passenger in-cab fitment	0.0	8.2	195.5	203.7	Enhancements (MoU)	0.0	0.3	377.5	377.8			
Civil Engineering Enhancements	0.0	0.3	377.5	377.8	TOTAL	0.0	10.9	1,102.8	1,113.7			
TOTAL	5.3	120.5	1,422.6	1,548.4	Funding requirement above Route Core Target	-5.3	-109.6	- 319.8	-434.8			
Scheme benefits[1]							I					
Quantified output benefits												
[Performance and capability; insert trajectories wh Capacity- an additional 4 tph SWML services for t Performance - Delay minute reduction of up to 5%	here appropriate, be the 3 hour peak, tot 6 for integrated Traff	 clear about what be al 30 tph (baseline as fic Management and 	nefit is assumed in C ssumes Woking Area 3% for isolated Traffi	P6] a Capacity Enhar c Management	cements are delivered increasing peak se	rvice to 26tph)						
Financial benefits (£m CP6)_Socio economic ben	nefits in 2010 prices	present value			Financial benefits (£m NPV over 60 years) Socio economic benefits in 2010 prices present value							
TOC revenue benefits: £5.8m					TOC revenue benefits: £387m							
Reductions in NR OMR: 0.0					Reductions in NR OMR: 0.0							
Net benefits to consumers and private sector: £11	1.9				Net benefits to consumers and private s	Net benefits to consumers and private sector: £1353m						
TOTAL: 17.7					TOTAL: £1740							
Other qualitative benefits												
[E.g. safety, journey time] Safety - ETCS offers enhanced train protection reducing the risk of SPADs. DR technologies enable the Safer Track Working strategy, reducing the risks track side workers Journey time - potential for journey time opportunities where speed restrictions are in place due to signal sighting, changes to operational rules Other opportunities - improved customer information, energy savings												
Other dependencies												
[State what other enhancement schemes not yet Working Area Capacity Enhancements - grade se	integrated into the eparation at Woking	plan (table above will) is required to deliver	articulate those sch r the 4 additional trai	emes that have b n paths quantified	een integrated), will need to be delivered ir	n order to unlock th	e benefits quoted he	əre]				

8.2. Digital Railway Strategy

The 'Digital Railway' integrates changes to systems, technology, business and people that enable the adoption of the European Train Control System to optimise the way trains flow around the network. The benefits of a Digital Railway will be:

- Increased Capacity
- Improved recovery from a perturbed service
- Improved workforce safety
- Reduced carbon footprint

The five core elements of the DR plans are shown in the diagram below.



Wessex has worked with the Digital Railway team to develop a Strategic Outline Business Case for Digital Railway, above. There is a strong case for an isolated traffic management trial that requires funding separately to this plan. In CP6, in partnership with our franchise operator, Wessex Route will support new traffic management technology where appropriate. Wessex is committed to delivering a Digital Railway at the earliest feasible opportunity, to bring about the greater network capacity that our customers are relying on.

The Wessex Vision for Digital Railway is to be digitally operating over 90% of our network by 2034. In CP6, passive provision will be included in the Feltham and Farncombe to Petersfield re-signalling schemes. By 2029, the end of CP7, DR will operate on around 50% of the Wessex network, including all inner main and suburban lines, up to Woking. By 2034, the end of CP8, we aim to have completed all major re-signalling schemes and upgraded these to digital technology.

Digital Railway Vision



Our strategy is to roll out DR technology in line with signalling asset policy renewals, which sees a bow wave of signalling activity due in CP7

and CP8, ref 5.4.2 for the long-term forecast. The current cost estimates are indicative and prepared on an industry level. Further cost-benefit information will follow the implementation of early DR schemes, which reflect traditional procurement and delivery methods and include a 'first deployment' cost premium that should reduce as experience grows.

8.2.1. CP6 Digital Railway ready specifications

The re-signalling schemes put forward for CP6 will be provided with Digital Railway ready passive* provision, owing to a lack of immediate capacity benefits. Due to the advanced stage of development, the DR team are seeking to provide an ETCS overlay for the Feltham scheme.

The first active** DR schemes on Wessex are likely to be Waterloo and Wimbledon in CP7, which will open capacity on the main line and are contemporaneous with CrossRail2.

* Passive provision

For like-for-like renewal (e.g. no capacity enhancement), provision for DR Ready specifications is termed passive provision. For these schemes, a DR Ready specification is assumed not to add material cost. This is based on the following assumptions:

- No change to train detection and therefore no need to design a separate ETCS compliant option
- Competitive procurement arrangements embedding the DR Ready Specification from inception of the scheme
- Support is given to the Routes by a core team (DR, STE and IP) to ensure a consistent interpretation of the specifications

** Active provision

Where signalling renewals coincide with the need for an increase in

capacity, based on a need identified in the Route Studies, there would be an increase in project scope to comply with the digital ready specification. This scope is termed active provision and is driven by additional train detection requirements. Currently there is no active provision for increased capacity in the signalling renewals portfolio.

8.3. Telecoms Strategy

The National CP6 Strategy continues to build on the success of improving telecoms reliability and supports Network Rail's strategic business plans in delivering an always connected digital railway for customers, passengers and lineside neighbours. It is our intention to continue driving service-based outcomes rather than individual asset performance. We will support ETCS infrastructure schemes including ensuring enabling telecoms are delivered to meet enhanced ETCS requirements for Digital Railway.

The National Telecoms strategy has been designed to help Routes provide more reliable and available services to our operators and passengers. It also caters for the unprecedented demand for communications connectivity along the rail corridor which needs to be managed consistently to ensure best value is achieved for everyone.

8.3.1. Current Telecoms Performance

Wessex was one of the first routes to introduce GSM-R cab mobile fitment, which took in place 2012 and suffered a high number of failures in the following year. As a result, a new, higher baseline was agreed at the end of CP4 that accounted for the GSM-R related failures. Since the end of CP4, telecoms asset reliability has continuously improved over a period of five years and is now the best it has been since the start of the control period. The last three periods show the number of failures is in single figures, with the year to date and rolling 13 period figures also being at their lowest since the start of the control period.

End of CP5 Sustainability targets will be achieved by delivering against the target volume in the investment plan, which are aligned to ORR targets. We will capture the core cost of the delivery of telecoms assets, with attention to station information and surveillance systems. We will proactively identify efficiencies in technology and delivery to drive lower unit rates and lower whole life cost reductions, which will lead to more sustainable budgets for CP7 and beyond.

The average percentage life remaining sustainability measure captured within the DST shows that current CP5 exit is less than forecast but this position is recovered by the end of CP6. SISS CIS management, GSMR BTS's are key factors in the lower life remaining for CP6.

Wessex av. % remaining life	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CP6 entry (forecast)	71	64	57	51	44	45	43	45	58	54
CP5 entry (forecast 2013)	52	51	50	51	49	44	40	36	48	43

To maintain the highest safety performance within CP6 budget constraints, we will manage the asset portfolio in accordance with established safety risk management principles. We will be delivering a reactive infill programme in CP6, rolling out GSM-R cab mobile fitment V.4, already in progress, and controlling the risk of failing our LTIFR target, by monitoring accident and injury rates and maturing our safety culture to identify and act on opportunities to improve safety performance throughout the telecoms estate.

8.3.2. Telecoms Asset Performance at the end of CP6

The investment identified over the control period is designed to maintain the CP5 exit figures for train performance. There are opportunities to drive further performance improvements however investment is primarily targeted at maintaining systems' stability utilising an efficient level of investment. The migration of legacy and third-party services onto a single network will support performance through network resilience and supportability.

The Telecom Asset Management Policy provides guidance on the approach to asset resilience and associated criticality. This guidance has been reflected into the Telecoms Decision Support Tool (DST) and the tool has been utilised to drive the renewals work bank. The key elements that have been prioritised within the plan are summarised below:

- Power support systems have been prioritised to maintain operational continuity in the times of national operator failure. A battery strategy is in the process of being developed to drive power support in line with system and geographical needs. This will drive a sustainable position for this asset base
- Operational telephony will progress with a combination of site renewals in line with the development of a central core that will facilitate flexibility, efficiency and resilience
- Sustained investment into lineside infrastructure and level crossing telephony will deliver improvements to availability of the service and support resilience. Known hotspots will be targeted alongside the evaluation of the complete system and support at level crossings
- The migration from third party services to our own telecoms infrastructure will be undertaken to deliver greater resilience at level crossing locations
- The migration from legacy services to our own telecoms infrastructure

will be undertaken to drive to a single supportable, scalable and sustainable network environment.



8.3.3. Telecoms Maintenance delivery

We are experiencing unprecedented change in terms of requirements, access restrictions and technology development within the telecoms industry which subsequently pose significant maintenance challenges.

These challenges require the adoption of new maintenance approaches, changes within processes, organisational alignment, tools and training. We will use lean based techniques to develop new maintenance delivery methods based upon lowest whole life cost for each asset type.

The maintenance and renewal strategy will be based on a predict and

prevent regime with effective team working with all stakeholders.

At the heart of this strategy are the people and processes and the development with route maintenance teams is key. We have a three-strand approach to delivering our maintenance strategy:

- Task standardisation and improved collaborative working
- Reliability centred maintenance and renewal regimes based on improved asset knowledge and intelligence
- Use of technology to predict faults and to ensure deployment of the right solution for each task

Three key intervention types are used to provide service to our customers, mitigating the effects of the asset's degradation and failures:

- **Monitor** Check that equipment meets the defined performance thresholds by checking the asset by automated management systems or direct observation. If the performance threshold is breached or failures are detected, secondary intervention or remedial action, such as rectify or periodic service, is required to restore service.
- Inspect (predict) and maintain (prevent) Check that equipment meets the defined performance thresholds by periodic visual and physical activities including tests and measurements, restoring (service) performance to defined thresholds if within expected levels. Maintenance can be at hardware or software level.
- **Replacement and renewal** Replacing or renewing components or systems with serviced or repaired spares or new purchase. Three types of renewal or replacement are available:
- Full system renewal generally comprises the system itself and the supporting equipment, containment and structures. Project management, design, testing and commissioning are included in the package

- Targeted renewal is the renewal/replacement of a component part of a system such as a monitor/display or camera where there is a little or no requirement for design work and minimal testing and project management
- Maintainer swap-out is replacement of equipment as part of the normal service/system rectification activity, generally using the Telecommunications Maintenance Testing & Failure Investigation (TMT&FIP) Process

Renewals are supportive of known operational changes and implement technologies that will form enablers to many of the requirements for the route projects delivering operational change. A summary of the key operational asset groups is summarised as follows:

- Transmission will be provided by a single supportable network by the close of CP6. Legacy transmission systems will be migrated over the duration of the control period and where operational efficiencies can be identified, third party supplier provisions will also be migrated to the single network
- GSM-R will continue to be the single operational radio network in England and Wales. Scotland will continue to utilise a mix of GSM-R and RETB for track-to-train communications
- Driver Only Operation (DOO) despatch systems will be renewed to support the operational requirements of the routes and associated TOCs. The introduction of new rolling stock with on-board systems is a key consideration in the creation of the core investment scenario
- Level crossing telephony forms a key part of the core scenario with a plan to maintain asset renewals and support the development of product/technology improvements
- Enabling telecoms for ETCS infrastructure schemes for FTN and GSM-R will be delivered to meet enhanced ETCS requirements

8.4. Property Strategy

Network Rail Property 's Vision is of *a rail real estate fit for the short, medium and long term needs of the industry, integrated with local communities and optimising value for the UK*

Nationally, Network Rail's goals are to:

- 1. Deliver additional value through a combination of attracting external investors and enabling industry cost savings through:
 - a. Income for station regeneration or rail enhancement where business or region benefits from new services
 - b. Operating efficiency by reducing redundant estate
 - c. Capital income through sales
- 2. Release land for housing

In Wessex Route we are working collaboratively with Network Rail Property on the transactions required to support the delivery of operations, maintenance renewals and enhancements proposed on the Route, and have shared our plans below to ensure that we maximise the benefits of our delivery methodologies.

8.4.1. Workplace Management and Land Strategy

The property strategy supports the movement towards an appropriate geographical footprint for our business whilst improving our accommodation at key locations – notably our ROC and DUs. It supports our route objective to reduce delay-per-incident, by enabling staff to be located more strategically in currently unoccupied buildings, and it will support our People and Safety Strategies in providing safe and inclusive environments for our people to work.

Strategy Location	Commercial Benefits	Operational Benefits
Eastleigh	Potential release of land for light industrial use.	New accommodation and facilities
Waterloo – Master Plan Refresh	Potential for lease rationalisation and development of commercial opportunities. Ability to maximise benefits of planning gain.	Control of Waterloo Station. A clear plan referencing all operational uses.
Feltham	Rationalisation of land use to release of land for development.	New sidings built on NR land and paid for by TOC. Potential further (CP7) operation uses
Accommoda tion Strategy	Rationalisation of land use to release of land for development. Potential use of vacant buildings located near the railway or no alternative use	Rationalisation of multiple sites to one location. Improves accommodation
Solent Area Review (SO completing CMSP)	Potential release for land for commercial and residential development	Potential enhancement of station buildings at Southampton and Portsmouth.

Wessex has recently reviewed all our sites occupied by maintenance and operational teams to best align these with our welfare, operational and

accommodation plans for CP6 and we have included an additional £5M investment to support our accommodation strategy.

We will continue to assess our land to identify their optimum value, either for new operational facilities for the railway or for the release of land or property for commercial development. If sites are no longer required for operational reasons, we will work with Network Rail Property and third parties to release this land, thereby reducing Opex costs and generating development opportunities to bring benefit to the local communities that we serve and create income for our business. We are actively seeking development opportunities at depot locations in Woking, Feltham and Eastleigh to identify and maximise any further value

8.4.2. Stations

Wessex will take on the management at two key stations, Guildford and Clapham Junction, to increase the level of engagement between community developments and our enhancement plans. Below is the current list of station regeneration opportunities that are underway:

Location	Commercial Benefits	Operational Benefits
Guildford Station (Solum)	Planning consent granted for 438 apartments & retail	£25m station improvements (MSCP, surface parking, station building)
Twickenham (Solum)	115 apartments & retail	New Station and improved platform capacity.

Clapham Junction	Potential private sector via oversite development.	A new footbridge, entrance and concourse area to accommodate passenger flows; Potentially redevelopment of station platforms, track layout and lower level concourse. The Clapham Junction Congestion Relief scheme would see a new footbridge, entrance and concourse area to accommodate passenger flows
Surbiton	180+ homes	£6m MSCP
Woking	Potential for high density housing- led mixed use development on part of Days Yard and station lease area.	New Station building south of station to support track capacity with oversite development, MSCP and enhanced transport interchange.
Fareham	Bring forward housing development.	Rationalise existing operational uses of the site.

9. Delivery strategy

9.1. Summary route deliverability statement

We have engaged all our existing delivery partners in the CP6 planning process, through the Wessex CP6 working group, to assure that our planned costs and volumes are achievable. This also provides our deliverers with foresight of our workbank upon which to drive efficient commercial strategies and project management structures to maximise cost effectiveness.

Wessex Route also welcomes the opportunity to embrace the use of competition within its separate regulatory settlement in CP6 to seek out opportunities that exist for local innovation, both within the Route and our supply chain, and drawing upon best practice within other parts of the rail industry.

At a portfolio level, we are confident that the Wessex strategic plan is deliverable in CP6 on the basis that:

- Overall volumes are broadly comparable or less than those that were planned in CP5, therefore supply chain and access resources are available
- Individual asset workbanks have been reviewed for deliverability with delivery partners in case of resources being diverted to other routes or industries

We will continue to work with IP colleagues towards our aspiration that the regional IP team provide a single point of contact for all IP works on the route to provide better coordination and visibility of integration risks.

We will also continue to work toward an integrated workbank for all

planned activity on the route, including maintenance and works delivery, which is managed by a change control process such that it provides a decision support tool to help de-conflict and/or optimise the planning of works.

The table below shows the delivery partners for the various workbanks:

Scheme Type	Deliverer
Resignalling schemes	IP Signalling
Signalling minor works	Wessex Works Delivery
E&P renewals	IP Southern - Wessex
Conrail renewal E&P minor works	Wessex Works Delivery
Buildings and civils renewals	IP Southern - Wessex
Civils reactive and minor works	Civils minor works team
Earthworks renewals / refurbish	IP Southern - Wessex
Track and earthworks drainage	Wessex Works Delivery
S&C and plain line renewals	IP Track – S&C southern alliance
S&C and plain line refurbishment	Wessex Works Delivery
High output systems (if funded)	IP High Output
Level Crossing renewals	IP Signalling
Enhancements	IP Southern - Wessex

Feltham re signalling is developed to GRIP 4 and a phased delivery strategy is planned so access and resource requirements are clearly understood. We have a bottom up work bank for S&C renewals which have all been dated and aligned to identify available access which is also compatible with availability of critical resource across the South East & West (S&C South Alliance area). There are some risks, namely:

- We have assumed that long standing access norms that have been available through Stagecoach allowing delivery of c20km track renewals per annum at weekends will continue. There is no reason to believe that the new franchise will not support this position, but our ongoing detailed discussions will need to clarify
- Although Electrologix is the most DR compatible interlocking available and in use worldwide it has not been used for signalling schemes in the UK and has yet to be product accepted (although there is a plan and a trial installation to mitigate this risk)
- Committed obligations in the franchise to run greater numbers of trains on Sunday afternoons for 2020 may increase Schedule 4 costs
- The supply chain's capacity to increase resources for Year 1 works following down turn in Years 4 and 5 of CP5
- We have successfully delivered drainage works on Wessex using the Drain tram but understand that other routes aspire to use this delivery mechanism in CP6 which may introduce constraints in the absence of new plant
- During the tendering and set up of framework contracts there is a risk that development and delivery of projects is delayed if the commercial processes can overrun

There are also some opportunities:

 We have integrated all our asset renewal workbanks in CP6. This will allow detailed de-confliction and/or optimisation by individual projects understanding what works are planned when in geographical areas for the whole control period. This will facilitate decisions to exploit existing access to maximise efficiency or retime works early if they are incompatible. • If the Woking grade separation enhancement is delivered in CP6 there is a clear opportunity for efficient delivery with the resignalling of the Farncombe Petersfield area.

9.2. Planning a Better Network Strategy

One of the most important drivers for our CP6 Route Plan is the coordination of critical asset renewals with Network Rail System Operator enhancements proposed within our most congested sections of route throughout CP6 and CP7, to avert significant service disruptions in CP7, shown in the Timeline (next page). Wessex Route works closely with the Network Rail System Operator to develop enhancements alongside the Asset Management portfolio, to ensure business continuity throughout enhancement work.

The Network Rail System Operator has proposed several enhancement schemes which have been considered as having the potential to proceed to implementation in CP6 and have been compared to the renewals and maintenance portfolio to assess potential opportunities or conflictions. Enhancements are funded through a process that is outside of this plan and will progress through a pipeline process with joint-funding decisions being taken at key points. The decision to progress a scheme to the next stage is taken by DfT and will be subject to assessment of viability and affordability.

Therefore, some uncertainty exists, particularly when in the early development stage, as to which schemes will be funded through to completion. Except for Wessex main line upgrade 10-car operation, other schemes have not passed Final Investment Decision and are subject to further funding viability and affordability review.

9.3. Project Delivery (IP) Strategy

Infrastructure Projects Contracting Strategy: Wessex Route and IP have worked together to identify contracting and delivery strategies that deliver best value for money; specifically, through our delivery models and identifying opportunities to realise economies of scale. Further recommendations made available by the publication of the Hansford Study will be evaluated and addressed in line with our intention.

9.3.1. Access

Access for IP renewals is planned in line with EAS guidelines, and forms part of a single route access planning process described in Chapter 9.5.1. The disruptive possessions in the CP6 Access Plan are:

2019/20 - Year 1	
Spring (Weeks 1 - 9 ex B/H)	Shawford Junction S&C 2 No 52 hours
Early May Bank Holiday	Havant PLTR (IP Track) 76hr
August Bank Holiday	Berrylands S&C 52 hours Farnborough S&C 4 No 52 hours
Autumn (Week 23 - 38)	Guildford Farnham Road Bridge 6 Days Salisbury Fisherton St Bridge 3 Days
Xmas	Durnsford Road S&C 5 No 52 hours Feltham Resignalling Ascot-Ash Vale 7 Day Blockade
2020/21 - Year 2	
Easter	Guildford S&C 10 Days
Summer (Weeks 10 - 21)	Whitton Junction S&C 2 No 52 hours Feltham Depot Commissioning
Autumn (Week 23 - 38)	Twickenham S&C 4 No 52 hours
Xmas	Nine Elms Junction S&C 9 Day Blockade Windsor lines and Part mains

2021/22 - Year 3	
Easter	Kingston & Twickenham - Feltham Signalling Commissioning Guildford S&C 4 Days
Spring (Weeks 1 - 9 ex B/H)	Windsor Line Flood Prevention 16 Days
Early May Bank Holiday	Wilton Junction S&C (IP Track) 75hr
Summer (Weeks 10 - 21)	Eastleigh Depot Redevelopment tbc SCO
Autumn (Week 23 - 38)	Feltham Resignalling September Camberley LC 1 No 28 hour & 1 No 52 hour Worting Junction S&C 52 hours Twickenham S&C 3 No 52 hours Wokingham Gateway 4 No 28 hours
Xmas	Feltham Resignalling Sunningdale LC 76 hours
Winter (Week 41- 52)	Feltham Resignalling Windsor Branch 9 Days Half Term
2022/23 - Year 4	
Easter	Virginia Water & Ascot: Feltham Signalling Commissioning (IP Signalling) 4 Day Blockade
Spring (Weeks 1 - 9 ex B/H)	Feltham Resignalling Rusham LC 1 No 28-hour week before Easter
Early May Bank Holiday	Weybridge S&C 76 hours and additional access
Summer (Weeks 10 - 21)	High Output Track Renewals 12 weeks Woking Junction- Basingstoke
Summer (Weeks 10 - 21) August Bank Holiday	High Output Track Renewals 12 weeks Woking Junction- Basingstoke Farncombe-Petersfield Resignalling Commissioning 4 Days
Summer (Weeks 10 - 21) August Bank Holiday Xmas	High Output Track Renewals 12 weeks Woking Junction- Basingstoke Farncombe-Petersfield Resignalling Commissioning 4 Days Staines: Feltham Re-Signalling Commissioning (IP Signalling) 2/4 Day Blockade Staines S&C 4 Days Civils River Wey Bridge 3 or 4 Days Woking Grade Separation Signalling Upgrade 4 Days All Line
Summer (Weeks 10 - 21) August Bank Holiday Xmas Winter (Week 41- 52)	High Output Track Renewals 12 weeks Woking Junction- Basingstoke Farncombe-Petersfield Resignalling Commissioning 4 Days Staines: Feltham Re-Signalling Commissioning (IP Signalling) 2/4 Day Blockade Staines S&C 4 Days Civils River Wey Bridge 3 or 4 Days Woking Grade Separation Signalling Upgrade 4 Days All Line Haslemere S&C Approx. 3 No 52 hours
Easter	Staines S&C (IP Track) 4 Day Blockade Woking Grade Separation Portsmouth Lines Works 16 Days
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Spring (Weeks 1 - 9 ex B/H)	Templecombe S&C 1 No 52 hours
Early May Bank Holiday	Staines S&C (IP Track) 75hr
Summer (Weeks 10 - 21)	Eastleigh South Junction S&C 1 No 52 hours High Output Track Renewals 12 weeks Woking Jn - Basingstoke
August Bank Holiday	Hounslow Loop: Feltham Re-signalling Commissioning (IP Track) 75hr
Xmas	Woking Grade Separation Central Area Works 10 Days All Lines
Winter (Week 41- 52)	Half Term Wokingham: Feltham Re-signalling Commissioning (IP Signalling) 9 Day Blockade Wokingham S&C (IP Track) 9 Day Blockade

9.3.2. Supply Chain Capability

Different contracting strategies are required from different functions within IP:

- The primary contracting strategy for B&C and E&P will be an evolution of existing arrangements provided under the Southern Multi-Disciplinary Framework. The framework is designed to offer a cost-efficient delivery route for planned works and reactive response to earthwork failures. IP is also able to tender individual projects, where there may be commercial or resourcing benefits in doing so.
- The planned IP Track Plain Line and S&C contracting strategy has been shared with Wessex Route and is currently progressing through Board approvals. High Output project work will be delivered as a Network Rail Internal Alliance.
- IP Signalling commercial strategy is looking at re-shaping the whole signalling contracting strategy and aligns suppliers to routes to provide a better service.

- There are risks that reductions in volume for the last two years of CP5 will impact the capacity of the supply chain to upscale resources for year one of CP5.
- Route Services have confirmed that there is sufficient capacity in OTM and critical resources to support our delivery plan

9.3.3. Works Delivery Capability

Over CP5, Wessex Works Delivery has made organisational improvements that have enabled increasing consistency and reliability in the delivery of work. The team is part of the CP6 Working Group and is undertaking a significant recruitment campaign to provide and support new Project teams that can deliver the increased workload in CP6 on time and within budget.

9.4. Wheeled Plant Strategy

The On-Track Plant, OTP, wheeled plant budget for CP6 covers the refurbishment and upgrades to our existing fleet and the supply of new fleet, which was submitted by application 18 months ago.

The CP6 budget has now been awarded and will incorporate refurbishment and upgrades for all 13 existing plant assets, and 4 new assets (3 x Canters and 1 x 26t lorry) that were due to be delivered to the route in CP5 but were deferred to CP6. Further devolution of the management of this budget is under consultation between Route Services and the Routes. In Wessex we believe we have the expertise to manage this and that Route ownership would enable efficiency opportunities with greater control of this asset.

9.5. Maintenance Strategy

The purpose of our maintenance teams is to maximise the availability of our infrastructure. Our maintenance strategy comprises five work

streams that aim to safely reduce network downtime, through empowering our workforce, acting for the benefit of the whole system, data-led decisions and right first-time delivery.

Safe and effective delivery of work

Safety: reduce contact between workforce and trains Performance: more preventative tasks are completed Finance: reduce re-work

Effective ELLIPSE utilisation and SMART reporting

•Finance: reduce undertaking unnecessary work by increasing the quality of ellipse data and reports to optimise work plans

System view reliability growth

model asset reliability from system level to component level

Infrastructure: reduce SAFs by better prioritisation of workPerformance: reduce number of infrastructure delay incidents

Enhanced intelligent infrastructure

Safety: reduce contact between workforce and trainsFinance: optimised work plans increase value of interventions

Empowered people

•Safety: safe behaviours from an engaged workforce •Finance: increase management time in value-adding activities

We will continue to work towards our objective of **removing workers** from the track (see Safety Strategy, chapter 8) by:

- Continued roll out of PLPR and Eddy Current to automate inspections and remove staff from the track
- Completion of the faster safer isolations programme by the end of CP6 will eliminate strapping staff and offer 20% increase in time on tools.
- Using OTM in traffic with signal protection machine switch out will eliminate the need to deploy blocking and strapping teams when these are used
- Intelligent infrastructure and business critical rules will also support reduction in unnecessary trackside activity.

We will improve the **quality of planning** behind maintenance activities and reduce the quantity of rework or failed delivery by:

- Establishment of a dedicated head of work planning to drive continuous improvement
- Protection of our cyclic access strategy to allow controlled and planned management of defects rather than short notice change
- Faster safer isolations offering up to 20% more working time.
- Standard isolations to improve planning quality, continuous improvement, improved set up time and reduce risk of operational incidents.

We will improve the **quality of our data** and our ability to make great decisions. We currently have 100% fitment of intelligent infrastructure to points and track circuits where this is eligible. This is supported by 24/7 Flight Engineers located alongside infrastructure fault controllers within the ROC to manage and reduce overall response. In year 3 of CP5, this delivered 15997 delay minutes which equates to £1519, 677 in avoided schedule 8. In CP6 we will:

• Increase the number of Flight Engineers to improve our capability to

detect failures before they become service affecting.

- Extend the data channels of asset condition that are monitored
- Use remote condition monitoring of intelligent infrastructure in conjunction with reliability centred maintenance and business critical rules, adopted locally within Wessex as the 'Amber Deviation process', to optimise intervention intervals
- As mentioned above, operate the agreed cyclic access strategy for CP6 which will for the first time allow for the proactive management of some assets and defects to prescribed timelines
- Use TIGER to provide a marked increase in intelligent decisionmaking support to TMEs and enable the proactive management of track geometry in a planned manner rather than as a reactive response to actionable defect
- Data from Eddy Current monitoring will enable effective targeting of rail milling to mitigate RCF; we calculate that this will deliver a 10-fold efficiency over the equivalent, traditional Re-railing
- Continue our Earth Leakage Detector triage process to mitigate signal power supply failures and introduction of new technology (Viper) to monitor the condition of signal power supplies and core to core failures
- Continued improvement in asset data quality and management to facilitate activities set out above.

Further details of the National Infrastructure Intelligence portfolio are provided in Chapter 5.2.2.

9.5.1. Access

Wessex Approach to Weekend and Golden Block Planning

Golden Block Possessions is a concept unique to Wessex Route. It describes Maintenance Delivery Unit access that is designed to deliver

major items of planned maintenance at weekends. The duration of a Golden Block varies between 10 and 28 hours depending on location and work scheduling requirements. So, for instance, Golden Blocks between Waterloo and Wimbledon will be of 28 hours duration whilst those between Yeovil Junction and Pinhoe will be of 10 hours only.

They are requested by both Inner and Outer Delivery Units on an Annual basis and are validated in meetings with both DUs during the EAS information gathering stage prior to TT-80 weeks. The Golden Block planning process follows these steps:

- Weekend access is most effective if provided on a week when planned midweek cyclic access can be used as follow up to the Golden Block. This means that a DU will be able utilise on track machines and plant in the most cost-effective manner.
- 2) These weekends are validated with known operators' commitments to serving major events, such as sporting and cultural events, and of the need to keep some weeks open due to higher loadings during summer and weeks close to Christmas.
- The Golden Block proposals are shared with other Routes and with TfL to avoid any inherent conflicts between our separate plans.
- 4) On some occasions, customer constraints will mean that the aim in item 1) cannot be met

When we have established the above we then look to plan other items of work. Due to the many planning constraints in Wessex, this often means that the Golden Blocks will be shared with other parties. DU are usually able to accommodate multifunctional working, but as part of the EAS validation process, a series of de-confliction meetings ensures that a high-level plan is developed for each piece of shared access and that all parties understand what can be achieved within a specific possession. We will always try to plan the most disruptive access first during this part of the process. This includes:

- Signalling Commissioning. Due to the need for extended wheels free testing these will generally be designed only for the Resignalling works.
- Major S&C renewals these will often require access more than 52 hours which will generally mean planning for delivery on Bank Holiday weekends. They will also have a significant requirement for on track resources.
- Any other works requiring access more than 52 hours bridge reconstructions, major drainage items etc. – requiring less or no on track resources.
- Works requiring access up to 52 hours with a significant requirement for on track resources – usually track renewals, refurbishments, or mixed function enhancement works.
- 5) All other works requiring weekend access but with little requirement for on track resources.
- Other items which may only require short access times, but for which daytime working would be an advantage – bridge inspections, track surveys etc.

Due to well understood issues in obtaining extended midweek access in Wessex, there will still be maintenance works that do not require Golden Block times, but for which midweek access is too short. For these works DUs will request extended Saturday/Sunday possessions of about 6 hours duration, which we will add to the plan after the above items and on weekends when DU resources will be available. These will be matched to cyclic midweeks if also booked. In Wessex it is usual to informally discuss access requirements with affected Operators throughout the plan production period as well as the more formal processes via Engineering Access Planning teams and LACC Meetings. Ultimately, and as required by Network Code, the plans are formally submitted to all affected parties as Version 1 of Engineering Access Statement for the year in the preceding October. Plans are then discussed with all parties and adjusted as requested between Version 1 and Version 4 the following June.

9.5.2. Maintenance Capability

In Wessex Inner delivery unit, we have created a dedicated reactive team to improve our service recovery and to enable our planned work to be delivered without interruption. We will also build this capability within Outer delivery unit.

We recognise that CP6 is the start of increased recruitment in maintenance units, through high levels of our workforce reaching retirement age, coupled with needing to grow our team to meet higher maintenance targets. To achieve this, we are developing a transformational recruitment strategy which will bring in new staff in sufficient numbers to match our medium-term requirements and align training provision with recruitment activity to reduce the administrative burden on front line managers and increase efficiency in bringing skilled people into our front-line teams.

Our people strategy includes early engagement within regional schools, colleges and universities to grow our pipeline for apprenticeships and graduate schemes. Our diversity and inclusion strategy includes plans to create inclusive working environments and practices that make our work accessible and attractive to potential employees regardless of age, gender, religion, race and ability.

9.6. Operations Strategy

In the long term, our Operations Vision is to deliver system control with world class professionalism. We can achieve this through inspiring highperformance levels from our people, by paying attention to detail in delivering better working conditions and transforming our organisation to bring route controllers and signallers together, to eliminate communication barriers to quick, effective operational decision making.

Our CP6 Strategy will provide the working environment and training of our maintenance and operational staff, in line with signalling asset renewal requirements, which will deliver a Digital Railway in Wessex by the end of CP8.

Over CP6 we will:

- Incorporate Holden Review recommendations in our mid-term strategy
- Introduce an incident management system to facilitate continuous improvement in recovery of incidents.
- Isolated Traffic Management to assist decision making, assuming Digital Railway business case is funded.
- Re-signalling of Feltham will reduce asset failure and thereby improve resilience in the suburban area
- Re-signalling of Farncombe/Petersfield will allow closure of 3 signal boxes on the Portsmouth line.
- Delivery of SCADA project will enable rationalisation Eastleigh and Raynes Park ECRs to Basingstoke ROC. We do not expect it to realise headcount efficiency but rather deliver better planning of isolations and therefore efficiency in delivery; eliminate obsolescence risk; and mitigate Industrial Relations risk.
- We will review our MOM coverage strategy to meet response time

targets (inner: 15 mins, outer: 30 mins). Opportunities to deliver this may include mobile resources rather than fixed depots and use of drones, but there are potential IR challenges with this and these need to be developed carefully.

- Move to cyclical and standard possessions to improve quality of planning and reduce errors. It will also provide a platform for continuous improvement
- Root and Branch review of accommodation and communication systems provided to PICOPs to improve management of possessions process.
- Performance resilience initiatives delivered in alignment with the Network Rail Business Continuity Model methodology.
- We will improve our Asset Management (delivery/ maintenance) resilience capability by making best use of performance data to drive maintenance and targeted renewal schemes to reduce the number of service affecting failures.
- Best use of Remote Condition Monitoring and train/ drone borne inspection data will be used to locate failures earlier and more precisely, which will enable planned preventative interventions and accelerate fault rectification work.
- Wessex will continue to pursue new technologies for data gathering and increase its analytical capability to move towards predict and prevent intervention strategies throughout CP6.
- As we work through the methodology of BCM, we will update our Route Strategies to provide resilience in the people, processes and technologies that enable us to run the railway.

9.7. Business Development Strategy

Wessex Route is keenly developing its strategy to offer our delivery services to new market investors, to attract new sources of funding and

financing into our rail network. We look forward to supporting quicker decision making and increased participation in locally funded and delivered projects that will help developers, councils and businesses to contribute to their own growth through improvement of the Wessex railway.

Whilst seeking funding, the focus, in order of priority, should be to attract additional funding for:

- Enhancements projects re-planned into CP6 through the Hendy Review
- Strategically important enhancements in CP6 which are not covered by the Hendy Review
- Projects that generate operating savings as well as benefits for a third party
- Other third party funded projects

The strategy is underpinned by the proposition that parties benefitting from a project should contribute proportionately towards that project. This represents a significant change from the current position, where beneficiaries of railway enhancements would often see them delivered by Network Rail and funded by the Department for Transport (DfT).

To bring about this change, it will be necessary to change the current culture. Network Rail already attends numerous varied stakeholder meetings with many potential funders, and it is recognised that it may not always be appropriate for the attendance to be solely from the relevant route.

To develop investment propositions that stand the best chance of securing third party investment, it is necessary to understand third party requirements at an early stage. The early development of large enhancements schemes is invariably led by Network Strategy and Capacity Planning (NS&CP), so close working relationships will need to be established and maintained to promote strategic alignment.

A collaborative relationship with NS&CP will also be vital in developing other investment propositions, as Network Rail's role as system operator will need to be balanced with the requirement to secure third party funding.

Once a potential third-party funder has been identified, it will be necessary to develop a proposal. The preference will be for the interested third party to fund the development. However, it is recognised that this may not be possible, depending on the third party's level of interest. It may, therefore, be necessary to develop proposals at NR cost to attempt to gain interest from the third party. The level of investment that NR is willing to make without commitment to fund by a third party will depend on:

- The priority level of the scheme (as set out above)
- The potential level of investment that may be secured
- An initial assessment (in conjunction with System Operator) of the likelihood of a viable proposal being found
- An assessment of the third party's ability / likelihood to fund the project.

Any expenditure shall follow the existing governance around investment authority. It may be necessary to create a funding source or expand preauthority to allow such investment to take place.

10. Headwinds and efficiency

10.1.

Capex fishbone



10.2.

Opex fishbone



The rail industry faces fresh challenge to invest public money more efficiently, as UK infrastructure costs continue to rise. Historically our plans have been overly optimistic, through oversight of headwinds, which then offset our hard-won efficiencies.

Our approach is to first understand our base costs as we enter CP6, we will then use tools to validate whether this base is correct, market testing where appropriate. We will focus Opex improvements on being better every day where the small incremental improvements add up to a big number across the control period. In parallel, we will lead our Capex efficiency programme by sharing a stable long-term work bank that allows our contracting strategy to deliver benefit through working closely with our industry partners.

We will introduce activity-based planning support tools that will help us drive up productivity of our workforce to create new resource that can spend time on predict and prevent activity which in turn will improve performance and reduce schedule 8 costs. Finally, we will make use of technology and work with others to help innovate and find new ways of working that help us continue our journey to become more efficient.

Our plans and our governance process for efficient delivery are set out more fully in our Route Efficiency Strategy.

11. Risk and uncertainty in the CP6 plan

	Unit of	CP5 (£m)		CP6 (£m)						CP7 (£m)	
	weasure	18/19	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	
Risk (SBP Route held)	£m		6.017	8.207	14.724	17.412	18.191	64.552			
Risk (DD Route held)	£m		8.622	11.765	21.108	24.981	26.121	92.598			

This section provides an explanation of the how we have built up our overall plan and sets out our estimate of the degree of financial uncertainty within this plan.

11.1.

oute Headroom for Business Performance Risk

Our Strategic Plan includes £65M of headroom, which has been created by holding back some SoFA funding from Network Rail's overall CP6 plan and is managed centrally. This headroom facilitates the management of business performance risk over the control period at route level. Unspent headroom budget can be considered as contingent investment and will be invested in improving the railway.

Routes also have access to a portfolio headroom budget in CP6, particularly for inflation risk. Again, unspent budget will be invested in further investment to improve the railway. Portfolio headroom will be controlled through our corporate business planning process.

11.1.1. Isle of Wight

There is a risk that negotiation of a new lease for the Isle of Wight Island Line will define a new investment profile. As this is a 'key contract', the successor operator for the next franchise will also assume the legal entity of tenant. Given the nature of the lease there was minimal investment in our CP5 plan and so this assumption is carried forward into CP6.

We have made a provision for the renewal of Ryde pier which would currently be unaffordable but terminal to the operation of the line if it is not available. The lease 'property' includes eight railway stations, one Light Maintenance Depot (LMD), track, the land in vicinity of the track, all the railway infrastructure on the IOW (excluding IOW steam railway assets) and Ryde Pier. It is assumed as a zero-cost line in this plan as it is not part of the regulated asset base.

11.1.2. Safety Risk

The funding for our safety strategies currently stands at £25m. There is a risk that benefits are not fully realised because the investment is embedded across several workbanks.

11.1.3. Estimating

Pre-efficient costs in our plan are based on 'current rates' but include any additional scope needed to deliver the outputs in the plan. We have used 2016/17 unit rates to develop our capital expenditure forecasts and CP5

exit rates for support, operations and maintenance expenditure forecasts. Drivers of rate increases (headwinds/inefficiencies), or rate reductions (efficiencies/tailwinds), where there is a reasonable expectation they will occur, have been identified separately from the core CP6 plan.

The combination of our core CP6 plan, headwinds/tailwinds and efficiencies/inefficiencies forms our complete submission; however, it excludes any funding for financial risk that sits in our plan. We consider that our complete submission represents the most likely outcome for CP6.

Our plan is set around P50, in other words, 45% to 55% of planned outputs will be delivered at their estimated costs. This assumption has been validated against the spread of CP5 costs versus unit rate estimates. However, estimating uncertainty varies between expenditure categories. For example, we consider that there is significantly more uncertainty in our renewals plan than in the support, operations and maintenance plans in CP6. Our analysis also shows that there is significantly more financial uncertainty in later years of the control period.

Figure 11.1, below, presents our estimate of the overall range of financial uncertainty across our income and expenditure for CP6. It also identifies the main drivers of the uncertainty ranges. The information in this table is based on route analysis of the financial uncertainty in support and operations, maintenance and renewals costs, and income. The spot values in Figure 11.1 include headwinds/tailwinds and efficiencies/inefficiencies. The financial uncertainty ranges represent our assessment of the outturn income and expenditure that could occur in 95% of scenarios in CP6.

Figure 11.1: CP6 financial uncertainty ranges

Aroo	Potential range (low spot high)	Summary of key drivers of the uncertainty range	% of ı	range
Alea	rotential range (low – spot – nigh)	Driver of range	Lower %	Upper %
		Effects of Digital Railway on Feltham Resignalling and other factors	-71%	54%
	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	-10%	16%	
Renewals		Cost of supplier and contractor costs	-7%	10%
		Deliverability of forecast efficiencies	-7%	6%
	2019/20 2020/21 2021/22 2022/23 2023/24	Availability of access	-1%	4%

	150	Deliverability of forecast efficiencies - Only 50% of efficiencies delivered	0%	42%
	140 - 142 + 141 + 141 + 142	Changes in policy and practises e.g. asset policies, fatigue management or new standards - New standards reducing requirement, fatigue management	-60%	23%
Maintenance	E_{120} - 129 E_{120} - 119 115 118 116 117	Cost of supplier and contractor costs - Contracting efficiencies not realised or better than expected	-40%	19%
	110 - 109 - 107 - 108	Availability of access - Reduced access as timetable changes	0%	11%
	100 2019/20 2020/21 2021/22 2022/23 2023/24	Weather and other serious incidents - A severe incident such as embankment failure	0%	5%
	110 $100 - 07 + 101 + 99 + 99 + 99 + 104$	Changes in policy and practises e.g. asset policies, fatigue management or new standards - Full cost of devolution and open for business, fatigue management costs (Ops)	-13%	62%
Support and operations	E ⁹⁰ - 86 88 85 85 84 88	Operational impact of new assets and systems - Guildford/Clapham/WIT offset by QX	-75%	0%
	80 - 83 = 80 = 80 = 79 = 82	Deliverability of forecast efficiencies - Indirect headcount efficiency, only 50% of efficiency delivered	-13%	32%
	2019/20 2020/21 2021/22 2022/23 2023/24	No charge for toilets at managed stations	0%	6%
Total expenditure	$\begin{array}{c} 800\\ 600\\ 400\\ 200\\ 2019/20\\ 2020/21\\ 2019/20\\ 2020/21\\ 2021/22\\ 2021/22\\ 2022/23\\ 2022/23\\ 2023/24\\ \end{array}$			
		Access charging income	-14%	23%
	200 - 197 = 197 = 196 = 195	Schedule 4	0%	131%
Incomo		Schedule 8	-7%	538%
income	$\begin{array}{c} \mathbf{u} \\ 160 \\ 140 \\ 140 \\ 2019/20 \\ 2020/21 \\ 2021/22 \\ 2022/23 \\ 2023/24 \\ \end{array}$	Other income	-22%	0%

12.CP6 regulatory framework

This section sets out our latest forecast of expenditure and income for CP6, and also how our forecasts compare to the assumptions ORR made in calculating our CP6 route funding settlement. Consistent with ORR's PR18 final determination, the tables in this section include route-incurred, and allocated, expenditure and income.

12.1. CP6 expenditure forecast

In Table 12.1, below, we provide our latest CP6 forecast of expenditure. The forecast, below, will act as the baseline against which ORR measures financial performance in CP6.

Table 12.1: CP6 expenditure forecast

£m in cash prices	19/20	20/21	21/22	22/23	23/24	Total	Other*	CP6
Support	33	17	12	16	22	100	217	316
Operations	66	68	69	69	69	341	5	347
Maintenance	123	123	123	115	114	598	35	633
Renewals	172	238	307	325	287	1,329	396	1,726
Schedule 4 & 8	25	23	26	31	39	145	31	175
EC4T, industry costs and rates	1	1	1	1	1	3	436	439
System Operator						0	33	33
GPF: route	0	10	15	19	19	63	0	63
GPF: contingent asset management	0	12	23	28	30	94	0	94
GPF: centrally- held						0	97	97
Total costs	419	492	575	605	581	2,672	1,250	3,923

*Other represents the route allocation of national function costs.

In calculating the route funding settlement for CP6, ORR made assumptions about our costs. Table 12.2, below, compares our CP6 business plan expenditure forecasts with ORR's PR18 final determination assumptions.

Table 12.2: Business Plan vs. Final Determination expenditure assumptions

Cm in each prices	CP6 B	usiness	Plan	Final D	Determin	ation	Variance			
zin in cash phees	Route	Other*	CP6	Route	Other*	CP6	Route	Other*	CP6	
Support	100	217	316	50	200	250	-50	-17	-66	
Operations	341	5	347	266	7	273	-75	1	-74	
Maintenance	598	35	633	616	31	646	18	-5	13	
Renewals	1,329	396	1,726	1,295	359	1,655	-34	-37	-71	
Schedule 4 & 8	145	31	175	194	0	194	50	-31	19	
EC4T, industry costs and rates	3	436	439	0	468	468	-3	32	28	
System Operator	0	33	33	0	26	26	0	-7	-7	
GPF: route	63	0	63	72	0	72	10	0	10	
GPF: contingent asset management	94	0	94	103	0	103	10	0	10	
GPF: centrally-held	0	97	97	0	104	104	0	7	7	
Total costs	s 2,672 1,250 3,923 2,597 1,194 3,791 -75		-56	-131						

Please note: ORR's PR18 final determination did not separately identify the costs allocated to routes from route-incurred costs. However, the table, above, identifies allocated costs based on underlying information from ORR's analysis.

12.2. CP6 income forecast

The expenditure in Table 12.1 needs to be paid for. In Table 12.3, below, we provide our latest CP6 income forecast. Our charging income forecast reflects our latest forecast of CP6 traffic levels and is consistent with final CP6 price lists.

£m in cash prices	19/20	20/21	21/22	22/23	23/24	Route	Other*	CP6
Variable charges (VUC, EAUC)	-21	-23	-25	-25	-26	-120	0	-120
Stations LTC	-24	-25	-25	-26	-26	-127	0	-127
EC4T	0	0	0	0	0	0	-319	-319
Schedule 4 ACS	-18	-17	-19	-22	-26	-101	-74	-175
FTAC	-72	-79	-86	-91	-90	-419	-115	-534
Network Grant (SOMR)	0	0	0	0	0	0	-1,830	-1,830
Income from FNPO	0	0	0	0	0	0	-186	-186
Other single till income	-55	-57	-59	-61	-62	-294	-194	-488
Income within scope of PR18	-191	-201	-214	-225	-231	-1,060	-2,719	-3,779

Table 12.3: CP6 income forecast

Please note: Government grants for corporation tax, financing costs, BT Police costs and enhancements were not agreed as part of ORR's final determination so we have not included them in our forecast of income for completeness.

*Other represents the route allocation of national function income.

In calculating the route funding settlement for CP6, ORR made assumptions about the amount of income we will receive from charges and other income. Table 12.4, below, compares our CP6 business plan income forecasts with ORR's PR18 final determination assumptions. Table 12.4: Business Plan vs. Final Determination income assumptions

Cm in each prices	CP6 Business Plan			Final I	Determin	ation	Variance			
£m in cash phces	Route	Other*	CP6	Route	Other*	CP6	Route	Other*	CP6	
Variable charges (VUC, EAUC)	-120	0	-120	-124	0	-124	-5	0	-5	
Stations LTC	-127	0	-127	-125	0	-125	2	0	2	
EC4T	0	-319	-319	0	-335	-335	0	-16	-16	
Schedule 4 ACS	-101	-74	-175	-194	0	-194	-94	74	-19	
FTAC	-419	-115	-534	-536	0	-536	-117	115	-2	
Network Grant (SOMR)	0	-1,830	-1,830	0	-1,836	-1,836	0	-6	-6	
Income from FNPO	0	-186	-186	0	-186	-186	0	0	0	
Other single till income	-294	-194	-488	-229	-224	-454	65	-30	34	
Income within scope of PR18	-1,060	-2,719	-3,779	-1,209	-2,583	-3,791	-148	136	-12	

- The variance for the Schedule 4 ACS is down to new CP6 pricing and adjusted on a traded basis rather than a lead-TOC.
- The variance for the FTAC is down to changes in funding requirement for the route.
- The increase in the Single till income is due to extra revenue deriving from the two new Managed Stations Lite and bring Waterloo International Terminal into action.

13.Sign-off

This document and accompanying templates are owned by the Route Managing Director (RMD).

Submission of this document indicates confirmation that:

- all appropriate level 1 assurance activities have been undertaken (see separate advice on definition of level 1 assurance)
- the RMD is satisfied with the quality, currency and appropriateness of the content of this document as well as the cost, volume and activity projections to which it refers
- the signatories are satisfied that the plan has been assessed as deliverable, subject to the assumptions articulated in Appendix B

Authorised by:



Andy Thomas		
Route Managing Director	Date	8 th February 2019
Stuart Kistruck		
Director, Route Asset Management	Date	8 th February 2019
Samantha McCarthy		
Route Finance Director	Date	8 th February 2019
Steve Walters		
IP Regional Delivery Director	Date	8 th February 2019

Appendix A Stakeholder Engagement

Who our stakeholders are



Our route customers consist of four freight and five train operators, who directly serve the needs of over fifty local authorities, a major port, local and national transport organisations and five international airports. The diagram above represents the external stakeholders with whom Wessex is currently engaging with on potential CP6 opportunities.

Our current passenger customers and their core business

South Western Railway

South Western Railway assumed the Wessex franchise from August 2017 for seven years and has committed to deliver a £1.2billion investment programme, including better trains, more seats and quicker journeys, which will be embedded in the December 2018 and 2020 timetables. Wessex Route is in an early phase of an alliance with South Western Railway and is building the shared goals, responsibilities and processes that will facilitate good collaboration.

The number of passengers travelling on the network has more than doubled in the past 20 years. We now carry over half a million passengers every day and accommodate more than 222 million passenger journeys every year. London Waterloo is the busiest station in the UK, with over 100 million people passing through the station in 2015.

SWR operate services from London Waterloo with mainline services to Woking, Basingstoke, Southampton Central, Portsmouth Harbour, Bournemouth, Weymouth, Exeter, Salisbury, Reading and Alton. Their suburban routes include Guildford, Dorking, Windsor, Weybridge and Shepperton. They run approximately 1,600 trains a day on the network, serving more than 200 stations.

The Island Line

This is a train service which runs on the Isle of Wight, serving the towns of Ryde, Brading, Sandown, Lake and Shanklin. It covers 8.5 route miles, with the rolling stock being ex-London Underground (Northern Line) rolling stock. SSWT have the franchise to operate until March 2017, although the lease expires in 2019. Network Rail is the owner of rail infrastructure and assets on the Isle of Wight, and we have leased the entire railway

(land/infrastructure assets) to the Island Line. Maintenance and renewal responsibilities are shared between both parties.

Cross Country

Cross Country is part of the Arriva group, which is owned by Deutsche Bahn. The CrossCountry network has Birmingham at its heart and operates long-distance, high-speed services linking Scotland, the north east and Yorkshire with the east and west midlands, the south west and the south coast. Cross Country have a large proportion of discretionary business and leisure travellers, with Fridays and Sundays their busiest days. They run circa 298 trains on an average weekday travelling through 119 stations. Their current franchise was awarded in November 2007 and was extended on existing terms and conditions until 15 October 2016. They are currently negotiating a direct award with the DfT through until November 2019.

Great Western Railway (GWR)

GWR is owned by FirstGroup plc and operates high-speed services between London Paddington, the Cotswolds, South Wales and the West Country, as well as commuter services in London and the Thames Valley, regional services between south-east Wales and south- west England and local services in the south-west of England. They carry approximately 1.5 million passengers every week on 9,000 services and call at 276 stations. GWR is the only UK rail company to operate high-speed, inter-city commuter, regional and sleeper services. We have four interfaces with GWR: at Basingstoke with the service between Reading and Basingstoke, our North Downs line with services running between Reading and Gatwick, at Salisbury with the Portsmouth Harbour to Cardiff services and finally at Weymouth with the Bristol-Westbury-Weymouth services.

Govia Thameslink Railway (GTR)

GTR is the largest train operating company in the UK. They operate the Thameslink, Southern and Great Northern rail franchises, and the Gatwick Express airport service. GTR is a subsidiary of Govia which is a joint venture between the Go-Ahead group and Keolis. GTR carries 273 million passenger journeys per year, operating over 3,200 services every week day and serving 320 stations. Southern routes run from London Victoria and London Bridge through to Brighton, Portsmouth and Southampton.

London Overground (LOROL)

The London Overground is a suburban network of rail services managed by Transport for London (TfL) in the capital. It was launched in 2007 to provide better connections between areas outside central London. LOROL operates these services under a concession agreement with TfL. LOROL operates 1,473 services on 96 trains and carries more than 520,000 passengers every day.

London Underground (LUL)

Wessex Route has a unique relationship with London Underground (LUL) because the Wimbledon-East Putney section of the District Line is owned by LUL, but Network Rail has rights to operate services along the Route. We also have special agreements in relation to the signalling operation of the route from Wimbledon signalling panel and some maintenance activities. We have station interfaces with LUL at Wimbledon and Richmond.

Other station interfaces at Wimbledon are with GTR and the Croydon Tramlink (part of Transport for London's rail operation). The rail infrastructure for these services, however, relate to Sussex Route.

Our freight customers and their core business

Wessex Route serves its principal freight customers, with the expanding Port of Southampton considered critical to the success of rail freight in the UK.

DB Cargo

Currently the largest Freight Operating Company (FOC) in the UK and is active in all markets including automotive, intermodal, steel and construction materials. Over the past few years the both the number and length of automotive services have grown considerably on Wessex with the rise in overseas demand for UK produced cars. This has a significant impact for both the BML between Basingstoke and Southampton and the BKE line, which both have especially difficult access and increased embankment loadings because of this traffic.

Freightliner Group

Freightliner Group has businesses in the United Kingdom, continental Europe, Australia and the Middle East. In the UK, the group operates two businesses in the form of Freightliner Intermodal and Freightliner Heavy Haul. Freightliner Intermodal currently operates most of intermodal services, the core freight traffic conveyed on Wessex.

GB Railfreight

GB Railfreight operates in many markets across the UK, including construction materials and intermodal. On Wessex, the principal traffic is the conveyance of gypsum from Southampton.

How our stakeholders have been engaged with

The Route Strategic Planning process has engaged in a range of stakeholder activities to capture requirements from Local Authorities, F/TOCs, ORR and wider NR teams. On-going Stakeholder Engagement is managed through our Stakeholder Engagement Strategy, see Appendix H.



This report has also made use of the findings from other engagement activities:

- National Freight Strategy (FNPO, August 2017, Appendix H)
- Wessex Route Study (Strategic Planning, August 2015)
- Route Specification, Wessex (NWR, March 2016) and
- National Rail Passenger Survey (Transport Focus, July 2017)
- Regular operator meetings. Wessex Route meets regularly with its TOC and FOC customers, as shown in the Stakeholder engagement plan below.

Stakeholder Engagement Plan		Lead TOC	TOC and FOC		
Weekly	Joint Exec	Visualisation	-		
Deviedie	Performance Board -				
Periodic	Safety Board	Route Customer Forum	- - CRE Engagement Board (6-monthly)		
Quarterly	Route Investm	ent Group Stakeholde	r Board (6-monthly)		

Stakeholder Priorities

Route Passenger Operators

The Wessex franchise is growing in value; it is currently estimated to be worth around £1bn passenger revenue per year. The most pressing need of our operators is to overturn the 8-year decline in train performance. Wessex Route has supported several industry-wide reviews in the last year to pinpoint the leading factors in timetable failures, which we will continue to use as the foundation of sustainable improvement plans. Our train performance and asset reliability plans can be found in Chapters 4 and 6 respectively.

We work with the Network Rail System Operator to define network

requirements beyond CP6, that will help train operators deliver for the growing numbers of passengers and freight. The Market Study shows continuous growth of rail passengers, which compliments societal trends of greater urbanisation and road congestion. Our capacity plans are referenced in Chapter 9 but are funded separately to this plan.

Better consultation in possession planning

- Value for money possession options through sharing cost information
- Early engagement
- Aligned with other routes during disruptive possessions
- Less late notice changes with better possession planning

Better Asset Reliability

- Smoother and quicker journeys with better track quality and the removal of Temporary Speed Restrictions (TSRs)
- Increased capacity and reliability by delivering Feltham and Farncombe to Petersfield re-signalling schemes
- Reduced Delays Per Incident (DPI)
- Joint Performance Improvement Initiatives, see table below

Growth

- Missed revenue as Sunday passenger numbers rise
- Release fast line capacity with the installation of the Woking flyover
- Overall journey time improvements, which are key for long distance operators
- W10 freight diversionary route to allow works on Reading to Basingstoke (BKE)
- Three trains per hour on the North Downs line (from 2 tph)

Our Freight and National Operators

The UK automotive industry relies on our freight service between Southampton Port and Basingstoke, providing access to the international shipping route for imports and exports to/ from the Midlands. Southampton Port is well established for international shipping and is expecting continued growth in activity from trade beyond Europe as the economic power around the globe grows. Delays to freight services are directly costly to businesses and the UK economy.

Details of the National FNPO Strategy are in Appendix H, key needs are:

- Reduce journey times from Southampton to Reading
- Increase East West services for growing aggregate market
- Southampton to West Midlands/ WCML train lengthening
- Reduce risk of derailments through effective maintenance and renewals plans for sidings and yards
- Review and establish the value of removing Heavy Axle Weight, HAW, Restrictions where applied on track / structural assets.
- Better TSR/ PSR management and removal plans

Long Term Planning

The Route considers the needs of future passengers and freight users to commission necessary changes to the network and timetable. Further details of the Route Study are provided in Chapter 6. The key needs identified are:

- Operation of the full capability of the Windsor Lines
- Extension of the Up Relief Main Line and re-configuration of the lines between Queenstown Road and Waterloo
- Increase long distance main line capacity with Woking flyover
- Increase long distance main line capacity with Basingstoke flyover

- Increase peak capacity of suburban lines with CrossRail2, ETCS or 12 car operations
- Increase frequency and speed of long distance journeys by station capacity works at Guildford, Southampton Central and Clapham Junction stations

Our Passengers' Needs

Our passenger needs are captured by Transport Focus. According to the 2016 study, the areas of greatest dissatisfaction amongst passengers were Wi-Fi coverage and access to charging sockets, which reflects modern priorities for a good journey experience. Relating to operations, maintenance and renewal, the leading passengers' concerns are <u>overcrowding</u> and <u>delay management</u>, with around 1 in 5 passengers feeling dissatisfied, followed by <u>punctuality</u> and <u>frequency</u>, which were assessed as poor by 1 in 7. <u>Station upkeep</u> was listed as poor by around 1 in 10 users. Our response to these issues can be found in Chapters 4 and 6 and is captured in our Train Performance Route Objectives.

The relevant Chapters in the Route Strategic Plan show how Stakeholder Needs are aligned with the Route Objectives and how they will be achieved.

How stakeholder needs have been prioritised

Wessex has applied MoSCoW principles as follows, to prioritise stakeholder needs:

Must do needs are critical to all stakeholders immediately or continuously and are strongly aligned to Network Rail asset strategies and key performance indicators for CP6.

Should do needs are important but not immediately or continuously critical to most stakeholders or may have a dependency on the

completion of a 'must do' activity.

Could do needs are requirements that benefit fewer stakeholders and may be included in CP6 if low cost solutions are available.

Won't do needs are those requirements which are unachievable in CP6 but may be considered in future Control Periods.



MoSCoW Prioritisation of Stakeholder Needs

The importance and urgency (timeframe) of the stakeholder requirements has been qualitatively assessed at the route strategy stakeholder workshops.

The results of the prioritisation of needs

The common themes raised by our stakeholders were:

Better consultation in possession planning

- Value for money possession options through sharing cost information
- Aligned with other routes during disruptive possessions
- Less late notice changes with better earlier engagement

Better Asset Reliability

- Smoother and quicker journeys with better track quality
- Increased capacity and reliability by delivering Feltham re-signalling
- Reduced Delays Per Incident (DPI)
- Reduce risk of derailments in sidings and yards
- Better TSR/ PSR management and removal plans
- Reduce stepping distances and overcrowding at busy stations

Growth

- Missed revenue as Sunday passenger numbers rise
- Release fast line capacity with the installation of the Woking flyover
- Overall journey time improvements for long distance operators
- W10 freight diversionary route for Reading to Basingstoke (BKE)
- 3-4 trains per hour on the North Downs line (from 2 tph)
- Operation of the full capability of the Windsor Lines
- Extension of the Up Relief Main Line and re-configuration of the lines between Queenstown Road and Waterloo
- Increase long distance main line capacity with Woking flyover
- Increase long distance main line capacity with Basingstoke flyover
- Increase peak capacity of suburban lines with CrossRail2, ETCS or 12 car operations

- Increase frequency and speed of long-distance journeys by station capacity works at Guildford, Southampton Central and Clapham Junction stations
- Reduce journey times from Southampton to Reading
- Increase East West services for growing aggregate market
- Southampton to West Midlands/ WCML train lengthening
- Review and establish the value of removing Heavy Axle Weight, HAW, Restrictions where applied on track / structural assets.

How do these priorities link to short and long-term route objectives?

There is a complex programme of works to deliver these benefits that necessarily transcends Control Periods.

Capacity and Reliability

- CP5: Reduce DPI through improved operational response, better access planning and increased capacity from the Waterloo enhancement scheme
- CP6: Improve asset reliability through urgent, critical re-signalling schemes on the Portsmouth Line and Feltham, targeted asset management and reduce dpi through greater business resilience
- CP7: Digital Railway and development of CrossRail2 revolutionise capacity and control systems

Best Practice Asset Management

- CP5: Improve consultation with lead TOC for possession planning. Increase use of Activity Based Planning for robust maintenance plans and efficient possession usage
- CP6: Optimise asset reliability through aligned maintenance and renewal plans and planned, preventative interventions, enabled

through increased Intelligent Infrastructure. Develop complex integrated schemes for CP7. Faster removal of TSRs to prevent spread of reactive delay for long distance and freight operators.

• CP7: Growing predict and prevent capability to reduce disruptive interventions through improved use of data and technology.

Improving Safety

- CP5: Level Crossing closure and improvement programme addressed risk at the most critical locations
- CP6: Resignalling schemes will reduce risk at key level crossing locations. Faster Safer Isolations will be fully rolled out that improves workforce safety
- CP7: Digital Railway enables safer working in the rail environment

Suburban Capacity / Reliability / Frequency

- CP5: Waterloo upgrade enables 10car services to run on suburban lines and increase capacity
- CP6: Feltham and Farncombe to Petersfield resignalling schemes reduce asset failures and enable CP7 enhancement schemes
- Farncombe to Petersfield resignalling will improve journey reliability on this core line. Enhancements funding will deliver key elements of Waterloo Capacity Phase 2
- CP7: Implementation of CrossRail2 and Digital Railway

Long distance Journey Improvements

- CP6: Development of CP7 London Gateway scheme and Woking area enhancements, which include grade separation and platform works
- CP7: CrossRail2 and Digital Railway provide capacity for additional long-distance services, alongside potential schemes at Basingstoke grade separation and Guildford Platform Capacity enhancement

Joint performance activity prioritisation by lead route TOC

Tra	in Performance	Route	Current	Lower	Expected	Upper	Achieval	oility Time	frame	
SW	/R PPM	Wessex	87.0%	80.0%	87.5%	92.5%	Ambe	er April	2019	
SW	/R CaSL	Wessex	2.4%	3.8%	2.3%	1.3%	Ambe	er April	2019	
No	Key constraints, risks and opportunities	What we plan to do						Owner	Time scale	
1	O: Continued Route focus through the shared Performance Improvement Plans	A consistent drive to focus ro with SWR to completely reva year performance improvem PPM attrition. Ensure require	consistent drive to focus route performance improvement activity through the JPiP process. Working th SWR to completely revamp our joint performance improvement planning to deliver real year on ar performance improvement y on the functions and causes of delay that reflect the most significant PM attrition. Ensure required improvement activity is tracked from conception to completion							
2	O: DPI Reduction Plan	Programme of initiatives in p	gramme of initiatives in place to reduce the delay impact per incident							
3	O: Reduction of incidents attributed to Train crew (Guards, Drivers & Resources)	Raise awareness of the impa Training refreshed and delive	ise awareness of the impact of train crew incident on performance aining refreshed and delivered on key processes							
4	R: Ongoing rise of delay attributed to incidents of an external nature (fatality & trespass)	Deliver physical mitigations t Deliver enhanced trespass m Deliver and embed a revised	eliver physical mitigations that have been identified at key 'Hot spot' locations across the route. eliver enhanced trespass mitigation activity to focus on education, engagement and staff training eliver and embed a revised III Passenger process, including passenger awareness							
5	O: Reduction of incidents attributed to SWR Fleet	Programme of initiatives and	l fleet modifications th	at continue to ta	rget an increas	e in reliability	<i>ı</i> .	Fleet Director	April 2019	
6	O: Increase in asset reliability associated with the Reliability Growth Plans	A programme of Maintenand Faults and Signal related dela	ce activity to target reli ay	ability improvem	nent to Track Ci	rcuit Failures	, Track	Head of Maintenance	April 2019	
7	R: Increased number of speed restrictions >7 days	Implement Speed restriction	risk reduction prograr	nme				соо	April 2019	
8	O: Continue activity to deliver ongoing reduction in NR Operations attributed delay	Roll out of the Wrong Route Continued education and for	Roll out of the Wrong Route Reduction plan across the Wessex Route Continued education and focus to ensure improved data quality					Head of Operations	April 2019	
9	O: Deliver Seasonal Mitigation activity	Ensure compliance to the Na sufficient review, with impro	tional Stage Gate Revi vement activity tracke	ew process and e d to completion	ensure each sea	ison is subjec	t to a	соо	April 2019	
10	O: Improved Data Quality	Introduce an annual compet consistent increase in data q	ency assessment to all uality	Level 1 (TDA) an	d Level 2 (DAS)	roles to deliv	/er a	RFD	April 2019	

11	O: Every Second Counts campaign	Deliver a communications and engagement plan to engage all staff in improving train performance.	Head of Comms/ RFD	April 2019
12	O: Waterloo Resilience Approach Project (WRAP)	Improve track circuit reliability between Clapham Jn and Waterloo	RMD	April 2019

Appendix B Key assumptions

Ref no.	Topic (e.g. access, deliverability, climate etc.)	Assumption	Areas of spend impacted (e.g. all Opex, track renewals, all spend etc.)
WSX-A-001	Under-writing Asset Risk	The Technical Authority will support Wessex Route asset plans, with clear risk mitigation guidance to asset owners, to engender a joint understanding of non-policy compliance.	САРЕХ
WSX-A-002	Costs	PL and S&C track contracting strategy for CP6 is confirmed such that new commercial arrangements are in place for July 2019'	САРЕХ
WSX-A-004	Costs	Unit rates are based on delivered work in CP5 and do not factor in inefficiencies due to lower volumes of activity planned in CP6.	CAPEX and OPEX
WSX-A-005	Costs	Electricity at Work Act compliance will be funded centrally (c. £53m).	E&P CAPEX and OPEX
WSX-A-007	Costs	Development funding will be made available for enhancements development work including CP7 development planning for Wimbledon DR and CrossRail2.	САРЕХ
WSX-A-008	Market	There will be sufficient capacity and competitiveness within the supply market to deliver affordable plans.	CAPEX and OPEX
WSX-A-009	Central costs	Central service costs remain at the same level as CP5, or with efficiency applied as forecast in central service devolution.	OPEX
WSX-A-010	Central costs	Compulsory redundancy will not be possible in CP6 and therefore efficiencies will be invested in greater outputs, not Opex savings.	OPEX
WSX-A-011	Op property cost	Project Condor costs are borne by the Route (e.g., but not exclusively Tenanted Arches).	САРЕХ
WSX-A-012	Op property cost	Additional Managed Stations, planned or proposed, are included in this submission.	CAPEX and OPEX

Ref no.	Topic (e.g. access, deliverability, climate etc.)	Assumption	Areas of spend impacted (e.g. all Opex, track renewals, all spend etc.)
WSX-A-013	Devolution of services	All devolved central services and roles will have adequate budget provision.	OPEX
WSX-A-014	Objectives and measures	PPM remains a performance measure, which has a direct line of sight in our plan.	CAPEX and OPEX
WSX-A-015	Refranchise	Customer requirements after refranchising will be the same as at the time of submission.	CAPEX and OPEX
WSX-A-016	Refranchise	Refranchise terms and conditions will match agreed CP6 objective outcomes and performance levels.	CAPEX and OPEX
WSX-A-017	Island Line Lease	Separate funding settlement to align with outcome of SWR committed obligation to propose a new arrangement for the Isle of Wight line	САРЕХ
WSX-A-018	Property revenue	Revenue generated from retail and property in Wessex territory will enter our P&L.	САРЕХ
WSX-A-019	RAB scope	The Waterloo International Terminal is included in the Route Asset Base and requires maintenance.	CAPEX and OPEX
WSX-A-020	Enhancements	Committed and Route study enhancements are funded separately and delivered to specified outcomes.	САРЕХ
WSX-A-021	Organisation structure	Route and IP organisations will be the same in CP6 as at the time of submission.	OPEX
WSX-A-022	Force Majeure and Climate	Extreme weather and other force majeure events do not exceed modelled norms upon which the Wessex Route Weather Resilience and Climate Change Strategy is based.	CAPEX and OPEX
WSX-A-023	CP5 delivery Baseline	Works planned and included in CP5 are undertaken and completed in CP5 as per 16/17 RF8 submission.	CAPEX and OPEX

Ref no.	Topic (e.g. access, deliverability, climate etc.)	Assumption	Areas of spend impacted (e.g. all Opex, track renewals, all spend etc.)
WSX-A-024	ORBIS benefits	ORBIS will deliver tools, support, data hierarchy and benefits as per CP5 plan.	OPEX
WSX-A-025	Access	Access requirements arrangements remain the same as at the time of submission	CAPEX and OPEX
WSX-A-026	Access	Current red zone working policy, and consequent OPEX impact, applies.	OPEX
WSX-A-027	Deliverability	Future safety initiatives from delivery agents are fully consulted to assess volume impact.	CAPEX and OPEX
WSX-A-029	Costs	NRT will deliver levels of service sufficient enough for Wessex Route to deliver this plan.	CAPEX and OPEX
WSX-A-030	Security	Budget to achieve compliance with National Security Risk Plan in CP6 are centrally held. Following the impact assessment funds will be disseminated the Route	CAPEX and OPEX
WSX-A-032	Fatigue	A central provision is not assumed for enabling 12 hour working time; therefore, a provision has been included in the Route Opex budget.	OPEX
WSX-A-033	CrossRail2 deliverability and reputation	CrossRail2 has assumed availability of Wimbledon sites from 2027; this is not funded within this Strategic Business Plan.	САРЕХ
WSX-A-034	Cost	It is assumed that the required outputs of Feltham re-signalling will be achieved for the GRIP4 estimated cost of £177M.	САРЕХ
WSX-A-035	Innova project start date	It is assumed that physical works for Clapham congestion relief Innova scheme will not be starting until the end of CP6	САРЕХ

Appendix C Route context

We have one of the busiest and most congested routes on the network, and indeed in Europe, and we continue to experience exceptional levels of passenger and freight growth. Commuter traffic from the Main Lines, Windsor Lines and inner suburban network sees over 50,000 passengers arrive into London Waterloo in a single typical high-peak hour alone. The Main Fast Line into London delivers 24 trains per hour at the high peak hour.

Our growth forecasts are mainly based upon the housing requirements of central London, and areas of Salisbury, Dorset and Hampshire. Most significantly, the office of the Mayor of London predicts a demand for 49,000 new homes every year, for the next 20 years. We are careful to note, additionally, that freight demand is also significant, and can be under-estimated when considered on less passenger intensive routes. The Southampton port area generates an increasing level of heavy manufacturing traffic, that although is spread evenly between under-utilised passenger periods, makes demands of our assets on many of our lines (such as, but not solely, the BKE).

Overall, our current infrastructure cannot accommodate further increases in passenger and freight traffic, without adversely affecting our performance and increasing risk. It is also clear however, that no single infrastructure intervention can address the capacity gap that will widen beyond CP6. Incremental, affordable and value for money interventions are therefore needed over successive control periods, to achieve a full solution. This is the very essence of our plan, and understanding our Route, and our customers' needs, are an important consideration.

The London and South East Market Study anticipates growth of 40% by 2043 and 60% is required in the higher peak hour to meet the 2043 capacity conditional output for main line long distance services. This equates to 13 (10-11 main line and 2-3 suburban) additional paths in the high peak hour.

Wessex Route characteristics, geography and customers



The South Western Railway extends from London Waterloo to Weymouth and from Basingstoke to Exeter. The Wessex Route currently provides for a

wide range of passenger flows, including both long-distance and south-west London commuter routes. The Route connects London both to the south coast, and to much of the commuter belt, and is thus extremely important to the capital, the wider region and to national strategic interests. In addition to passengers, the route also carries strategically important freight. Both kinds of traffic are increasing, putting greater demands on an already very busy Route, and requiring extensive forward planning, enhancements and maintenance. This includes dealing with specific geological asset risks, which we cover in detail elsewhere. For example, earthworks on the BKE line are especially vulnerable to wet weather.

The Network Rail National Supply Chain also has assets on Wessex Route, which have a national impact. Firstly, a Local Distribution Centre (LDC) located on the Route at Eastleigh. The LDC is operated by DB Cargo with bulk ballast, inter-LDC tripper and possession services hauled by DB Cargo, FLHH, GB Railfreight and Colas. Secondly, the Long-Welded Rail Depot at Eastleigh produces nationally for track renewals. The future for these facilities, and a more comprehensive NSC plan that aligns with a Wessex Route property strategy, is an important consideration for our Route operating model.

The Route comprises of the following lines:

- The South West Main Line connecting Waterloo to Southampton and Weymouth. The Portsmouth Direct Line from Woking to Portsmouth Harbour
- The North Downs line linking Reading and Guildford to Redhill and Gatwick Airport. The South Hampshire Line connecting Worthing and Exmouth junctions
- The West of England lines connecting Salisbury, Eastleigh and Fareham The Heart of Wessex Line connecting Castle Cary and Dorchester West The Reading to Basingstoke Line. (the BKE)

Additionally, commuter routes are divided into:

- The Main Suburban Lines branching to Shepperton, Hampton Court, Chessington South, Epsom and Guildford via Effingham Junction
- The Windsor Lines for services to Reading, Windsor, Weybridge and Aldershot via Hounslow or Richmond.

Appendix D Scenario planning

Part 1a: Contingent renewals

This section describes the benefits of additional investment in the route which will be enabled should risks fail to materialise.

Package ID	Package title	Description	Capex (£m)	Opex (£m)	Justification for spend
WEX- IYC-001	Track in year contingency	On an annual budget for Track Capex as £55m in Yr1/2 rising to £80m in yr. 4/5, we need access to contingency funding to deliver any losses of work through issues experienced during the works (weather, late trains, plant failures etc) – a reasonable planning assumption would be 10%	£5m to £8m p.a.		This will allow to maintain a stable workbank as per original plan and keep disruption and inefficiencies to a minimum
WEX- IYC-002	Feltham contingency	Contingency budget for Feltham re signalling project as estimate gets refined budget increase risk emerges			Feltham re signalling is safety critical for the Route and can no longer be deferred
WEX- IYC-003	DC Switchgear	Renewal of 102 additional volumes of DC Switchgear	£16m. Scalable in units of £700k		To restore sustainability in CP6 using the STE modelled volumes, an additional 195 volumes would be required. We do not consider that these volumes are deliverable, so the additional volumes have been reduced to 102 The total DC switchgear renewal volume in CP6 increases to 116 as a result. (current SBP volume 14 units) The additional 102 volumes enable the renewal of DC switchgear that was deferred from CP5 (strategic crisis management cuts) and further deferred from the cash constrained CP6 plan. These volumes would otherwise have a planned delivery date in CP7.

WEX- IYC-004	Renewals of DC cables	Increase in funding to widen the scope of replacement of a certain design of poorly performing conductor rail cable lugs and associated cable doubling	£1m extra, scalable	Reduction of traction supply failures Improvement in ppm
WEX- IYC-005	TP Hut conversion Guildford to Havant	Reinstate 3 of 10 highest priority TP Hut conversions. During adjacent rectifier transformer failures, all trains must run in the vicinity with reduced power mode. This causes each train to lose time and impacts PPM and is a traction power service affecting failure. This aligns with Portsmouth line performance improvement plans	£9m, scalable in £3m units	Reduction of traction supply failures Improvement in ppm
WEX- IYC-006	Root ball programme removal	Removal of root balls from 36 rock cuttings and soil cuttings across the route.	£3.67m	This piece of work is connected to the RAIB Report 05/2008: Derailment in Hooley Cutting, near Merstham, Surrey which states that "Root balls or stumps posing high risk should be removed or otherwise stabilised". The benefit is a reduction in safety risk on earthwork assets. All root balls on steep, soft cutting slopes become unstable 5-10 years after felling

Part 1b: Investment options

This section describes the benefits of additional investment in the route which will be enabled should risks fail to materialise. To prioritise our performance schemes, we have worked with our performance data to calculate a PPM benefit for the additional schemes. The size of the bubble is a measure of benefit / ££ and this shows clearly the efficiency of working on lineside buildings to reduce the likelihood of power failures caused by leaking or overheating buildings.



Package ID	Package title	Description	Capex (£m)	Opex (£m)	Justification for spend
WEX- CR-001	Re-railing volumes	Large quantity of ageing rail with cluster defects emerging coupled with increasing use of axle counters – programme to increase volume of removal of rail at risk of serious defects and breaks	up to 25km on top of current plan circa £7.25m		Modelled outputs by end of CP6 MAA Service effecting failures reduced by 5. 1% improvement in safety FWI Reduction in rail defects and reduced maintenance impact
WEX- CR-002	Additional fencing volumes	Increasing the intervention of fencing upgrades to reduce the number of animal incursions and wrong-side failure incidents	circa £500k per annum in Yr3,4,5		Reduction of Lineside Wrong side failures by 5-8 per year Reduction in fence maintenance costs of £1m net
WEX- CR-003	HV Switchgear	Renewal of 23 additional volumes of HV Switchgear at sites deferred from CP4 & 5	£9m. Scalable in roughly £1.2m units		The additional 23 units of switchgear renewal restore total CP6 volume towards the STE modelled value for sustainability of 80. (Current SBP volume 46 units) These volumes were deferred from CP5 (strategic crisis management cuts) and further deferred from the cash constrained CP6 plan. They would otherwise have a planned delivery date in CP7.
WEX- CR-004	Viaducts renewal	Avon/Stour viaduct up line track conversion to a VIPA system	£9.9m		Removes TSR risk and reduces maintenance requirements in difficult access area. Reduced Schedule 8 risk costs
WEX- CR-005	Platforms trestle	Renewal of (at least) 2 trestle platforms (platform 1 and platform 2) at Upper Halliford Station	£3.5m		Safety benefit – reduction in the risk of platform failures, improvement in surface condition and improvement of station environment.
WEX- CR-006	Replacement of 3 station canopies	Station canopies replacement at: Andover, Queenstown Road, Weybridge	£14.3m		Reduced safety risk and improvement of station environment/condition.

WEX- CR-007	Platform stepping- distance and cross-fall improvements	PTI improvement at Clapham Junction and Basingstoke stations	£17.5m	Reduction of passenger-train interface risk at 4 island platforms. Performance improvement from reduced dwell times.
WEX- CR-008	BKE Embankment Renewal	Renewal of 28 priority embankments on the Reading to Basingstoke Line.		According to the Freight Market Study (Oct. 2013) freight on the BKE line is forecast to increase from between 0.50 and 1.50 paths per off peak hour in 2012 to 2.0 paths per off peak hour in 2043 as Southampton Port continues to grow. The line needs to be made more resilient for this amount of traffic as there is no suitable freight diversion around this route.
	Long wheel timber assets	Removal of remaining longitudinal wheel timber bridges at 8 locations	£6m	Reduction in schedule 8 costs
	Scour sites	Reduced risk of bridge failure due to scour action at 20 sites scoring 15.0-16.0	£5.8m	Reduction in safety risk on bridge assets.

Part 2: decrease in total remaining expenditure for CP6

This section describes the impact of a 10% decrease in expenditure across CP6 based on all risk funding has been exhausted.

		Maximum potential saving	Risk of curtailing expenditure				
Asset	Outstanding CP6 expenditure		Safetv	Dorformanco	Sustainability	Reputation	Comment on impacts/issues
Track	£351m	£35m	А	R	R	R	The current Track plan mitigates safety risk but there remains an issue with the sustainability gap between the plan and Policy volumes. Performance improvement of 1% per year would not be delivered and such a reduction would have an impact on maintenance requirements.
Signalling	£413m	£40m	R	R	R	R	Signalling schemes planned for CP6 are already deferred renewals that can no longer be deferred without posing a safety risk. There is also a sustainability risk with a bow wave of life expired assets in the next few years.
Electrification and Plant	£138m	£13m	А	R	R	R	The E&P workbank has been largely deferred in CP4 and CP5 and can no longer be deferred without creating an important performance risk to the Route.
Structures	£106m	£10m	А	А	А	А	The current plan is already using targeted interventions and wold increase safety and performance risks if cut.
Buildings	£79m	£7m	А	А	А	А	Decreasing the Buildings budget would prevent addressing Waterloo roof and welfare accommodations
Earthworks	£73m	£7m	R	R	R	А	Decreasing the Earthworks budget will increase the performance risks on the Route in case of asset failures. The plan would no longer be sustainable with less budget.
Drainage	£21m	£2m	А	А	А	А	The biggest risk is performance is the drainage budget is cut. There would also be inefficiencies in the intervention plans if deferring drainage.
Total	£1,181m	£114m					

Key to risk colours | G: no additional risk | A: some additional risk | R: considerable additional risk
Appendix E Asset by asset long term forecast





Track will see a gradual but sustained rise in asset age which poses a long term financial risk to the Route and NR. If CP6 levels of investment levels continue then the gap between current forecast and baseline will increase and inevitably result in significant interventions such as large-scale re-railing or High Output activity to keep the asset at an acceptable performance level.

Safety of the track asset will be managed pro-actively and the renewal and refurbishment programmes will be aimed at life-expired assets which will also bring a level of performance improvement.

The main risk long-term will be the ageing population of sleepers and ballast on our key corridors of Waterloo to Southampton, Waterloo to Reading and the Woking to Portsmouth with increased tonnage expected over the coming years. The impact will be an increase in Maintenance activity to manage performance of the asset over CP6 – which has resulted in an increased Opex budget for Track as mitigation.

The Route's aspiration is to re-introduce High Output in CP7 to rebalance the age profile, but this will require additional Capital funds from CP6 to achieve – to provide value for money circa £100m is required to turn on High Output renewal activity without compromising life-expired tactical renewals.







Appendix F Efficient Delivery Supporting Information

Below is an overview of Wessex's Efficiency Portfolio for operational efficiencies.

		Train Born (PLPR & Eddy Current) R Charlie Usher				Risk	Based M	aitenance	e/ BCR (Ai	mber Remote Condition Monitoring				ring	ing Standardised Tasks					Training						
	Sponsor		C	harlie Ush	er			C	harlie Usł	ner			0	harlie U	sher			Cha	arlie Ush	er			S	andra Llo	yd	
	PMs		1	Adie Brow	n			lol	hn Loughi	nan			0	usheng (Cheng			Han	nah Rav	en			1	anet Tys	Je	
New Total Route CP6 Efficiency based on New Approved Route Strategic Plan - Nov 2018	INDICATIVE FIGURES			-2,294,983	}				-1,033,00	D				-1,000,0	000			-1	1,756,00)				0		
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	l Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
	Year	-150,000	-456,700	-562,761	-562,761	-562,761	-30,000	-50,000	-75,000	-75,000	-75,000	0	0	0	0	0	-48,151	-64,591	-79,86	1 -83,959	-85,716	0	-10,000	-15,000	-20,000	-20,000
Total of identified CP6 Efficiencies	INDICATIVE FIGURES			-2,294,983	3			•	-305,000		•		•	0	•	•			362,278					-65,000		
INNER DU																										
	CP6 Efficiency by Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	l Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
	Proposed	0	-169,700	-275,761	-275,761	-275,761	0	0	0	0	0	0	0	0	0	0	-18,151	-24,591	-29,86	1 -33,959	-35,716	0	0	0	0	0
Inner Efficiency figures	INDICATIVE FIGURES		-996,983				0					0					142,278					0				
OUTER DU			,																							
	CP6 Efficiency by Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	L Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
	Proposed	-150,000	-287,000	-287,000	-287,000	-287,000	-30,000	-50,000	-75,000	-75,000	-75,000	0 (0	0	0	0	-30,000	-40,000	-50,00) -50,000	-50,000	0	-10,000	-15,000	-20,000	-20,000
Outer Efficiency figures	INDICATIVE FIGURES			-1,298,000)				-305,000					0					220,000					-65,000		
OPERATIONS																										
	CP6 Efficiency by Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	L Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
	Proposed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OPERATIONS Efficiency figures	INDICATIVE FIGURES			0					0					0					0			0				
Identified CP6 Efficiency				-2,294,983	}				-305,000					0					·362,278					-65,000		
Already part of bottom up Function plans				0					0					0				-1	1,167,72	1				0		
Route CP6 Efficiency Variance/ Gap				0					-728,000					-1,000,0	000				226,000					0		
New Total Route CP6 Efficiency based on New Approved Route Strategic Plan - Nov 2018	INDICATIVE FIGURES		-2,294,983					-1,033,00	0				-1,000,0	000		-1,756,000		00				0				
																										Į
Original Total Route CP6 Efficiency		-2,100,000				-1,000,00	0		-1,000,000		-1,700,000			0												
Variance between new and original			-194,983			-33,000			0				-56,000				0									

Sponsor			CP6 Intelligent Infrastructure Chris Perkins			cture Corporate Rostering			Electrical Safety Delivery					Improved Contracting Strategies, Packaging and							
	Sponsor		Cł	ris Perl	ins				Charlie Us	her				Chris Perk	ins			Si	am McCar	thy	
	PMs		Ous	heng C	heng			J	ohn Lough	man			C	raig Rowla	ands				Philip Bae	r	
New Total Route CP6 Efficiency based on New Approved Route Strategic Plan - Nov 2018	INDICATIVE FIGURES		-	1,400,0	00				-723,000)				-13,989,6	30				-4,132,00	D	
	Identified CDC Efficiency by	Year 1	L Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
	Year	0	0	0	0	0	-75,000	-75,000	-105,000	-125,000	-125,000	-50,000	-95,000	-120,000	-120,000	-120,000	-20,000	-255,000	-275,000	-275,000	-275,000
Total of identified CP6 Efficiencies	INDICATIVE FIGURES			0					-505,000)				-505,00	0				-1,100,00	D	
INNER DU																					
	CP6 Efficiency by Year	Year 1	L Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
	Proposed	0	0	0	0	0	-25,000	-25,000	-25,000	-25,000	-25,000	0	-45,000	-45,000	-45,000	-45,000	0	0	0	0	0
Inner Efficiency figures	INDICATIVE FIGURES			0	0				-125,000	-125,000		-180,000					0				
OUTER DU									•									r			
	CP6 Efficiency by Year	Year 1	L Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
	Proposed	0	0	0	0	0	-50,000	-50,000	-80,000	-100,000	-100,000	-50,000	-50,000	-75,000	-75,000	-75,000	-20,000	-55,000	-75,000	-75,000	-75,000
Outer Efficiency figures	INDICATIVE FIGURES			0					-380,000)				-325,00	0				-300,000		
OPERATIONS			-	T	-			1						•							
	CP6 Efficiency by Year	Year 1	L Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
	Proposed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-200,000	-200,000	-200,000	-200,000
OPERATIONS Efficiency figures	INDICATIVE FIGURES			0					0					0					-800,000		
Identified CP6 Efficiency		<u> </u>		0					-505,000)				-505,00	0				-1,100,00	<u>) </u>	
Already part of bottom up Function plans		L	-	1,400,0	00									0					0		
Route CP6 Efficiency Variance/ Gap	_	<u> </u>		0					-218,000)				-13,484,6	30				-3,032,00)	
New Total Route CP6 Efficiency based on New Approved Route Strategic Plan - Nov 2018	INDICATIVE FIGURES	-1,400,000					-723,000)				-13,989,6	30				-4,132,00	D			
Original Total Route CP6 Efficiency				1,000,0	00				0			-1,000,000				-4,000,000					
Variance between new and original		-400,000				-723,000)		-12,989,630					-132,000							

		Supply Chain Organisation r Rob Davis				Lean				Multi disciplinary					Access						
	Sponsor			Rob Davis					Chris Perkins	5				TBC					TBC		
	PMs			Alex Kirk				John Lou	ghman/ Hanr	nah Raven				TBC					TBC		
New Total Route CP6 Efficiency based on New Approved Route Strategic Plan - Nov 2018	INDICATIVE FIGURES			-3,000,000)				-28,000,000				-	2,066,00	00				-4,000,000		
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
	Year	-600,000	-600,000	-600,000	-600,000	-600,000	-481,500	-492,250	-571,000	-826,000	-901,000	0	0	0	0	0	-148,535	-108,000	-108,000	-108,000	-108,000
Total of identified CP6 Efficiencies	INDICATIVE FIGURES			-3,000,000)				-3,271,750					0					-580,535		
INNER DU																					
	CP6 Efficiency by Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
	Proposed	-300,000	-300,000	-300,000	-300,000	-300,000	-245,500	-194,250	-208,000	-408,000	-408,000	0	0	0	0	0	-138,535	-98,000	-98,000	-98,000	-98,000
Inner Efficiency figures	INDICATIVE FIGURES			-1,500,000)				-1,463,750										-530,535		
OUTER DU																					
	CP6 Efficiency by Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
	Proposed	-300,000	-300,000	-300,000	-300,000	-300,000	-163,000	-225,000	-290,000	-345,000	-420,000	0	0	0	0	0	-10,000	-10,000	-10,000	-10,000	-10,000
Outer Efficiency figures	INDICATIVE FIGURES			-1,500,000)				-1,443,000					0					-50,000		
OPERATIONS																					
	CP6 Efficiency by Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
	Proposed	0	0	0	0	0	-73,000	-73,000	-73,000	-73,000	-73,000	0	0	0	0	0	0	0	0	0	0
OPERATIONS Efficiency figures	INDICATIVE FIGURES			0					-365,000					0					0		
Identified CP6 Efficiency				-3,000,000)				-3,271,750					0					-580,535		
Already part of bottom up Function plans				0					-20,000,000					0					-3,419,465		-
Route CP6 Efficiency Variance/ Gap				0					-6,794,250					0							-
New Total Route CP6 Efficiency based on New Approved Route Strategic Plan - Nov 2018	INDICATIVE FIGURES			-3,000,000)				-30,066,000					0					-4,000,000		
																+					
Original Total Route CP6 Efficiency				-3,000,000)				-28,000,000				-	2,000,00	00				-4,000,000		
Variance between new and original				0					-2,066,000					2,000,00)0	+			0		
			Î															Î			
													-£2,06 deliver Lean e	56,000 t red as p efficienci	o be art of ies						

			R	ail Millin	g			Headcou	unt/ Org	g Chan	ge			Other				
	Sponsor			TBC					TBC					TBC			Total Route CP6	
	PMs			TBC					TBC					TBC			Efficiency	
New Total Route CP6 Efficiency based on New Approved Route Strategic Plan - Nov 2018	INDICATIVE FIGURES		-	2,000,00	0				-826,00	10				0			-66,220,613	* this is -£12,021,613 higher than total in Nov 18 approved strategic plan. This is due to DU PLPR amounts being -£21,613 higher than puplished PLPR amount and additional -£12,000,000 efficiency for ESD (stretch target of -£6m for Year 4 and Year 5).
	Identified CDC Efficiency by	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year	4 Year 5	Year 1	Year 2	Year 3	Year 4	Year 5		
	Year	-24,006	-45,669	-49,182	-55,623	-63,234	0	0	0	0	0	-192,569	-204,513	-216,983	-252,113	-224,243		These figures are based on the phasing of the identified efficiencies to date.
Total of identified CP6 Efficiencies	INDICATIVE FIGURES			-237,714					0					-1,090,421	L		-13,317,681	
INNER DU																		
	CP6 Efficiency by Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year	4 Year 5	Year 1	Year 2	Year 3	Year 4	Year 5		
	Proposed	-24,006	-45,669	-49,182	-55,623	-63,234	0	0	0	0	0	-117,569	-129,513	-141,983	-177,113	-149,243	-5,891,681	
Inner Efficiency figures	INDICATIVE FIGURES			-237,714					0					-715,421			-5,891,681	
OUTER DU					r	1		1	1	-	-							
	CP6 Efficiency by Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year	4 Year 5	Year 1	Year 2	Year 3	Year 4	Year 5		
	Proposed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-5,886,000	
Outer Efficiency figures	INDICATIVE FIGURES			0					0					0			-5,886,000	
OPERATIONS										I.								
	CP6 Efficiency by Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year	4 Year 5	Year 1	Year 2	Year 3	Year 4	Year 5		
	Proposed	0	0	0	0	0	0	0	0	0	0	-75,000	-75,000	-/5,000	- 75,000	-75,000	-1,540,000	
OPERATIONS Efficiency figures	INDICATIVE FIGURES			0					0					-3/5,000			-1,540,000	
Identified CD6 Efficiency				-237 714			-		0					-1 090 421			12 217 691	
Already part of bottom up Function plans				1 762 28	6				0					-1,050,421			-15,517,081	
Route CP6 Efficiency Variance/ Gan				1,702,20					0					-0,500,000	,		-34,243,473	
New Approved Route Strategic Plan - Nov 2018	INDICATIVE FIGURES		-	2,000,000	0				-826,00	10				0			-66,220,613	* this is -£12,021,613 higher than total in Nov 18 approved strategic plan. This is due to DU PLPR amounts being -£21,613 higher than puplished PLPR amount and additional -£12,000,000 efficiency for ESD (stretch target of -£6m for Year 4 and Year 5).
		-			-				_									
		_										r						
Original Total Route CP6 Efficiency			-	2,000,000	0				-800,00	0				-2,600,000)		-54,200,000	
Variance between new and original				0					-26,000	0				2,600,000			-12,020,614	

Appendix G Wessex Route Freight and National Passenger Operators

This summary sets out how the Wessex and FNPO routes will work together to deliver the Route Strategic Plan for Wessex. It outlines existing FNPO activity, and then describes the impact of the plans and aspirations of FNPO customers to grow and develop their businesses. It summarises what Network Rail needs to do to deliver these strategies and how, in doing so, efficiencies can be identified and realised.

National Passenger Operators:

Cross Country is a regular user of Wessex route and their key issues include right time arrivals from Basingstoke, animal incursions and TSR management including timely removal. Charter trains also operate across Wessex Route, especially at weekends, to a variety of leisure destinations being hauled by both standard and heritage steam and diesel locomotives. This leisure market is expected to grow during CP6.

Challenges and Opportunities

No	Key Challenges, Risks and Opportunities	What we plan to do
1	Aggregate Growth	Explore opportunities for longer and heavier trains maximising loco capability
	O: Volume growth from quarries in Mendips and	Facilitate new wagons that maximise payload/length ratio
	Leicestershire to S and SE	Support Terminal and Yard developments whenever identified, in particular those which could
	R: Infrastructure not able to cope with traffic demand	service the London market
		Support introduction of 'pop-up' terminals, bringing out of use infrastructure back into use and
		increased use of lineside loading
2	Domestic & Deep-Sea Intermodal Growth	Work with customers to maximise opportunities to increase length of trains
	O: Volume growth from Southampton	Increase Average Journey Speed origin to destination
	R: Train paths and SRT discrepancies with longer, heavier	Recognised Diversionary routes with adequate capability
	trains	Support any inland terminal developments – e.g. DIRFT 3, Four Ashes, Port Salford, Parkside
3	Gauge establishment	Documented diversionary routes for core intermodal flows
	C: Establishment of recognised diversionary routes for gauge	Explore third party funding opportunities
	critical traffic	Review of RT3973 provision to more closely align with traffic flows – reduced duplication
4	Commodity Traffic Growth	Explore opportunities for longer and heavier trains maximising loco capability
	O: Automotive growth from BMW Oxford via Southampton	Support Terminal / Yard developments to facilitate growth
	R: Brexit impact could affect the Automotive market	Support introduction of 'pop-up' terminals, bringing out of use infrastructure back into use and
		increased use of lineside loading
		Work with FOCs and Freight End Users to deliver new network connections and necessary
		capacity and capability, or bring out of use infrastructure back into use

5	Logistics and Mail Opportunity	Explore opportunities for business growth with existing and potential new customers
	logistics developments	
6	Construction projects / HS2	Work with FOCs and End-customers to offer solutions to demands of major projects
	O: Opportunity for spoil and waste out and aggregate and	Work with customers to manage the impact of major projects on their business (HS2)
	other commodities in to support construction	Terminal / Yard developments ('pop-up' terminals / lineside loading potential)
7	SRFI Terminal Development	Work with Developers to understand SRFI proposals progression through planning
	O: SRFI terminal development supports intermodal growth	Offer NR support to proposals when adequate strategic fit and capacity
	especially addressing demand for inland terminals	Work with System Operator to support funded early stage timetable work for SRFI developers
	C: Securing of sufficient capacity to support SRFI	
	developments through planning and into use	
8	Infrastructure enhancements / electrification	Examine feasibility of creating a robust diversionary route for W10 traffic.
	R: Electrification of Reading to Basingstoke will lead to more	
	closures – lack of a robust diversionary route at W10 gauge	
9	End User-customer service	Work with end-customers to develop business growth and support modal shift to rail
	O: Closer working with FEU's enables greater understanding	Work with end-customers to strengthen service delivery and support
	of customer priorities for future (e.g. Tarmac)	
10	Review of redundant and unused assets	Identify opportunities to reduce maintenance costs and remove unneeded infrastructure
	O: Following traffic changes in CP5 and structural change in	Regularise the status of freight assets (actual v published)
	energy market, opportunity exists to review size and	Explore potential to transfer ownership of redundant lines / assets to secure better opportunities
	organisation of non-passenger network	for redevelopment
11	Yards and sidings infrastructure	Working with Routes and customers to review asset condition on regular basis,
	R: Yard and Siding Infrastructure asset condition is critical to	Working with Routes and customers to establish and benchmark walking route use and condition
	avoid derailment events and customer LTI's	
12	Timetable Review	Continuation of CP5 work to review path usage and remove unused paths and agree strategic
	O/R: Timetable Improvements to closely reflect capability of	capacity
	trains and capacity of network required on busier network	Work with FOC's to more closely align Train Slots in the Timetable with Access Rights in the TAC,
		and remove unused rights where there is no corresponding Train Slot
		Work with the Route, System Operator and FOC's/TOCs where in upcoming major timetable re-
		casts the available capacity may be less than contracted rights, e.g. (Route TBC)
		Work with System Operator and customers to improve average speed origin-destination
		Review with System Operator and customers suitability of current systems to capture network
		constraints and traction capability (Loads Book, Timing Loads, Lengths)
13	Digital Railway	Act as internal client on behalf of Freight to build sympathetic capability for freight traffic needs
	<u>O</u> : Successful introduction of Digital Railway offers potential	
	for growth on busiest corridors	

CP6 plans

Section	Key Themes	Strategy	Specifics	Owner	Timescale
	Lost Time Incidents	Reduce LTIs through concentration on Network Rail yard infrastructure, connecting sidings and walking routes conditions.	Published rolling programme of joint health and safety visits with customers (FOCs/TOCs) to agreed sites including Southampton / Redbridge and Hinksey Complete review of authorised walking routes/crew change locations per customer Subject to funding, a programme of improvements will be specified and implemented 'Go Look See' with customer within two weeks of any reportable customer LTI event on network infrastructure	FNPO Operations and Safety Manager/ SRFM	Initial Programme to be published March 2018 then annually during CP6
Safety	Freight Train derailments	Reduce freight train derailments through concentration on Network Rail yard and sidings infrastructure.	Published rolling programme of joint health and safety visits with customers to agreed sites End User Customer Forum to be implemented to share issues of concern around connection points and maintenance either side of boundary point Subject to funding, a programme of improvements will be specified and implemented	FNPO Operations and Safety Manager/ SRFM	Initial Programme to be published March 2018 then annually during CP6
	FNPO SPADs	Reduce freight SPADS by collaborative working	SPAD Forum to be implemented with FOCs to share learning and best practice	FNPO Operations and Safety Manager	Creation of Forum by April 2018. Meeting regularity quarterly.
Performance	Right time departure performance at key hubs and terminals	Use Strategic Freight Corridors to focus delivery Measuring Right Time Departures from terminals at the start of the journey	Local Working Groups (e.g. Port of Southampton, Automotive) Use of Control Rooms and Visualisation at major sites (e.g. Southampton) Re-brief Freight Strategy – 'Freight Delivery Matters' and linkage between RTD and FDM delivery	SRFM/ FNPO Performance Manager	Existing Working Groups to continue into CP6. Quarterly FNPO review of engagement

	Measuring FDM and FDM-R	Focus on defined key routes: Asset Performance Asset Resilience Effective contingency plans	Target FDM-R Route target for end CP6 of 94.1% Input to Routes for consistent use of contingency arrangements FSDM input to incident recovery real-time to build consistency Asset Reviews with Route Asset teams to share traffic forecasts and asset challenges with SRFM Influence at RSPG to define future asset strategy in terms of renewals to support freight growth	SRFM/FNPO Performance Manager	Annual target setting during CP6. Periodic review of FDM-R delivery and key influencers
	Joint Freight Performance Improvement Strategies	Agreed joint strategy with each FOC including details of plans to reduce each delay area	Complete plan annually with each FOC concentrating on primary delay categories Agreed industry information share Regular reviews against plan with each Route and FOC customer	FNPO Performance Manager/CRE	Joint Strategy Plan per Operator to be issued annually in CP6 & reviewed quarterly
Capacity & Capability	Identifying future capacity and capability needs.	Bring together all freight capacity plans: Route Studies SFN Customer specific	All future project specifications to include a specific output level for freight services, reflecting the SFN specifications and forecast future traffic requirements. Future Capability needs assessment to be undertaken – RA, Gauge, HAW – plans for improvement to meet capacity requirements Interactive maps for Gauge, RA to be created and maintained Continued support for longer, heavier trains programme	Project Sponsor/SRFM/ FNPO Head of Strategic Capability/ FNPO Head of Network Management	Future capability programme definition by April 2018 and delivery per strategic route
	Review existing capability constraints	Undertake Capability Review	Improved gauge and operational flexibility on key freight corridors Robust gauge cleared diversionary routes Transparent network capability per route for customers Continue to push for SFN 775m implementation	SRFM/ FNPO Head of Strategic Capability/ Head of Network Management	Existing capability constraints review definition by April 2018 and delivery per strategic route

	Connections to new terminals and SRFIs	Facilitate connections to the network and associated capacity	Work with FOC's, Freight End Users and Developers to identify potential new connections, including development of SRFI's Information share of prospective sites via RSPG Facilitate new network connections e.g. (Route TBC) Identify potential sites (new connections, bringing out of use infrastructure back into use and increased use of lineside loading) to facilitate growth, e.g. (Route TBC) for aggregates Advice to System Operator of future sites/flows to understand timetable/capacity impact. Timetable studies for major terminal developments, e.g. SRFI's	SRFM/ FNPO Business Development Managers	Forward programme of FEU and Developer engagement to be agreed annually during CP6. Freight Developments Register to be held by SRFM for review at RSPG quarterly.
	Delivery of agreed CP6 freight enhancement programme	Continuation of Strategic Freight Network funding and industry governance group	Promotion of potential freight projects and enhancement schemes Prioritise funding to best meet demand and facilitate growth Align SFN proposals with Route and National proposals to deliver a coherent forward strategy which best meets overall requirements	FNPO Head of Freight Development/ System Operator	Ongoing
	Consideration of incremental freight improvements in all schemes	Structured review process with Route planners and Sponsors	Work with FOC's and System Operator to identify opportunities for incremental freight enhancements as part of the development of enhancement and renewals proposals, e.g. faster entrance/exit speeds into loops and through crossovers Defined and consistent engagement process to be agreed with Route Planning team and Sponsors	SRFM/ System Operator	Defined engagement process and inputs to be in place with Route Strategy by April 2018
Network Availability	Engineering plans that meet both FNPO customer and Route needs.	Regular and co- ordinated freight input into Engineering Access Statements Access Planning Requests	Engineering plans that are; Transparent and understood Co-ordinated Consistent across Routes Planned well in advance and Take into consideration contingency arrangements for long distance services	SRFM/ FNPO Capability and Planning Manager	Annual review of process/requirements between FNPO and Engineering Planning from March 2018 incorporating end to end Access process

	Effective asset management arrangements for yards and sidings infrastructure	Create a joint understanding of maintenance responsibility, traffic level changes and asset condition	Enable Asset Management and Engineering teams to plan the targeted maintenance and renewals requirement of each site Ensure appropriate standards in use at each location.	SRFM/ Route COO/ RAM	Biannual review of yard and sidings maintenance priorities / traffic flows commencing 2018
Freight Asset Management	Review of Locomotive and Heavy Axle Weight (HAW) track and structure restrictions	Establish potential/cost for removal of restrictions	Input into track/structures renewals and maintenance plans	SRFM/ Route COO/ RAM	Review definition and programme issued by April 2018. Delivery per strategic route to be programmed.
Plans	Review Freight Only lines and other infrastructure		Review based on existing & predicted future use Input into track/structures/maintenance plans Outputs to be agreed with customers/ORR	SRFM/ Route COO/ RAM	Definition of Review by Dec 2017. Delivery of initial opportunities report by July 2018. Agreed Action Plan through CP6 per Route
	Removal of TSRs / PSRs in timely fashion	Establish removal plan recognising freight impact	Continue to work with the Route teams to identify the impact of speed restrictions on freight services and work collaboratively to remove them.	SRFM/ Route COO/ RAM	Ongoing periodic review of performance impact of TSRs to be agreed per Route

Appendix H Supporting Strategies

Wessex is developing an inter-dependent strategic framework to enable greater co-ordination of activities. Below is the 'chessboard', showing the highest-level strategies in the framework.

Safety •Workforce Safety •Electrical Safety •Level Crossing Safety •Security	Infrastructure Management Intelligent Infrastructure Accommodation Asset Strategies Maintenance Strategies 	Performance •Route Operations Strategy •Business Continuity	Capacity, Capability and Connectivity
Business Management •Quality •Change	Commercial (incl C& P and property)	Efficiency	Business Development
Stakeholder Engagement • Passengers • Partners : TOC, FOC, Investors • Regulation/ Government • Public	Communications	Environmental and sustainability	Managed Stations
Resilience and Climate Adaptation	 People Workforce Planning (incl early eng't, talent mgt & succession) Diversity and Inclusion Performance Management Training and Development 	Continuous Improvement	Access

Operating Model

The culture strategy of the Wessex Route in CP6 directly supports the transition towards our future operating model. This operational model is based around the optimisation of the following organisational capabilities:

- Infrastructure Management ensuring the infrastructure safely provides the highest possible level of asset availability;
- Operations management ensuring the best possible train service can be delivered (including the implementation of effective incident management and service recovery);
- Business Management ensuring that the preceding two core capabilities are enabled and sustained so that they have the resources and structure required to fulfil their vital roles in a safe and efficient way.
- Capability of our people: ensuring our people have the skills, development and leadership to maximise their potential. This will be achieved through our talent forums, succession planning, performance management and our structured development programmes such as Great People Managers which have all been initiated in CP5 and will strengthen as we move into CP6.

A key enabler for successfully moving towards this new way of operating will be the capability of our people. This will be managed and developed through our People Strategy, which includes plans for broader diversity and inclusion, talent attraction, training and knowledge sharing and performance management.

Change

We are committed to the implementation of Wessex 2024 operating model. This will require a capable and sustained business change effort across the whole of the workforce which has already experienced extensive change throughout CP5. Their support and understanding of the need for change and the benefits that should ensue will be vital.



The future operating model will significantly change the way we plan and deliver our work on the infrastructure and enhance our operational and business support services. It will lay the foundations for adapting to the increase in capacity and performance, which the Digital Railway programme is expected to provide, and be based upon our increasingly engrained and evident culture of continuous improvement that will build upon CP5's Better Every Day programme.



A high-level schematic of the Wessex 2024 Operating Model

Our Wessex 2024 operating model will reinforce improvements in:

- Financial management and a widespread obligation to manage costs and deliver efficiencies both within the Route and throughout our supply chain; this will involve the introduction of appropriate technology solutions and effective contracting strategies.
- Improvements in train and business performance by addressing our customers' priorities – namely to improve the safety and reliability of the train service by reducing the number of disruptive incidents and the delay that each of these causes.
- Asset Management and investment decisions that are driven by reliable and asset information based on sound Whole Life Costs (as described in Section 4.4 above).
- Customer Focus at all levels of the organisation
- Capability of our people: through our talent forums, succession planning, attraction strategy, performance management, and the

Great People Managers development programmes which have all been initiated in CP5 and will strengthen as we move into CP6.

			_	An	tic	ip	at	ed	In	npa	act	:	
	Initiatives:	Reduced SN/VSN Change	Increased Planned v Actual	Reduced Schedule 8 costs	Reduced costs of delivery	Reduced Schedule 4 costs	Reduction in cancelled work	Reduced Backlog	More time on took	Releases resources	Reduced planning time	Reduced travelling time	Workforce Safety
Delive	ring the right work:		-					_		_			
•	Reliability Based Maintenance												
•	Amber Deviation process												
•	Improved targeting of work (PLPR, Eddy Current etc).												
Delive	ring the work "right first time":												
•	Embedding of Section Work Planning improvements												
•	Integrated Programme Office												
•	019 v9 Standard change												
•	Separation of Maintenance and Faulting teams												
•	Dedicated CapEx delivery organisation												
•	Cyclical Access												
Improv	ved productivity:		_					_	_				
•	Faster, Safer Isolations												
•	Improved Access to the Infrastructure												
•	Improved Welfare												
•	Safe & Effective Working												
•	Possession Optimisation												

Organisational capability

As stated above, the progress that Wessex Route intends to make during CP6 will be based upon each of the three core organisational capabilities – infrastructure management, operations management and business management – operating effectively and collectively together.

In addition to continuing to drive the delivery of the existing organisation's short and medium-term business outputs, the Route must sustain a long-term commitment to making structured and coordinated changes to transition towards our Wessex 2024 Operating Model.

The foundations for these changes are already in place, with functional change leads being introduced and their change management skills enhanced. However, this capability must be widened so that all parts of the organisation understand the case for change and actively participate in achieving it. Existing techniques, such as Activity Based Planning and competence matrices will be used to confirm the optimal size and skill set of the Route team over the course of CP6.

Initiatives that have been launched in CP5 that will promote a more talented and diverse workforce, such as the expansion of the apprenticeship schemes, the promotion of STEM (Science, Technology, Engineering and Maths) subjects, active support for organisations such as Women in Rail, will be pursued passionately by Wessex Route.

Quality

Wessex will work together with the Central Quality team to deliver the Integrated Management Systems (IMS) programme in line with the Network Rail corporate strategy for Quality. Our people strategy includes the training of our people to ensure that we are competent and capable to deliver their best work, right first time, for our customers.

The IMS provides one operating framework to deliver better governance and support process-based improvement making it easier to understand what is expected, and to ensure that content is current, well managed and compliant with the applicable standards and legislation. The implementation of an IMS is an enabler to improved safety performance, as well as enabling us to achieve asset management and environmental capabilities that demonstrate alignment to ISO55001 and ISO14001 respectively.

Information Technology

CP6 will see marked increases in the use of IT systems and the need for a larger proportion of the Route to use these systems as a core part of their role. There is already evidence of a growing gap between those individuals for whom IT-competence is fundamental to their role and those who do not routinely use IT skills or systems.

This latter group must be developed to an appropriate level to make sure that all members of our staff is able to play a full part in this technological progress and that their careers are not restricted by a lack of skills. We will address this by carrying out an assessment and audit of skills across each role within the Route and support the necessary training and development that will ensure that appropriate IT competencies are in place.

Mobile working will become more commonplace. This will allow buildings to offer an agile way of working. Decision makers will have increased information at their fingertips and will be able to act in real time. Mobile working will however incur additional costs to repair and replace equipment. We will need to provide guidance and training to staff on using technology safely, considering the environment and ergonomics when agile to reduce risk of injury

As we move towards a proactive maintenance approach the responsibilities between corporate IT and operational railway will continue to merge. Real time information from the track side will continue to develop, allowing proactive decision making in advance of asset failure.

New trains will come with sensors that provide more information about assets and performance. Wessex will work with Route Services IT to understand how to extract data, then process and analyse it. With connected equipment comes the increase in cyber security risk. Proactive measures will be undertaken to minimise the risk of disruption.

Real time operational data is pivotal to performance improvement in Wessex. Live proactive information being used during disruptions, the use of decision support tools to predict and recover train paths more quickly, automated delay attribution and precise train location and status will aid the recovery of train services and reduce the amount of delay.

Communications Strategy

In CP5 Wessex established a Route Communications team. This team has implemented an effective communications strategy which, since its creation, has enabled the Route to communicate in a more proactive and successful way; we will develop this strategy further during CP6.

The outcome of the communication strategy will be to realise the opportunities for improving our reputation and influence on regional and national infrastructure matters. Through more effective working relationships with local and national media we can keep our passengers better informed, provide better information to our lineside neighbours regarding planned works on the railway, and proactively approach MPs and community groups regarding mutual interests

Stakeholder Engagement Strategy

Network Rail has a complex set of stakeholders with both competing and common interests. The core aim of our strategy is to earn the trust and support of our stakeholders.

We will provide our stakeholders with a named point of contact within the business, where core interests best align with specific areas within Route business management, infrastructure management and operations delivery. We will create a route level system to capture customer requirements and engagement such that conversations at any level are aware of all stakeholder interests. This is likely to be embedded through implementation of a new Customer Relationship Management System.

The strategy will provide a governance framework to make sure that our stakeholders are satisfied with our service, and that they feel well engaged.

We want our stakeholder engagement strategy to be aligned to our business plan for CP6 and CP7. The strategic areas for Wessex Route are Performance, Safety, People, Value and Infrastructure. Making sure our engagement activity includes working towards at least one of the above priorities will help keep us on track and achieve our CP6 goals. It is also important for our internally departments to be able to access a common set of engagement plans to improve the flow of information between teams to identify and collaborate on common areas of interest.

Organisation	Contact details	Owner details	Area of interest	Strategic Area	Engagement approach	Frequency
e.g. MP, LA	Ext.	Int.	Govern-	Performance	Meetings	Monthly
	contacts	contact	ment	Safety	Newsletters	
				Infrastructure	Emails	

One key strategic engagement activity since publishing the CP6 plan is to create a collaboration between System Operator, Route and Operator in producing an update to the publicly available Route Specification. The aim of the document is to provide a clearer explanation of the opportunities and constraints of the network, to better align customer requirements with enhancements, renewals or operations for delivery in CP7.

Appendix I List of Supporting Annexes

Scorecard Definitions

Regulatory Floor Methodologies

Scorecard Definitions

Safety	Definition			
Lost Time Injury Frequency Rate (LTIFR)	The number of injuries leading to absence from work among staff and contractors per 100,000 hours worked.			
Passenger train accident risk reduction measures	Measures our achievement of the key milestones and metrics to reduce train accident risk.			
Top 10 Milestones to reduce level crossing risk	Measures our achievement of the Top-10 milestones to reduce level crossing risk.			
RM3	Measures our achievement of milestones for health and safety risk management. This measure will be defined in more detail over the next year as			
	targets will be set year on year.			
Train Performance	Definition			
Network performance - passenger	Network Rail caused delay minutes to all train operators from incidents occurring in the route, normalised by train kilometres travelled on the route.			
CRM-P	Consistent Route Measure – Performance			
Freight Delivery Metric (FDM-R)	FDM is our indicator of how many freight services have arrived at their destination on time.			
Average passenger lateness	Average minutes lateness			
NR Wessex Delay Minutes (effecting SWR on Wessex route)	Network Rail caused delay minutes affecting SWR trains on the Wessex route.			
On time at all recorded stations	Percentage of trains recorded as being on time at all recorded stations.			
Level of cancellations	Percentage of trains cancelled as a proportion of planned trains.			
PPM	Public Performance Measure across the route			
GWR Measure (PPM North Downs line - Wessex route only)	Public Performance Measure for the North Downs section			
X Country Measure (right time arrivals at last point on Wessex to Reading from Wessex)	Percentage of trains arriving right time at last point before Reading			
SWR Right time (final destination only)	Percentage of trains arriving right time at final destination.			
GTR Measure (NR delay minutes Wessex)	Network Rail caused delay minutes affecting GTR trains			
Customer	Definition			
Performance Management	Measuring the percentage of objectives set, interim and end of year reviews completed			
Reduction in railway work complaints	Reduction in the number of complaints associated with railway works on the route			
Your Voice action plans complete	Percentage of Your Voice plans completed			
Sustainability / Asset Management	Definition			
Reduction in Service Affecting Failures (SAF)	Measures the impact of asset failures on train performance			
CRI	This is a measure of the short-term condition and performance of our assets including track, signalling, points, electrification, telecoms, buildings, structures and earthworks.			
7 Key Volumes	Measures delivery against budget of the seven key renewals volumes			
Top Investment Milestones	These milestones measure our achievement of interim milestones of our top-10 renewals and enhancement projects.			
Network Sustainability - measure to be defined	Residual life of asset type - TBC			
Financial Performance	Definition			
Financial Performance Measure (FPM) - Gross Excl. Enhancements (£m)	Measures how we are performing against our Income, Opex and Renewals budget.			
Financial Performance Measure (FPM) - Gross Enhancements only (£m)	Enhancement expenditure measures how we are performing against our Enhancement expenditure budget.			
Cash Compliance – Income & Expenditure	This is a measure of how well we have remained within our funding envelope in total.			

Regulatory floor methodologies

Consistent Route Measure – Performance

The CRM-P floor has been set using a methodology that is consistent across all routes, to derive a performance measure that would indicate the onset of systemic failure within the Route. In the event of a floor breach, the ORR will investigate whether the route is doing everything reasonably practicable to manage the relevant issues before taking regulatory action. This recognises that CRM-P can be impacted by extreme events outside the direct control of the railway (including weather) and potentially by major changes in the reliability of TOC operations. We are proposing that the floor for CRM-P is based on setting a buffer, that acts as a fixed absolute level of allowed deviation away from the proposed trajectory for each year in CP6.

The buffer is 30% of the Route CRM-P (MAA) value at Period 10 2017/18.

So, for instance:

- \Rightarrow Current CRM-P for a route is 4.00 minutes
- \Rightarrow The buffer for the route would be 1.2 minutes (i.e. 30% of 4 minutes)
- \Rightarrow If the expected CRM-P in 2021/22 is 3.80 minutes, the floor would be set at 5.00 minutes (i.e. 1.2 minutes worse than the trajectory).

The algorithm keeps the level of failure proportional to all routes and follows the current methodology used by the DfT to set breach levels for TOCs on Self Delay target within the franchise agreements. Also, it recognises that confidence in the delivery of performance improvement is lower than the confidence of delivering current performance.

The 30% level is between the 25% used by the DfT in the South Western Railway franchise and the 40% proposed by the DfT for the South Eastern franchise. It also aligns with our proposal for the floor on the FDM-R measure for freight performance.

Freight Delivery Metric (FDM-R)

The regulatory floor is calculated following the same methodology as is used for the FDM-R target. Using a two-year average of historical data, the FDM-R methodology establishes, by route, the number of allowed delay failures each route may contribute to meet the national FDM target of 94%. The regulatory floor calculation adds 30% to these allowed delay failures.

Network Sustainability

The regulatory floor for sustainability is set at a level that has been assessed and is limited to a 10% loss in proposed plan activity across the control period. Wessex Route will therefore need to manage our rolling workbanks to ensure we maintain a volume delivery that is above the 90% threshold throughout the control period. This measure of sustainability reflects a balance which, whilst allowing a certain amount of re-phasing, requires a retained margin within the overall control period headroom, to mitigate the risk of a regulatory breach.

In addition to the regulatory floor, the Network Rail Internal Assurance and Review team will monitor route delivery through an annual route specific threshold. Where a single year's delivery falls to <85% of the plan a route specific improvement plan will be required for Executive approval & monitoring.

Appendix J **Glossary of terms**

AfA – Access for All AHB - Automatic Half Barrier AMEM – Asset Management Excellence Model AMIP - Asset Management Improvement Plan ARL – Asset Remaining Life ASPRO - Asset Protection B&C – Buildings and Civils BCS - Ballast Cleaning System BKE – Basingstoke to Reading BML – Bournemouth Main Line **BTP** – British Transport Police Capex – Capital Expenditure CaSL – Cancellations and Significantly Lateness CDAS - Connected Driver Advisory Systems CERD - Coastal, Estuarine and River Defence CIL – Community Infrastructure Levy COO – Chief Operating Officer CPx – Control Period x CRI - Composite Reliability Index CRT – Critical Rail Temperature CS – Caledonian Sleeper DC - Direct Current DfT - Department for Transport DPI – Delays per Incident DR – Digital Railway DRAM - Director of Route Safety and Asset Management DU – Delivery Unit E&P – Electricity and Plant EAWA - Electricity at Work Act ECR - Electronic Control Room

ELR – Engineer's Line Reference EMGTPA – Equivalent Million Gross Tonnes per Annum **ESR - Emergency Speed Restriction** ETCS – European Track Control System FDM – Freight Delivery Metric FDM - Field Data Manager FEU - Freight End User FNPO – Freight and National Passenger Operators FOC – Freight Operating Company FOL - Freight Only Line FPM – Financial Performance Measure FWI - Fatalities and Weighted Injuries GTR – Govia Thameslink Railway GRIP - Governance for Railway Investment MMA - Manual Metallic Arc Projects GW – Great Western GWR – Great Western Railway H&S – Health and Safety HAV – Hand Arm Vibration **HLOS - High Level Output Specification** HO - High Output HV – High Voltage ICC – Integrated Control Centre ICM – Infrastructure Cost Model IIA – Initial Industry Advice IL – Island Line IOW – Isle of Wight IP – Infrastructure Projects IPO – Integrated Programme Office IR – Internal Relationships IXL - Interlocking KPI – Key Performance Indicator LDC – Local Distribution Centre LMD – Light Maintenance Depot

LOM – Local Operations Manager

LOROL - London Overground LPA – Local Planning Authority LSE – London South East LSTF – Local Sustainable Transport Funds LTI – Lost Time Injury LTIFR – Lost Time Injury Frequency Rate LUL – London Underground LWLC – Lowest Whole Life Cost LX – Level Crossing MAA – Moving Annual Average MCB-CCTV - Manually Controlled Barrier -Closed Circuit Television MCB-OD - Manually Controlled Barrier -**Obstacle Detectors** MEW – Minor Emerging Works MMT – Mobile Maintenance Train MOD – Ministry of Defence MOM - Mobile Operations Manager MTR – Mass Transit Railway NCS - Network Construction Services NOS - National Operating Strategy NS&CP – Network Strategy and Capability Planning NSC - National Supply Chain NSCD – Negative Short Circuit Device NSIP – National Stations Improvement Programme OMR - Operating, Maintenance and Renewals Opex – Operating Expenditure **OPSAP** – Operational Property Structural Assessment Programme **ORBIS** - Offering Rail Better Information Services ORR - Office of Road and Rail OSTI - Other Single Till Income

OTM – On-Train Metering PARL – Percentage Asset Remaining Life P&L – Profit and Loss Account PDSW – Planning and Delivering Safe Work PGSI – Planned General Site Inspection PICOP – Person in Charge of Possession PL – Plain Line PLPR - Plain line pattern recognition PPM – Public Performance Measure PTARR – Passenger Train Accident Risk Reduction PTG – Poor Track Geometry PTI – Passenger/Train Interface RAB - Regulatory Asset Base RAM – Route Asset Manager **RCF** - Rolling Contact Fatigue **RCM - Remote Condition Monitoring** RFD – Route Finance Director RMD - Route Managing Director **RS** – Route Services RTA - Road Traffic Accident RUP – Railway Upgrade Plan RVI – Road Vehicle Incursion S&C – Switches and Crossings S&T – Signalling and Telecommunications TOC – Train Operating Company SAF - Security Assurance Framework SCADA - Supervisory Control and Data Acquisition Schedule 4 - TOC compensation for planned service disruption caused by Network Rail Schedule 8 – TOC compensation for unplanned service disruption caused by Network Rail SCMT – Strategic Crisis Management Team

SCO - Supply Chain Operations SCPF - Station Commercial Project Facility SEU - Signalling Equivalent Unit SFN - Strategic Freight Network SIMIS-W - An interlocking manufactured by Siemens SICA - Signalling Infrastructure Condition Assessment SIN119 – Special Instruction Notice 119 SISS - Station Information and Security System SOBC – Strategic Outline Business Case SoFA – Statement of Funds Available SRAMP – Structural Route Asset Maintenance Programme SSI - Solid State Interlocking SSM – Station Stewardship Measure STE – Safety, Technical and Engineering SWR – South Western Railway T/PSR - Temporary/ permanent speed restriction TIGER – Transit via Innovative Gateway concepts solving European-Intermodal Rail needs TME - Track Maintenance Engineer TRS - Track Renewal System TSR – Temporary Speed Restrictions TU – Transport Undertaking VTISM - Vehicle Track Interaction Strategic Model WLC - Whole Life Costing WR&CC - Wessex Route and Climate Change WSF – Wrong-Side Failures XC - CrossCountry

EIU - Emergency Intervention Units