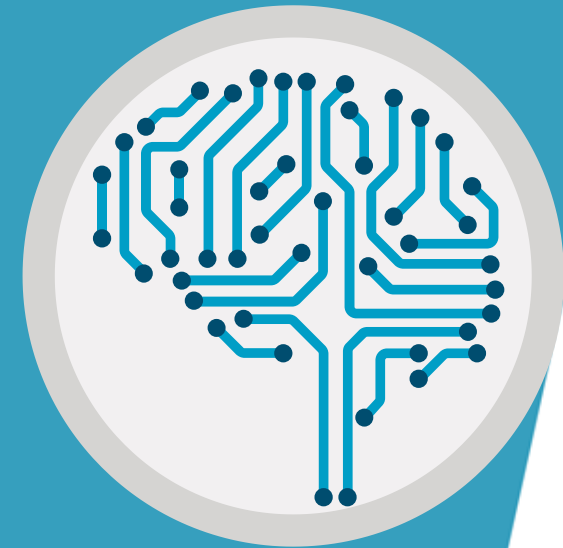


System Operator

Strategic Plan



February 2019

System Operator

Planning a better network for you

1. Foreword *by Jo Kaye, Managing Director, System Operator*

I am pleased to set out, in this Strategic Plan, our plan and vision for the railway's System Operator in Control Period 6 (CP6) and beyond.

Role of the System Operator

Why we exist (our role)

We plan changes to the GB railway system so that the needs of passengers and freight customers are balanced to support economic growth.

What we want to be (our vision)

Our vision is to become the recognised expert trusted by decision makers to plan the GB railway.

How we will do this (our strategic intent)

We will support each other to realise our full potential, building confidence and being a better System Operator. We will be transparent about how we optimise the use of the existing network and identify opportunities to create new system capability.

As the System Operator, capacity is at the heart of everything we do. Our activities span the breadth of railway planning in terms of time horizons - what the railway could look like in 30 years to tomorrow's timetable - and the full spectrum of system opportunities to deliver more capacity including better timetables, longer and more trains, new technology, improved performance and, where necessary, new infrastructure.

We provide a whole-system, long term view, informed and integrated by the detailed knowledge we have from planning the network and by the industry-wide interfaces we have with every train operating customer, route and infrastructure manager. Our services extend beyond Network Rail. Trains already run between Network Rail routes and infrastructure owned by other infrastructure managers, such as High Speed 1 (HS1), Transport for London (TfL), Nexus and Heathrow Airport.

The network needs to be planned as an integrated whole, irrespective of

organisational boundaries and ownership. This will be particularly important in the next few years, as Crossrail and High Speed 2 (HS2) become operational, and as other infrastructure managers emerge.

We are a distinct but connected part of Network Rail. The separation of our role in managing capacity allocation from the routes allows Route Businesses to work locally in collaborative models, such as Alliances, avoiding conflicts of interest in the provision of network access.

What we do

Our key products and services reflect the breadth of our activities:

- Working with the rest of the industry we provide **advice** to governments and funders on the future development of the rail network, and its potential to deliver for its customers and support economic growth and other key societal outcomes.
- This advice is supported and underpinned by **analysis** of the long term prospects of the markets rail serves, the needs of passengers and freight end users, and the development of business cases to assess the potential costs and benefits to support the case for funding.
- The System Operator enables the delivery of new outputs to the railway system through **planning** of new train services, by providing **advice** to the franchising process and by **specifying** the service output requirements of any new infrastructure and broader system changes required to support output changes.
- The System Operator works with Route Businesses and train operators to **decide** the best allocation of capacity and creates operational timetables that meet the needs of train operators.

Throughout this operating model, the System Operator must understand the choices and trade-offs of different solutions and retain a line of sight to the

intended benefits from long term planning through to the operational timetable. We recognise that many decisions that affect the outputs of the railway are made by others, especially funders and franchising authorities. The System Operator must provide high quality advice to these decision-makers and be clear on the consequences of different choices that could be made.

Our priorities

The introduction of the new timetable in May 2018 caused significant and deeply unfortunate disruption to the lives of many passengers over a period of several weeks. This has led to an inquiry by the ORR into the causes of the timetable disruption.

The ORR's interim findings were published on the 20th September 2018 and its recommendations were published in December 2018. We have collaborated fully with the inquiry and we are working with ORR and the rest of the industry to put in place a range of actions to address the root causes identified by the inquiry. We will take the greater leadership and co-ordination role that has been identified as having been lacking, and to ensure that passengers and end users are at the centre of our thinking in everything we do. This strategic plan sets out the actions we are taking as System Operator, including how we propose to review the Network Code, and to strengthen our timetabling capability and technology.

At this point it is too early to articulate any changes to our CP6 plans as a consequence of the Williams Review, and of the internal review commissioned by Andrew Haines. We will engage with our customers and stakeholders as part of evolving our plans in the future as the outcomes of such reviews becomes clear.

Our plan sets out the key outputs and activities we will deliver throughout our operating model, and the steps we will take throughout CP6 to:

- further invest in our resources and capabilities to fulfil the role of a strong System Operator
- provide more efficient management of capacity;

- deliver a seamless service for our customers across the network's internal boundaries;
- put passengers and end users at the heart of what we do;
- build strong working relationships based on credibility and trust;
- provide a consistent and transparent way of planning with evidence-based decision making and advice;
- deliver our outputs while balancing competing customer priorities;
- treat all customers fairly within and across routes, and
- develop and maintain frameworks for the seamless planning of the network.

As always, we welcome your feedback on this plan and on what we do, and I would be pleased to hear from you.



Jo Kaye
Managing Director, System Operator



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2. Introduction

This Strategic Plan sets out what the System Operator will deliver throughout Control Period 6, with a particular focus on delivery within 2019/20.

CP6 will see far-reaching and long-lasting changes to the railway, including full introduction of Crossrail and Thameslink services, further significant timetable changes in the north of England, and the commencement of testing for HS2. System Operator is key to the successful delivery of these outputs, and to maximising the benefits offered by these enhancements.

The document has been structured to:

- describe the System Operator's role and purpose;
- set out CP6 outputs showing how these have been developed with full consideration of customers' needs and requirements;
- explain how our operating model will facilitate delivery of these outputs; and
- show how delivery will be monitored through our scorecards.

By clearly setting out our outputs, this Strategic Plan will give our customers and stakeholders the opportunity to plan their businesses with a reasonable degree of assurance and knowledge of the outputs we will deliver. Continued understanding of these outputs throughout CP6 will then be supported by our robust and transparent governance and reporting mechanisms, and through annually updated plans and scorecards.

Furthermore, several of our outputs, and associated measures on the scorecards, will be developed on an annual basis, enabling emerging customer and stakeholder priorities to be reflected in our plans. This also allows measurement and assurance of those activities driven by external issues (such as franchise plans, and funding availability and mechanisms) to be kept up to date.

With this in mind, the System Operator Strategic Plan will be updated on an annual basis, confirming the outputs to be delivered in the forthcoming year.

Since the publication of our Strategic Business Plan (SBP) in February 2018, the industry has sought to introduce the largest ever revision to the national timetable in May 2018, with changes to 46 per cent of train times. The significant and deeply unfortunate disruption to the lives of many passengers led to an inquiry by the ORR with recommendations to the industry published in December 2018.

At the time of the SBP we had already recognised the need to strengthen the resources and capability of our Capacity Planning team, and this Strategic Plan sets out further strengthening of the team. We also set out a number of other changes to our plan informed by our learning from the May 2018 timetable change, and the ORR inquiry. These changes strengthen the System Operator function in leading the integration railway system output change (which will in most cases require complex timetable change), and the management of the system dependencies and risks associated with them.

It is also important that the industry learns from the introduction of the December 2018 timetable in developing further how it collectively better manages the timetable process and controls systemic risk more effectively.

We will evolve our plan in light of these learnings. We will also feed these learnings into the Williams Review where necessary, but at this point we have not made changes to our plans as a consequence of the launch of the Williams Review.



System Operator Planning a better network for you

3. System Operator

3.1 Role and purpose

System Operator	
Why we exist (our role)	We plan changes to the GB railway system so that the needs of passengers and freight customers are balanced to support economic growth.
What we want to be (our vision)	Our vision is to become the recognised expert trusted by decision makers to plan the GB railway.
How we will do this (our strategic intent)	We will support each other to realise our full potential, building confidence and being a better System Operator. We will be transparent about how we optimise the use of the existing network and identify opportunities to create new system capability.

The railway system drives economic growth. It transports people to and from work, education and social activities and it carries goods to markets, connecting businesses. Many parts of the network are at or approaching capacity, and with demand for rail expected to grow further over the coming years, capacity has become an increasingly valuable and in-demand commodity. Consequently, getting best use of track and station capacity today, and expanding the capacity of the system - while pursuing affordability and delivering value for money - is a key challenge for the rail industry, and the country as a whole.

We make Great Britain's railway greater than the sum of its parts by being the 'glue' that holds the network together. We provide a whole-system, long term view, informed by the detailed knowledge we have from planning and timetabling the network and from the industry-wide interfaces we have with every train operating customer, route and infrastructure manager, enabling the industry to deliver for passengers and freight users.

Devolution drives a valuable and necessary focus on meeting passengers' needs and reflecting local priorities, and the operational boundaries of train

operators and the priorities and requirements of industry stakeholders are rarely contained within a single organisational unit in Network Rail or other Infrastructure Managers (IMs). The effective and seamless management of 'cross boundary' issues is critical to the success of the rail industry, and it is this role which (amongst others) drives the need for a System Operator.

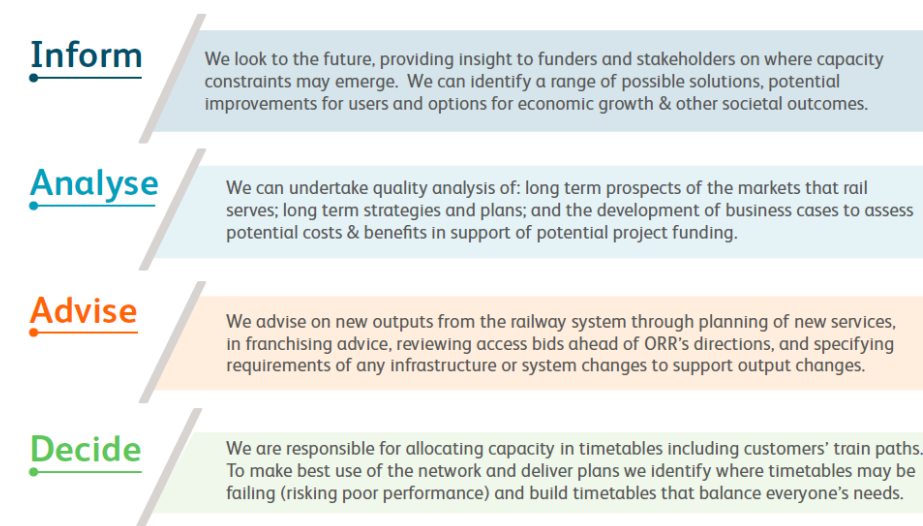
We plan the railway cohesively as a network considering the wider socio-economic impacts of investment decisions, and allocating capacity through a network-wide timetabling process.

The ongoing changes to railway services, with the implementation of cross-route programmes such as Thameslink, Crossrail, HS2 and East-West Rail, link routes together more than ever, reinforcing and expanding further the "network" nature of the railway system. This means that the importance of the activities of a System Operator will continue to grow.

Our role also means we can engage beyond the rail industry and make a significant contribution to broader policy debates on the role of rail in a wider transport, land use planning and economic context.

As we continue to develop the role of the System Operator, we will look to address issues highlighted by the ORR's inquiry into the operational implementation issues that arose with the May '18 timetable. We will take the greater leadership and co-ordination role that has been identified as having been lacking, and to ensure that passengers and end users are at the centre of our thinking in everything we do.

Figure 3.1 Role of the System Operator



3.2 Our role in system safety

Safety is at the heart of everything that we do.

As well as supporting the health, safety and wellbeing of our team, as System Operator we have a unique opportunity to drive improvements in system

safety throughout the processes described in our operational model, through the quality of our work and the advice we provide to decision makers.

We make a vital contribution to railway system safety by embedding safety consideration at the very beginning of the strategic planning process and throughout project development. This is informed by activities such as station capacity analysis, which sits with the System Operator and analyses the movements of passengers in and around stations, informing project development decisions.

We influence system safety through the frameworks and support we provide Route Businesses in the implementation of timetable change, as well as through the development of a safe and robust network-wide timetable.

Figure 3.2 System Operator and system safety

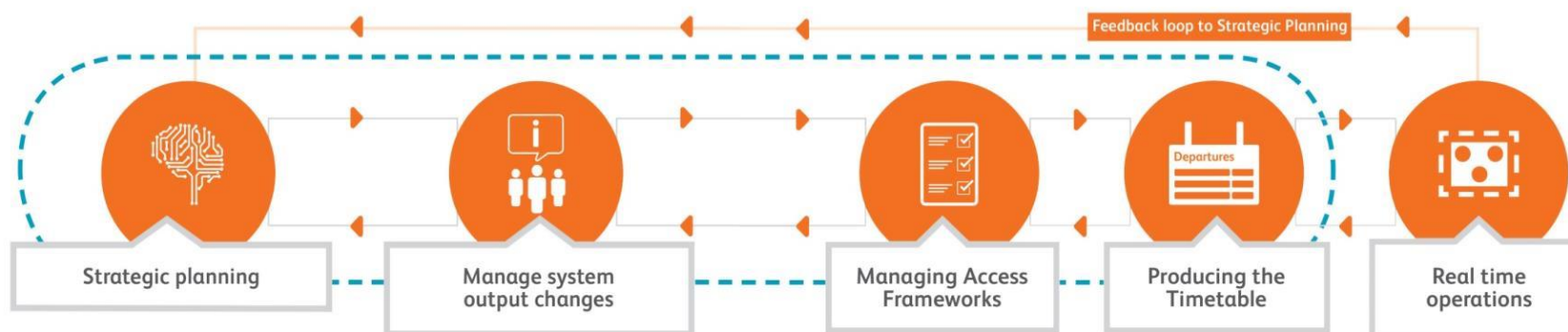


3.3 Our operating model

Our operating model highlights our role at a number of stages in the planning, development, and allocation of capacity on the network:

- Working with the rest of the industry we provide **advice** to governments and funders on the future development of the rail network and its potential to deliver for passengers and freight users, including supporting economic growth and other key societal outcomes. This requires working across the industry to reach informed decisions which have an impact on the future of the GB rail system throughout the development and delivery of major programmes such as HS2
- This advice is supported and underpinned by **analysis** of the long term prospects of the markets rail serves, the needs of passengers and freight end users, and the development of business cases to assess the potential costs and benefits to support the case for funding.
- The System Operator enables the delivery of new outputs to the railway system through **planning** of new train services, by providing **advice** to the franchising process and by **specifying** the service output requirements of any new infrastructure and broader system changes required to support output changes.
- The System Operator works with Route Businesses and train operators to **decide** the best allocation of capacity through operational timetables that meet the needs of train operators in delivering services for passengers and freight users.

Figure 3.3 System Operator operating model



3.4 How we are organised

The Managing Director – System Operator leads a team comprising of:

- Strategy and Planning teams (Scotland, North, South and Wales & Western);
- HS2 Integration;
- Capacity Planning; and
- Policy and Programmes.

Figure 3.4 System Operator leadership team



3.4.1 Strategy and planning teams

The strategy and planning team consists of Directors of Strategy and Planning; North, South, Wales & Western and Scotland. Their roles have been developed to respond to changes in the funding landscape and so better align with a greater number of governments, devolved funders and other customers. They are supported by Heads of Strategic Planning aligned with each Network Rail route business.

The organisation is designed around delivery of the key client roles and development activities, with Strategic Planners focussed on long term planning and client roles and Development Managers focussed on development activity: the numbers of these roles are fairly evenly split.

3.4.2 HS2 integration

Our internal client role is accountable for the integration of HS2 with the wider network, making sure that it is possible for funders and decision-makers to take evidence-based and timely decisions with the aim of delivering an optimal, system-level output, and that capacity use is planned most effectively at that network level.

Throughout CP6, we will also be broadening the scope of this integration capability beyond HS2 to cover all enhancements and initiatives enabling significant railway output change.

3.4.3 Capacity planning

The organisation is structured to provide key activities including:

- acting as a Professional Head of Capacity Planning to provide strategic focus and a guiding mind for planning activities, as well as ownership of the Network Code Part D within Network Rail;
- capability and capacity analysis to support investment, service level and franchise decisions in advance of the working timetable development process;
- development and delivery of the working timetable process, including leadership of industry steering groups to support timetable change, management of the timetable planning rules and delivery of permanent alteration for emerging operator requirements;
- the weekly adjustment of the timetable for engineering work and short term operator requirements; and
- network-wide frameworks for access planning.

3.4.4 Policy and programmes

This team provides a range of central (non-geographic) cross-functional activities and also provides support to the geographically based teams in specific disciplines. The team is structured to provide;

- thought leadership and policy development in key policy areas affecting the System Operator;

- analysis and forecasting to support the industry long term planning processes;
- client portfolio services providing the overall client oversight of the investment portfolio; and
- portfolio and programme leadership of the function's key programmes and projects.

3.4.5 Strengthening our plan

Many years of cross-industry planning, complex decision-making and co-ordination precede the implementation of a timetable change (which, put simply, is the final significant step in delivering a change to the output of the railway system). At each stage of that process, different resources are required to manage it, with differing competences, capabilities and quantity, while always keeping that final railway system output change in mind (i.e. the reason the work is being done).

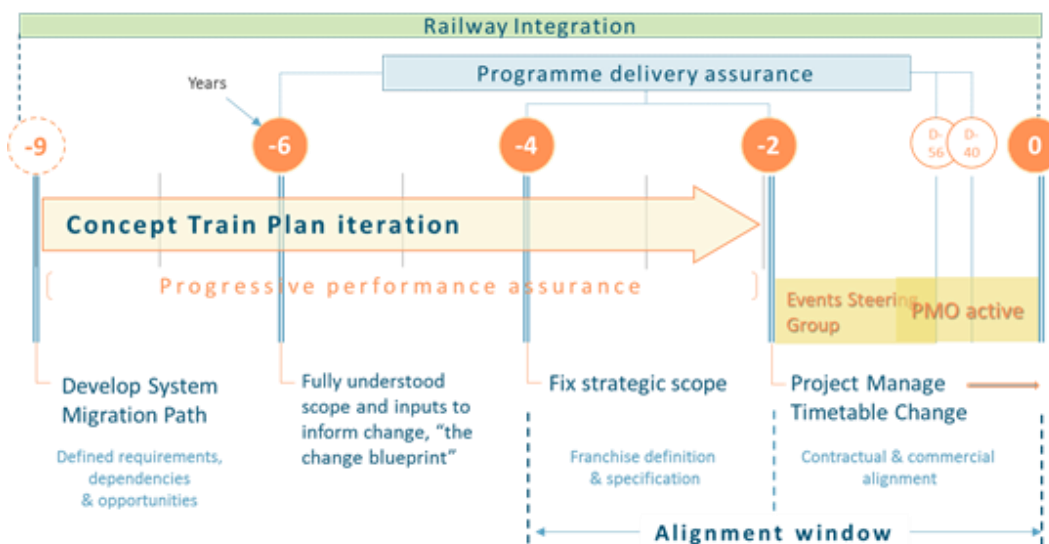
It is therefore necessary, at a system level, to plan over a wide time horizon and allocate different types and quantity of resources to each stage of the activities, initiatives and projects leading up to the final implementation of the change. Until now, the industry has had no formal framework within which to structure these activities. System Operator's plan for CP6 will address this.

The key areas of strengthening are in the functions of Railway Integration, Capacity Planning and industry assurance for timetable change. This is supported by:

- a robust network-wide railway integration capability (Section 6.7);
- increased capacity planning resource, with enhanced capability (section 6.6); and
- a further developed Industry Timetable Assurance PMO (Section 6.6.5)

Between them, these functions complement one another, spanning the entire life-cycle of a planned change to the railway system. This is set out below, with capacity planning input required – to differing degrees – throughout the entire process¹.

Figure 3.5 The lead up to significant railway output change



¹ The starting point will vary depending on the size and scale of change; the example shown here is based on current work around the integration of HS2 Phase 2a in 2027.

3.5 Long term scorecard

The following table sets out our long term functional scorecard, demonstrating how we will measure the delivery of our outputs at a network-wide level. Our revised scorecard incorporates feedback from our customers and the Advisory Board to provide;

- Greater focus on timetabling activity
- Greater visibility of improvement initiatives, particularly in timetabling
- Incorporation of metrics that demonstrate our timetabling capability
- Visibility of our delivery for the different funders of our activity

Table 3.1 Long term functional scorecard

Delivering an improved timetable service		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Definition
WTT production milestones	WORSE THAN TARGET									Delivery of relevant milestones in the development of the WTT - presently Priority Date (D-40) and Publication Date for each timetable change (D-26).
	TARGET	4	4	4	4	4	4	4	4	
	BETTER THAN TARGET									
Event Steering Group Outputs	WORSE THAN TARGET	80%	80%	80%	80%	80%	80%	80%	80%	Delivery of agreed outputs in activity plans established as part of each ESG.
	TARGET	90%	90%	90%	90%	90%	90%	90%	90%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
TW-12 compliance	WORSE THAN TARGET	80%	80%	80%	80%	80%	80%	80%	80%	Percentage of train operators with amended timetables published to downstream systems by TW-12 for the relevant timetable week (to be reported from Period 2 (2019/20) on conclusion of the industry TW-12 recovery plan
	TARGET	90%	90%	90%	90%	90%	90%	90%	90%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
Bid to offer cycle (4 weeks)	WORSE THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%	Delivery of timetable offers within 4 weeks of receipt of bids. Demonstrates System Operator processing time of timetable amendments.
	TARGET	95%	95%	95%	95%	95%	95%	95%	95%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
Whole System Modelling programme	WORSE THAN TARGET	80%	80%	80%	80%	80%	80%	80%	80%	Delivery of milestones in our Whole System Modelling Programme (on conclusion of feasibility activity) as set out in Section 7.2.
	TARGET	90%	90%	90%	90%	90%	90%	90%	90%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
Train Planning System programme	WORSE THAN TARGET	80%	80%	80%	80%	80%	80%	80%	80%	Delivery of milestones in our Train Planning System Programme (on conclusion of feasibility activity) as set out in Section 7.2.
	TARGET	90%	90%	90%	90%	90%	90%	90%	90%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
Access Planning Programme	WORSE THAN TARGET	80%	80%	80%	80%	80%	80%	80%	80%	Delivery of milestones in our Access Planning Programme (on conclusion of feasibility activity) as set out in Section 7.2.
	TARGET	90%	90%	90%	90%	90%	90%	90%	90%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	

Data Improvement Programme	WORSE THAN TARGET	80%	80%	80%	80%	80%	80%	80%	80%	Delivery of milestones in our Data Improvement Programme (on conclusion of feasibility activity) as set out in Section 7.2.
	TARGET	90%	90%	90%	90%	90%	90%	90%	90%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
Network Code Part D Review	WORSE THAN TARGET	80%	80%	80%	80%	80%	80%	80%	80%	Delivery of milestones of an industry review of the Network Code (Part D) led by the System Operator as set out in Section 7.1.
	TARGET	90%	90%	90%	90%	90%	90%	90%	90%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
Operational Planner Vacancy Gap	WORSE THAN TARGET	8%	7%	7%	6%	5%				The percentage of Operational Planner vacancies relative to the organisational size in each year.
	TARGET	6%	5%	5%	4%	3%	TBC	TBC	TBC	
	BETTER THAN TARGET	4%	3%	3%	2%	1%				
Capacity Planning capability metric	WORSE THAN TARGET	280								The quantified capability of our Capacity Planning organisation (based on headcount and competency levels) as set out in Section 8 of our plan.
	TARGET	310	TBC	TBC	TBC	TBC	TBC	TBC	TBC	
	BETTER THAN TARGET	340								
Safety		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Definition
Trains planned through possessions	WORSE THAN TARGET	310								The number of delay incidents which are associated with train schedules incorrectly planned via lines or routes that are closed due to engineering works.
	TARGET	295	TBC	TBC	TBC	TBC	TBC	TBC	TBC	
	BETTER THAN TARGET	280								
Close calls	WORSE THAN TARGET	80%	80%	80%	80%	80%	80%	80%	80%	The percentage of close calls associated with the System Operator that have been closed within 90 days
	TARGET	85%	85%	85%	85%	85%	85%	85%	85%	
	BETTER THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%	
Timetable Performance		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Definition
Impact on Train Performance (Incidents)	WORSE THAN TARGET	24,105	23,744	23,387	20,830	20,309				The number of delay incidents associated with 502a delay codes (QA, QM, QQ, QB) with associated PFPI minutes
	TARGET	22,957	22,613	22,273	19,838	19,342	TBC	TBC	TBC	
	BETTER THAN TARGET	21,809	21,482	21,159	18,846	18,375				
Impact on Train Performance (Delay Minutes)	WORSE THAN TARGET	340,030	334,929	329,906	301,763	295,727				The number of direct and reactionary PFPI delay minutes associated with 502a delay codes (QA, QM, QQ, QB)
	TARGET	323,838	318,980	314,196	287,393	281,645	TBC	TBC	TBC	
	BETTER THAN TARGET	307,646	303,031	298,486	273,023	267,563				
Strategic Planning		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Definition
Strategic Planning Milestones	WORSE THAN TARGET	80%	80%	80%	80%	80%	80%	80%	80%	Delivery of milestones in the annual Continuous Modular Strategic Planning activity plan. This is demonstrated in a disaggregated manner in Tier 2 and Tier 3 scorecards.
	TARGET	90%	90%	90%	90%	90%	90%	90%	90%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	

Managing Output Changes		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Definition
Transport Scotland Priorities	WORSE THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%	Delivery of milestones in the Transport Scotland development portfolio. This is demonstrated in a detailed manner in the Scotland Tier 2 scorecard.
	TARGET	95%	95%	95%	95%	95%	95%	95%	95%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
Subnational Transport Body Priorities	WORSE THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%	Delivery of milestones associated with the development priorities of Subnational Transport Bodies. This is demonstrated in a disaggregated manner in Tier 2 scorecards.
	TARGET	95%	95%	95%	95%	95%	95%	95%	95%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
Welsh Government/Transport for Wales Priorities	WORSE THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%	Delivery of milestones in the Welsh Government development portfolio. This is demonstrated in a detailed manner in the Western & Wales Tier 2 scorecard.
	TARGET	95%	95%	95%	95%	95%	95%	95%	95%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
DfT Project Development Milestones	WORSE THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%	Delivery of milestones in the DfT development portfolio. This is demonstrated in a disaggregated manner in Tier 2 scorecards.
	TARGET	95%	95%	95%	95%	95%	95%	95%	95%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
Franchising Milestones	WORSE THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%	Delivery of milestones in the franchise activity plan, as informed by the July 2017 DfT franchising schedule. This is demonstrated in a disaggregated manner in Tier 2 scorecards.
	TARGET	95%	95%	95%	95%	95%	95%	95%	95%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
HS2 Milestones	WORSE THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%	Delivery of milestones in the HS2 development and integration activity plan. This is demonstrated in a disaggregated manner in HS2 and North Tier 2 scorecards.
	TARGET	95%	95%	95%	95%	95%	95%	95%	95%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	

Delivery to customers		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Definition
Customer advocacy (Route)	WORSE THAN TARGET									<p>Weighted average advocacy score calculated by the satisfaction level of our customers for each of our core outputs and by the relative importance of the output to each customer.</p> <p>We will use the preceding year's results as a baseline and establishing forecast improvements to satisfaction levels for each customer group.</p> <p>This is demonstrated in a disaggregated manner throughout the suite of System Operator scorecards.</p>
	TARGET	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC	
	BETTER THAN TARGET									
Customer advocacy (Operator)	WORSE THAN TARGET									
	TARGET	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC	
	BETTER THAN TARGET									
Customer advocacy (Funder)	WORSE THAN TARGET									
	TARGET	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC	
	BETTER THAN TARGET									
Customer advocacy (Other IMs)	WORSE THAN TARGET									
	TARGET	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC	
	BETTER THAN TARGET									
Improvement Programmes		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Definition
Improvement initiative Milestones	WORSE THAN TARGET	80%	80%	80%	80%	80%	80%	80%	80%	Delivery of milestones in improvement initiative portfolio (where not separately indicated). This is demonstrated in a disaggregated manner on the Policy & Programmes Tier 2 scorecard.
	TARGET	90%	90%	90%	90%	90%	90%	90%	90%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
Financial Performance		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Definition
Financial Performance Measure – Opex (£m)	WORSE THAN TARGET	0.80	0.83	0.87	0.91	0.93	1.50%	1.50%	1.50%	Delivery of a finance performance measure outlining variance of actual operational expenditure to budget.
	TARGET	0.00	0.00	0.00	0.00	0.00	0	0	0	
	BETTER THAN TARGET	-0.80	-0.83	-0.87	-0.91	-0.93	-1.50%	-1.50%	-1.50%	
Financial Performance Measure - Capex (£m)	WORSE THAN TARGET	0.49	1.06	1.37	1.70	1.78	6%	6%	6%	Delivery of a finance performance measure outlining variance of actual capital expenditure to budget.
	TARGET	0.00	0.00	0.00	0.00	0.00	0	0	0	
	BETTER THAN TARGET	-0.49	-1.06	-1.37	-1.70	-1.78	-6%	-6%	-6%	

4. Meeting the needs of our customers & stakeholders

Our customers include all funders of the railway, rail infrastructure businesses and operators running trains on the network – all of whom depend on us for the coordination and provision of capacity to enable the industry to deliver better value for money and a more reliable railway for passengers and freight end users.

There is then an accompanying wider base of stakeholders whose input and opinion is sought at various stages of the strategic planning and infrastructure enhancement development processes.

Many act on behalf of the end user, wider economic and social priorities, and may fund specific projects and programmes. They include user groups (e.g. Transport Focus, Rail Freight Operators' Association), local enterprise partnerships (LEPs), regional transport partnerships, and city deals.

Details of how we have engaged with our customers to inform the development of our Strategic Plan are set out in Appendix A.

4.1 Funders and specifiers

Funders include national governments, sub-national transport bodies (SNTBs), and can include combined authorities, local authorities, LEPs or private businesses.

Funders and other specifiers are also key customers for franchising support, in our client role for enhancements, and in informing choices for investment supported by socio-economic & capacity analysis.

Funders and specifiers need:

- Provision through our leadership of the industry's Long Term Planning Process of choices available to support the development of policies and decisions;
- Delivery of enhancements on time, on portfolio budget and in an integrated manner;

- Delivery of Scottish Government's Key Strategic Outcomes.
- Reflection of devolved priorities in plans for the network;
- Provision of advice and analysis in support of the franchising process;
- Consideration of how local priorities can be integrated with the strategy for the wider network; and
- Responsive ability to model different iterations of the timetable.

4.1.1 Periodic Review

There are two funders that provide core funding to Network Rail through the Periodic Review process, used to determine Network Rail's funding and outputs for a Control Period, and the mechanisms by which performance and delivery will be measured.

The process is informed by the publication of High Level Output Statements (HLOS) by both the Department for Transport and Transport Scotland. This process enables these two principal funders to set out priorities and outcomes for the railway to deliver, alongside a Statement of Funds Available (SOFA) to outline the funding available to achieve them.

This enables Network Rail to develop its plans for the operation, maintenance and renewal of the network to achieve the priorities and outcomes. For Control Period 6, this process did not include specifying and funding for specific railway enhancements.

The HLOSs included a number of requirements that will be led, or contributed to by the System Operator, which are summarised below. Our plans to achieve these requirements are demonstrated throughout Section 6.

England & Wales HLOS – Department for Transport

The HLOS sets that the safe operation of the network remains vital to

Network Rail's plans, including having due regard to national security threats and cyber security, for the entirety of the railway in Great Britain.

The Secretary of State expects significant progress in improving the efficiency of our activities, including improvement in Network Rail's productivity.

The existence of the System Operator is critical to the Secretary of State's expectation within the HLOS that Network Rail delivers an ambitious implementation of route devolution. Our role enables Route Businesses to engage in more collaborative models (such as alliances) and continue to comply with legislative requirements, operating transparently and openly.

Scotland HLOS – Scottish Ministers

The HLOS sets out priorities within the published National Transport Strategy:

- Improved journey times and connections
- Reduced emissions
- Improved quality, accessibility and affordability.

These priorities require improved services, improved capacity, improved value, more effective integration and support for increasing inclusive economic growth.

The HLOS also requires:

- the creation of an expert whole-rail-system project client and sponsor capability based in Scotland, to control all stages of investment project development and delivery
- dedicated resources for timetabling, specific to the Scottish network, which should be familiar in detail with its geographical, market and operating characteristics, using processes and priorities fully aligned with the strategic priorities.

Within the whole-system client role, the HLOS addresses the need for wider strategies around depots and stabling, stations and support for rail freight

growth and faster journey times for freight in Scotland.

Within the HLOS there are specific outputs specified, including:

- the development of a Scottish Gauging Strategy, and the maintenance of the capability of the network for traffic at the same level as at the end of CP5
- the normal availability of at least one cross-border route for passenger and freight operators with journey times as specified in franchise agreements
- the achievement of 92.5% Public Performance Measure for ScotRail and support for sustainability and tourism

Finally, Scottish Ministers have expressed a key priority in achieving improved journey times, with measurements and targets aligned with those of the ScotRail franchise.

4.1.2 Franchising & concessions

Franchise authorities and bodies that grant concessions to operate services are also customers of the System Operator. Their requirements include the integration of the industry Long Term Planning Process in the franchising and concession process, as well as analysis and advice to achieve greater alignment of outputs and incentives within the industry.

Our activity in this area is determined predominantly by the franchising schedules developed by the DfT and TS, in addition to the letting of concessions by bodies such as Transport for London.

4.1.3 Enhancements

Enhancements to the railway network can be specified and funded by a wide group of funders (beyond DfT and TS), demonstrating the devolution of the funding environment of the railway.

Enhancements can be funded by bodies such as the Welsh Assembly and Sub-national Transport Bodies, for example, Transport for the North and Transport for London.

Our role in providing a single point of interface and integration for the diverse geographical interests of such organisations enables us to support the delivery of positive outcomes for passengers and end users. We do this through the provision of advice and choices for infrastructure investment, and the development of business cases supported by robust analysis to secure funding with appropriate confidence.

We then act as an internal client for enhancements within Network Rail so that changes to the network capability, capacity and operation arising from infrastructure investment can be effectively realised in the timetable, mindful of the long period of time that can elapse from project initiation to delivery.

4.2 Train operators & owning groups

Our operating customers include the franchised and open access operators (both passenger and freight) as well as potential operators.

Their priorities and needs of the System Operator span the breadth of our operating model, as well as reflecting the different geographies on which their train services operate. Many individual needs have been represented throughout our engagement to inform our CP6 plans, though there is generally some consensus in the need for the System Operator be able to provide:

- greater transparency in System Operator processes;
- development of prioritised options to deliver additional capacity and capability on the network;
- identification of conflicts in industry parties' priorities and commitments;
- proactive identification of additional and available capacity in the system;
- the development of timetabling capability and systems;
- delivery of benefits of investments;
- effective and efficient timetabling processes, able to react at short notice (especially for freight);
- a resilient timetable with capacity available to meet demand for specified services;
- consistent end to end planning across route boundaries; and

- balance between freight and passenger needs when planning

Further details reflecting the specific and different priorities of individual train operators is reflected in our scorecards, the discussions prioritised by operators in the System Operator's standing advisory group for operators and applicants, and feedback obtained from customer surveys.

4.3 Route business and infrastructure managers

Route Businesses and other IMs are also considered to be direct customers. They benefit from analytical work supporting the sale of access rights, the network change process and creation of the network-wide timetable.

We support these businesses in their operations by:

- building a resilient network timetable;
- supporting preparations for delivery (e.g. timetable change assurance activity); and
- managing frameworks for devolved activities that are carried out by route business teams (e.g. engineering access planning).

For funders and rail users to see the optimal benefits from new railways like East-West Rail and HS2, new services need to be integrated with the existing railway, planned and operated effectively and balanced with the need of existing customers. We lead this process, acting as an internal client for the physical railway works and owning key relationships with funders and ORR.

Our management of cross-boundary issues is critical to the success of all our customers' businesses. We also support infrastructure managers, both directly through key services and indirectly through analytical work supporting the sale of access rights, the network change process, creation of the network-wide timetable, supporting third party investment and providing clear accountabilities, tools & guidance.

The implementation of programmes such as Thameslink and Crossrail will reinforce interdependencies across the network. As HS2 and East-West Rail progress they will reinforce the network nature of our railway system and the need to coordinate its planned development and operation.

4.4 Delivering for our customers

The following table demonstrates how the priorities and needs of our customers have been considered in the development of our Strategic Plan. A key feature of our engagement in the update of our Strategic Plan has been the need to focus and prioritise the development and improvement of the timetabling process, including our plans to develop the capability of our timetabling teams.

Table 4.1 Customer priorities and System Operator delivery

Stakeholder Group	What do they need of the System Operator?	What do we plan to deliver?	Where is this set out?
Freight & Train Operating Companies Owning Groups	Realising aspirations in the timetable, including benefits of enhancements.	Improvements in our end-to-end planning process, supporting realisation of benefits of enhancement schemes	Section 7.1.1
	Development of prioritised options to deliver additional capacity and capability on the network.	An annual plan of strategic planning activity to develop options for funders, including options for infrastructure enhancements	Section 6.1
	A resilient timetable with capacity available where demand exists for additional services.	Investment in our timetabling teams, processes and systems to support improvements to the timetabling process, including exploring greater steps towards automation in timetabling and improved industry data.	Section 6.6 Section 7.2
	Effective and efficient timetabling processes, able to react at short notice.		
	Greater transparency in System Operator processes.	Continued implementation of a transparent governance framework, supported by strengthened scorecard and narrative reporting.	Section 10
	Proactively identify additional and available capacity in the system.	Processes and capability within the function to identify capacity options throughout our operating model, from strategic planning to timetabling.	Section 6
	Identify conflicts in industry parties' priorities and commitments.	Strengthened involvement in the franchising process to improve strategic alignment.	Section 6.3
	Consistent end to end planning across route boundaries.	A network-wide System Operator role throughout our outputs, including delivery of our operating model without constraint of route boundaries and the implementation of a transparent governance framework.	Section 6
	Balance between freight and passenger needs when planning and developing solutions.		
Funders & Specifiers	Provision of choices available to support the development of policies and decisions.	An annual plan of strategic planning activity to develop options for funders	Section 6.1
	Delivery of enhancements on time, on portfolio budget and in an integrated manner.	Continued implementation of an incremental approach to funding enhancements, and improvements in our end-to-end planning process, supporting realisation of benefits of enhancement schemes	Section 6.2 Section 7.1.1
	Delivery of the Scottish Government's Key Strategic Outcomes.	Delivery of the requirements set out within the Scottish Ministers' HLOS and indication of our progress in our scorecards	Section 6
	Reflect devolved priorities in how we plan the network.	Continued embedment of the System Operator operating model, with capability to accommodate stronger devolution	Section 3
	Provision of advice and analysis in support of the franchising process.	Strengthened involvement in the franchising process underpinned by strengthened analysis.	Section 6.3 Section 7.1.2

Stakeholder Group	What do they need of the System Operator?	What do we plan to deliver?	Where is this set out?
Route Businesses	A robust and resilient timetable that satisfies customer needs.	Investment in our timetabling teams, processes and systems to support improvements to the timetabling process, including exploring greater steps towards automation in timetabling and improved industry data	Section 6.6
	Consistent delivery of the informed traveller process.		Section 7.2
	A robust and transparent enhancements pipeline, including supported third party investment.	Embedment of incremental decision making throughout the enhancement portfolio, and improvements to the early stage development of enhancements	Section 6.1 Section 6.2 Section 7.1.3
	Clear accountabilities, tools and guidance for System Operator processes.	Management of frameworks to support devolved processes, such as Access Planning, and improvements to processes and systems through the Access Planning Programme	Section 6.5 Section 7.2.2
Local Authorities & Partnerships	Consideration of how local priorities can be integrated with the strategy for the wider network.	Delivery of an annual plan of strategic planning activity, and consideration of strategic fit for third party proposed enhancements.	Section 6.1
	Be more responsive and able to model different iterations of the timetable to inform decisions.	Investment in our modelling capabilities, including greater resources to support analysis as well as through our Whole System Modelling programme	Section 7.1.2 Section 7.2.3
User Groups & Wider Stakeholders	Develop solutions to meet growth in demand and requirements for improved connectivity.	The delivery of an annual plan of strategic planning activity, informing options for funders for development, and improvements to the early stage development of enhancements	Section 6.1 Section 6.2 Section 7.1.3
	Support the industry in providing value for money.	Improvements in our end-to-end planning process, considering options to funders, and benefit realisation of investments in the timetable.	Section 6.1 Section 6.2 Section 7.1.1
	Improved passenger satisfaction through provision of more seats and improved punctuality.	Improvements throughout our operating model are intended to support system integration of railway outputs, consistency and transparency of our processes, and benefit realisation in the timetable.	Various sections throughout the plan
	Strong framework to allow our customers to deliver for passengers and freight users.		

In addition to the use of scorecards to measure the delivery of our outputs, we will use customer advocacy measurements to understand the views of our customers. This approach will help provide a qualitative assessment of our outputs, including the quality of the service we supply.

We will engage with our customers to establish the relative importance of our outputs to them, and also their satisfaction with those outputs, in line with the operating model. This enables us to use a weighted average calculated to determine customer satisfaction relative to their view of importance, in determining their overall advocacy score.

We will structure these measurements in line with the customer groups identified earlier, identifying an annual target (and ranges) by using the preceding year's results as a baseline and establishing forecast improvements to satisfaction levels for each customer group.

Accordingly, a 19/20 target will be established using the results of our

customer advocacy engagement in February and March 2019.

We are in the process of adjusting our plans to engage with our customers to enable us to obtain the richest possible feedback, through face-to-face engagement. We anticipate such an approach being undertaken in September 2019, to enable us to introduce greater linkages to the update of our Strategic Plan for future years.

We will use our annual narrative reporting, set out in Section 10.2, to provide a narrative and qualitative balance to our scorecard measures, and to set out the outputs of our customer advocacy engagement in more detail.

Figure 4.1 Delivery to customers in our Scorecard

Delivery to customers		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Customer advocacy (Route)	WORSE THAN TARGET								
	TARGET	TBC	To be forecast annually						
	BETTER THAN TARGET								
Customer advocacy (Operator)	WORSE THAN TARGET								
	TARGET	TBC	To be forecast annually						
	BETTER THAN TARGET								
Customer advocacy (Funder)	WORSE THAN TARGET								
	TARGET	TBC	To be forecast annually						
	BETTER THAN TARGET								
Customer advocacy (Other IMs)	WORSE THAN TARGET								
	TARGET	TBC	To be forecast annually						
	BETTER THAN TARGET								

5. Railway outputs in CP6

The requirements from the railway system for funders and users are many and varied. Ultimately though, they are all seeking one thing – a reliable train service that accommodates the demands placed on it in the most financially sustainable way. Benefits to both funders and users accrue through the successful delivery of the timetable and the changes to it over time.

The investments that funders make in the railway system are designed to deliver beneficial outcomes for both passengers and freight users. By continuing to invest, train services can be developed and changed to accommodate the growing needs of the economy.

This includes improvements to capacity to accommodate changing and in many cases rising demand, changes to the timetable to provide for new journey opportunities and the ability to serve new markets along with improvements in end to end journey times. Our role as System Operator is to consider the trade-offs between differing and potentially competing outputs. By considering outputs at the system level, we are able to suggest appropriate reconciliation of outputs.

Managing railway output changes does not solely relate to the management of enhancements or changes to the physical characteristics of the railway; changes to railway outputs can arise through changes to franchise specifications, investment in rolling stock and through changes to the structure of the timetable to deliver new or improved services.

The System Operator has a key role in realising the outputs of the railway and their associated benefits in CP6. It's the combination of the System Operator, Route Businesses, and other infrastructure managers, infrastructure delivery teams and train operators working together to deliver rail services that deliver the full range of benefits.

Our plan reflects our contribution to delivering these outputs, key to which is the delivery of the timetable where changes to the railway system are realised. It should be noted that in some cases the train services

highlighted throughout this section remain proposals at this stage. In some cases, access rights have not yet been approved or further work is required on operational robustness, timetable feasibility etc.

5.1 Passenger capacity

Passenger carrying capacity is planned to increase significantly during Control Period 6 (CP6) as the rail industry continues to introduce over 7,000 new vehicles into service and new timetables associated with investment projects become operational. By the end of CP6 passenger carrying capacity in National Rail's largest commuter markets will have increased by over 25 per cent compared to just a decade earlier (Table 5.1).

During CP6 we will (subject to development funding being provided) continue to lead the development of plans to increase capacity on routes which have now been identified as priorities for additional capacity, including the Brighton Main Line and South West Main Line (for services specified and funded by DfT) and the East London Line (TfL).

We also continue to support our partners to progress schemes such as Northern Powerhouse Rail, High Speed 2 and Crossrail 2, all of which will increase rail capacity into many of our largest cities.

Passenger markets are varied across Great Britain. There is a diverse mix of passengers that are served from school children travelling to education establishments to more elderly passengers travelling for leisure activities or visiting friends or relatives. An ageing population brings mobility and accessibility challenges that the network will also need to address.

Whilst commuter markets into the largest cities remain a key focus, this does not mean that other cities and towns will not benefit from extra capacity in CP6. Additional capacity will also be provided into cities including Bristol, Cardiff and Liverpool, whilst a large number of towns and

cities located on radial routes into and between large cities will also benefit from extra capacity.

Our role as System Operator involves working with different stakeholders across the country and to articulate a single view of the network that integrates these opportunities.

Passenger demand in the peak at many stations has seen an increase over the last five years and it is certain that in the near future some stations will face problems in accommodating the volume of people at peak times. Longer and more frequent services that have and will be introduced to address increased demand have amplified this problem as passengers continue to travel. We have identified a number of stations where interventions will be required to avoid restricting entry to platforms during periods of high demand.

Table 5.1 Increase in passenger carrying capacity in Great Britain's commuter markets (AM peak hour)

City	Passenger carrying capacity CP5	Anticipated passenger carrying capacity end CP6	Change
Birmingham	31,300	38,500	+7,200 (+23%)
Glasgow	39,000	44,000	+5,000 (+13%)
Leeds	19,100	25,900	+6,800 (+35%)
London	359,000	455,700	+96,700 (+27%)
Manchester	25,600	33,400	+7,800 (+30%)

5.2 Freight capacity and capability

Investment choices in CP6 will continue to focus on meeting increasing demand (particularly in the intermodal sector) by developing the Strategic Freight Network, an initiative to create a set of rail freight corridors with a

consistent standard of capability linking the nations key ports and centres of production, distribution and consumption.

This will be realised primarily through enhanced levels of gauge clearance, interventions to enable the operation of longer freight trains and schemes that increase capacity.

The freight market context is one where intermodal (the movement of containers from ports and between inland terminals) and construction materials (aggregates, cement and spoil) are the largest market sectors for rail freight. Both of these sectors have experienced growth during CP5, and this trend is expected continue through the next control period, according to forecasts prepared recently for the Freight and National Passenger Operator (FNPO) Route Strategic Plan and shown in the table below.

Table 5.2 Forecast rail freight growth rates for selected market sectors in CP6 – million tonnes lifted²

Sector	2016/17 baseline	Average of the 2023/24 forecast scenarios	Annual growth rate
Ports Intermodal	16.2	20.9	3.7%
Domestic Intermodal	2.5	5.8	13.0%
Channel Tunnel Intermodal	0.4	0.5	4.1%
Construction materials	24.3	32.3	4.2%

The ability to transport more freight by rail prevents these goods from having to be conveyed by road haulage, which brings wider socio-economic benefits, in addition to those delivered for our Freight Operating Company customers. Analysis by KPMG in 2015 estimated the benefits of rail freight to the UK economy at £1.6bn per year, including productivity gains for UK businesses, reduced road congestion and environmental

² Rail freight forecasts: Scenarios for 2023/24, Final Report. MDS Transmodal, May 2018

benefits. Each tonne of freight transported by rail reduces carbon emissions by 7 per cent compared to road, and each freight train removes between 43 and 76 HGVs from the roads.

5.3 Punctuality and reliability

Passengers and stakeholders place considerable value in the reliability and punctuality of the train service and a key output is the delivery of a timetable that provides a high degree of assurance that trains can operate as advertised.

The events of the May 2018 timetable introduction show the importance of integrated planning as a precursor to major timetable planning and this plan proposes a number of changes to the way in which timetable change is undertaken.

Many of the proposals for increased capacity could have a reliability benefit as longer trains potentially accrue less dwell times at stations as passengers board and alight.

5.4 Planned rail service output changes in CP6 - Train service connectivity, journey time improvements and new rolling stock

Providing direct connectivity between towns and cities is important for the economic wellbeing of the places served, allowing easy access to both labour and employment markets drives economic growth. Passengers value the level of connectivity to and from the places they wish to access. Equally, journey times are important to both passengers and freight users and reducing in vehicle times between cities and towns help to increase business efficiency, increase business interactions between cities and support agglomeration of economic activities.

Perhaps the most noticeable changes to train services in the eyes of the passenger are the trains on which people travel and Control Period 6 sees a number of train fleet changes with the increase in electrified route miles and the implementation of franchise driven service changes. New rolling

stock with enhanced facilities such as air conditioning and on board Wi-Fi and customer information systems have the ability to transform the journey experience.

The following maps show a number of planned proposals for enhanced connectivity, reduced journey times and the introduction of new rolling stock.

These proposals are in the main part of franchise commitments made by individual operators and in some cases access rights have not yet been approved or further work is required on operational robustness, timetable feasibility etc.

A number of proposals require infrastructure investment and are subject to funding being agreed.

Figure 5.1 Output changes in Wales

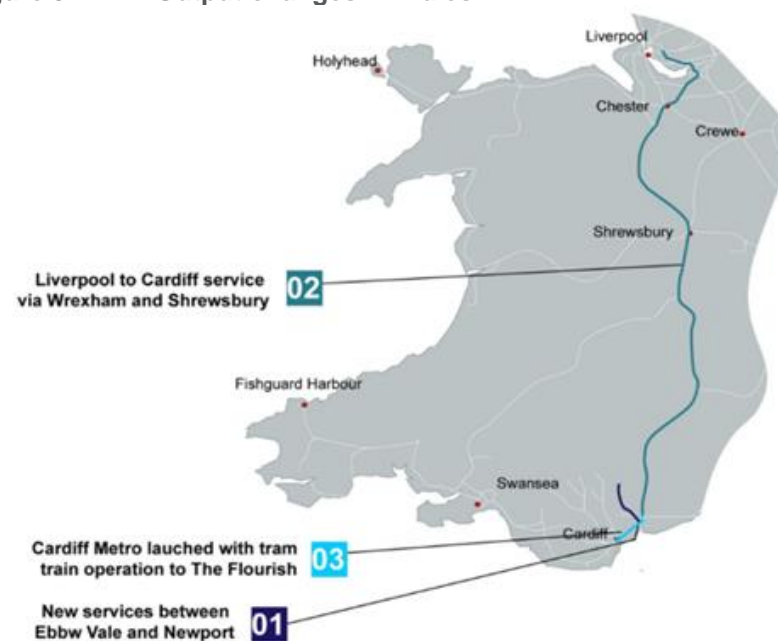


Figure 5.2 Anglo-Scottish output changes

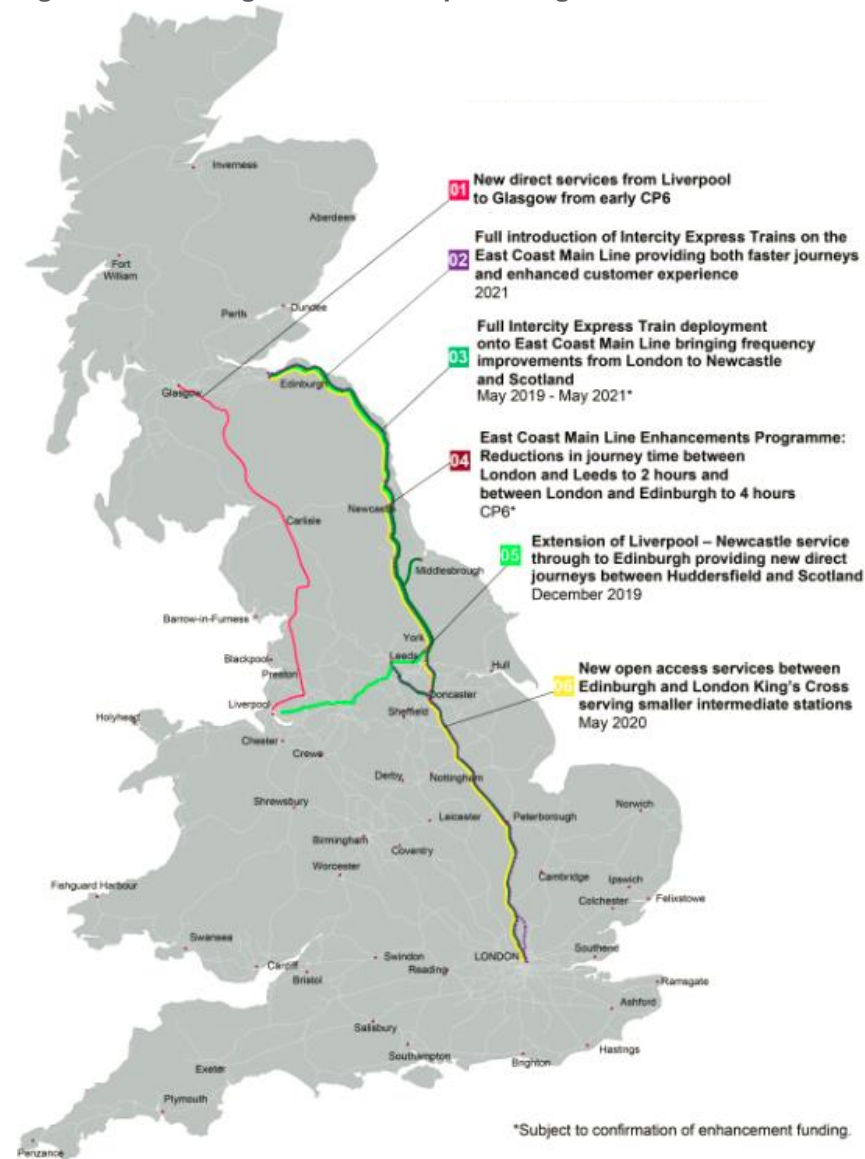


Figure 5.3 Output changes in Scotland

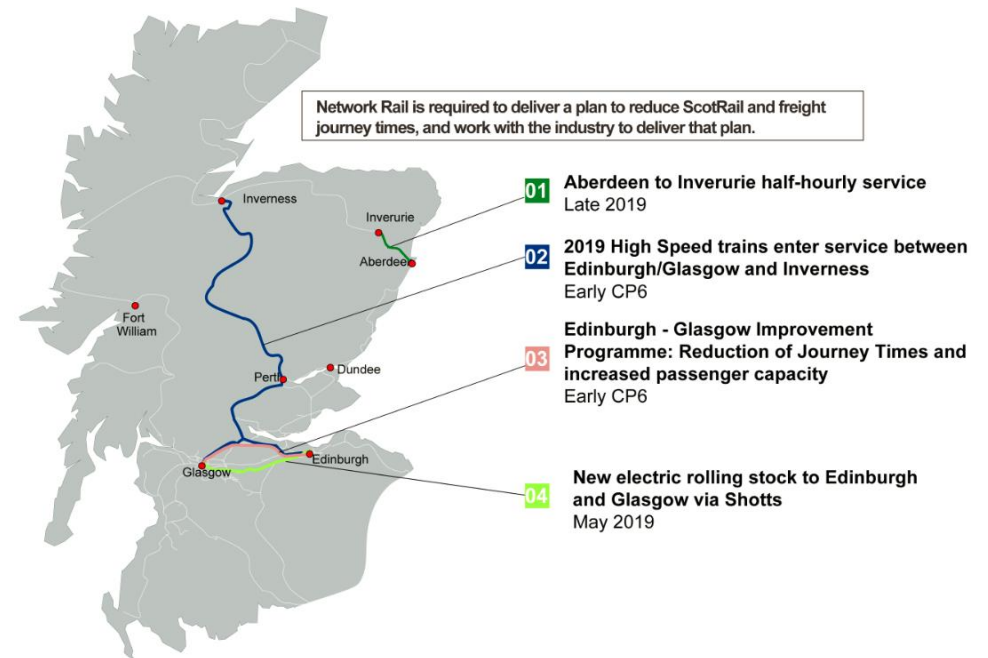


Figure 5.4 Output changes in the North of England and West Midlands

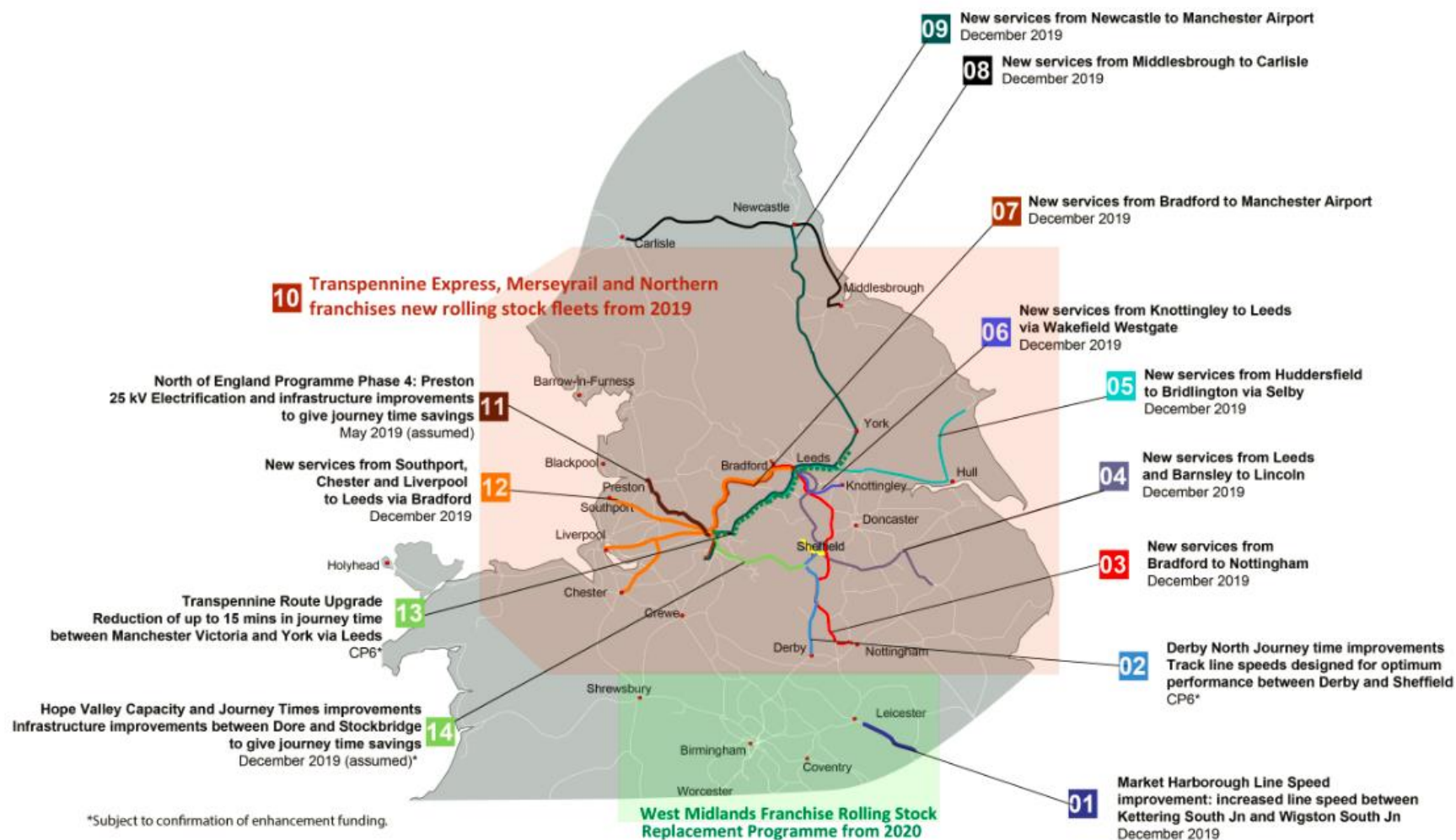
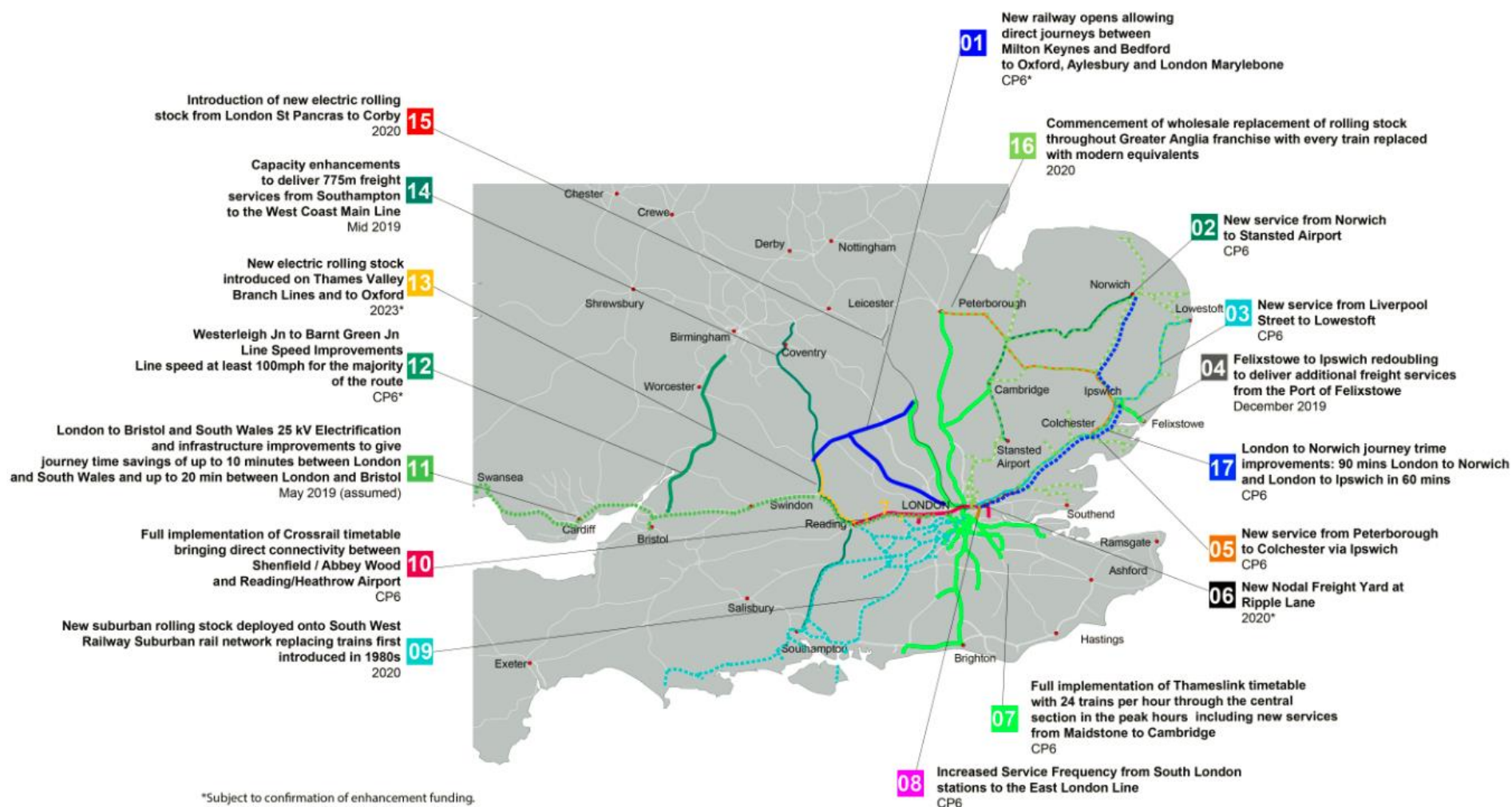


Figure 5.5 Output changes in London and the South East



6. Delivery & activity plans

The way we plan and use the railway needs to support the most efficient, or 'best' use of existing capacity and development of the network for customers and funders. Increasing traffic, network devolution, the growing roles of new transport bodies and new infrastructure managers means coordination of the system is increasingly important to the success of the railway network.

Our operating model is based on a clear line of sight from strategic planning and the development of investment and capacity utilisation options for funders - through to the allocation of train paths in timetables.

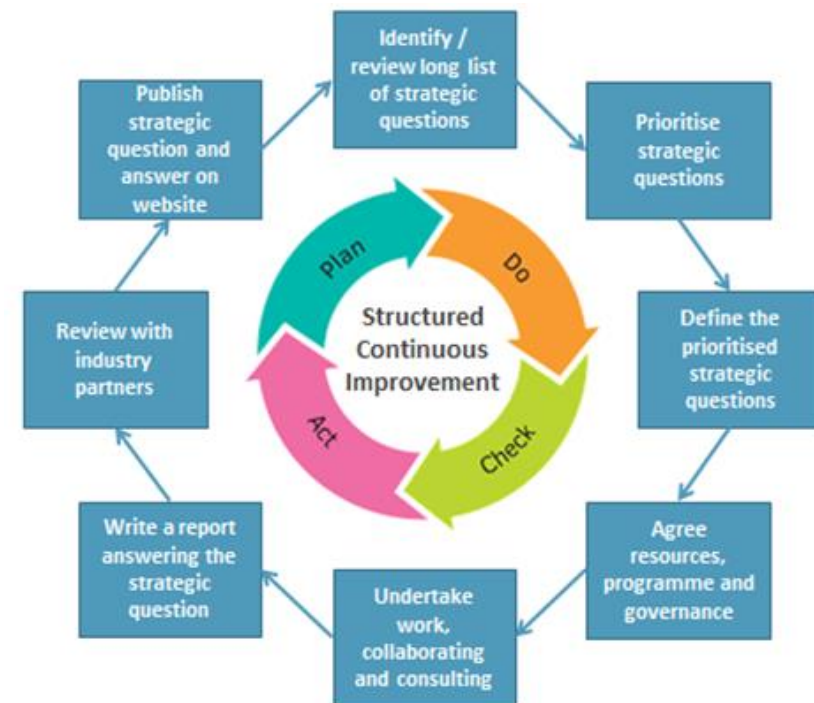
The following section sets out the activities and outputs we will deliver throughout our operating model to achieve the best overall rail outcomes for customers, funders, the rail industry and the wider economy.

We will update these plans on an annual basis working with our customers and stakeholders.

6.1 Strategic planning

We are changing the way we undertake long-term planning in response to stakeholder feedback, moving away from producing 'route studies' (undertaken on a rolling basis each control period) to a more flexible and 'modular' approach that develops options for funders.

Figure 6.1 Continuous Modular Strategic Planning



This is called Continuous Modular Strategic Planning (CMSP), and is underpinned by the development of an annual plan of strategic questions which will:

- explicitly put passenger and freight users at the heart of the process;
- better address the Route's business needs;
- feed refranchising considering strategic questions at the right time in the franchising cycle such that any choices presented can be considered before the invitation to tender stage of future franchises, capacity allocation, development and delivery, and sale of access rights;
- take cognisance of and where appropriate influence industry policy in other areas such as Rolling Stock Strategy, Technology Strategy and environmental sustainability
- employ a more effective, focussed means of consultation;
- provide more granular, targeted market insight;
- develop a 'service change' pipeline for future configuration states; and
- demonstrably focus on incremental opportunities and service trade-offs.

The outputs of the process will provide options to funders which will inform the enhancement pipeline and upcoming franchise decisions.

6.1.1 CMSP Annual Plan

We will engage with our stakeholders to develop an annual plan of strategic questions, integrating them across the network to reflect a harmonised activity plan. This will allow us to plan resources in order to ensure that strategic questions are supported by demand forecasts, business case appraisals, and whole industry economic and station capacity analysis where required.

Once this has taken place, the annual plan will be published on our website.

The annual plan for CP6 Year 1 (2019/2020) is set out in Section 6.1.3,

and supported by detailed remits for each strategic question in Appendix E.

We will undertake this process annually throughout CP6, with a view to finalising an annual plan around February time for the following year.

6.1.2 Governance of CMSP

We will oversee CMSP activity through a governance structure, which we continue to define and implement working with Governments, train operators, Subnational Transport Bodies, customer groups and infrastructure managers.

Strategic questions for the network will be supported by Study Governance Groups which will be accountable for;

- discussing proposed strategic questions for the annual plan;
- overseeing progress of a strategic question and its analysis;
- agreeing change control proposals (e.g. to remit or timescales); and
- endorsing recommendations / choices for funders consistent with the funding that is, or is likely to be available.

We have additionally established a System Long Term Planning Governance Board to oversee the overall programme of CMSP activity on an annual basis network-wide.

We will update our plan as we mature our CMSP governance approach, working with our customers, stakeholders and funders.

6.1.3 Network level planning

CMSP will be led by route-based System Operator teams, enabling local engagement so that the needs and requirements of those stakeholders are reflected and embedded in CMSP outputs. However, there are a number of planning activities where the railway network must be considered as a whole, and in these cases it may not be appropriate or desirable for that

work to sit within a route-based team³.

System Operator is best placed to consider these network-level and cross-route matters. It will therefore have dedicated resources, based outside of but working closely with the routes, to undertake network-wide planning. This will include:

- Consideration of how traction policy should develop for the network given the pace of technological change and Government challenge in relation to diesel traction;
- Consideration of wider climate change issues and network and system resilience;
- Provision of strategic advice to funders at network level to inform future output change priorities
- Maintenance of a rolling look-ahead to understand how the demographics of society, and travel markets (including those wider than the rail sector), might be affected by areas such as changing working practices, an ageing population and continued advancement in technology;
- Consideration of the impact from changes to other transport modes and potential disruptions to demand (such as reduced cost of car travel enabled by electric cars, changes in demand due to the availability of fully autonomous vehicles, or changes in travel patterns due to increased flexible working); and
- Provision of a framework to guide route-based planning, overseeing consistency in style, content and process across the company

³ Examples include the application of and potential influence over Government Policy, consideration of Environmental and Sustainability challenges driven by changing population demographics, and the potential application of new technologies to the railway system or associated industries.

6.1.4 Annual Plan for CP6 Year 1

The following annual plan has been developed from the strategic questions developed working with customers and stakeholders across our teams. A detailed overview of the strategic questions is provided in Appendix E for further information

Figure 6.2 CMSP 2019/20 plan (North)

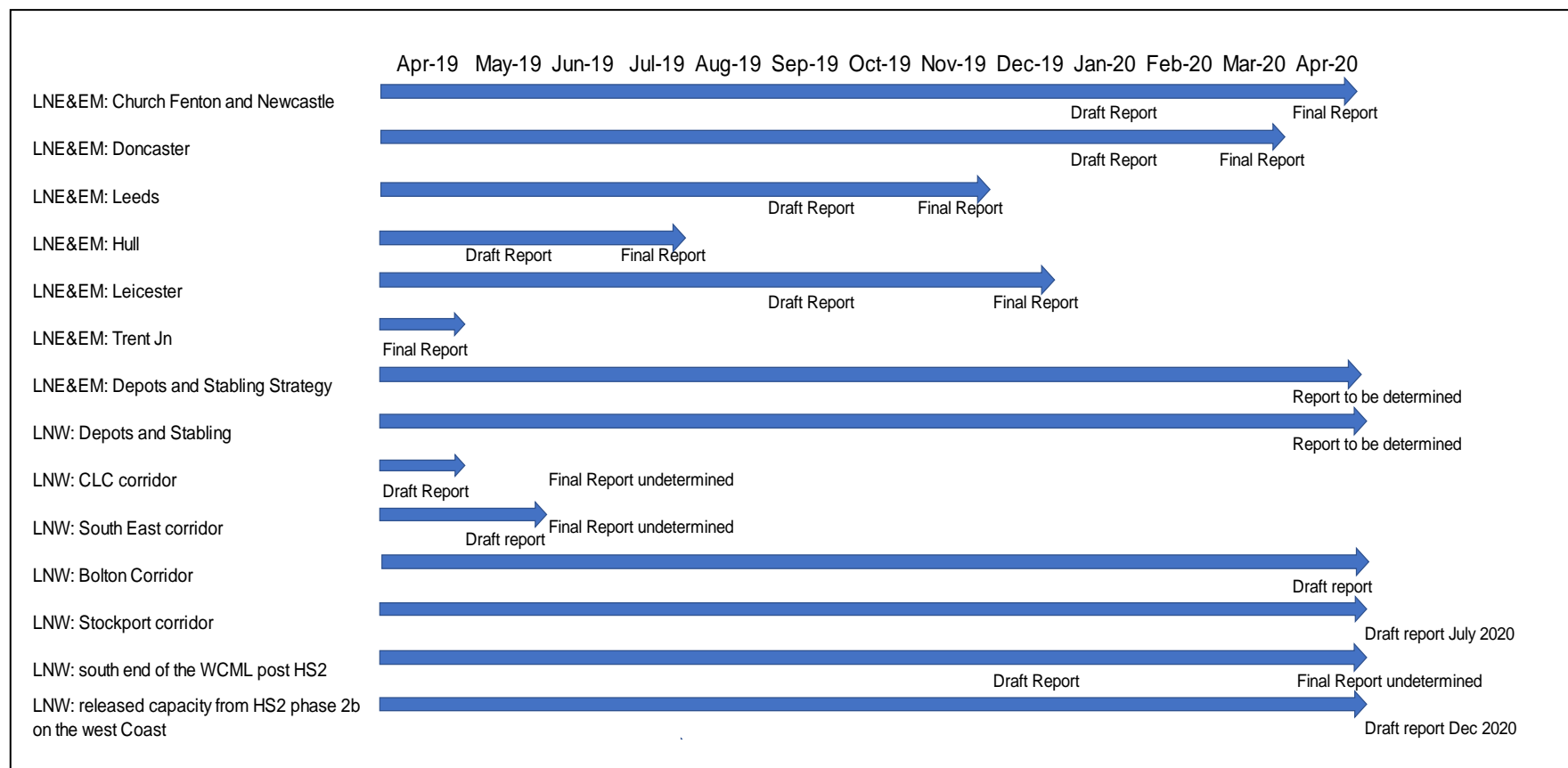


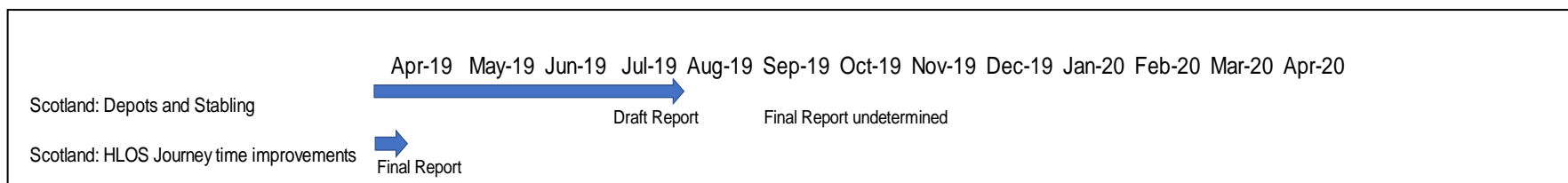
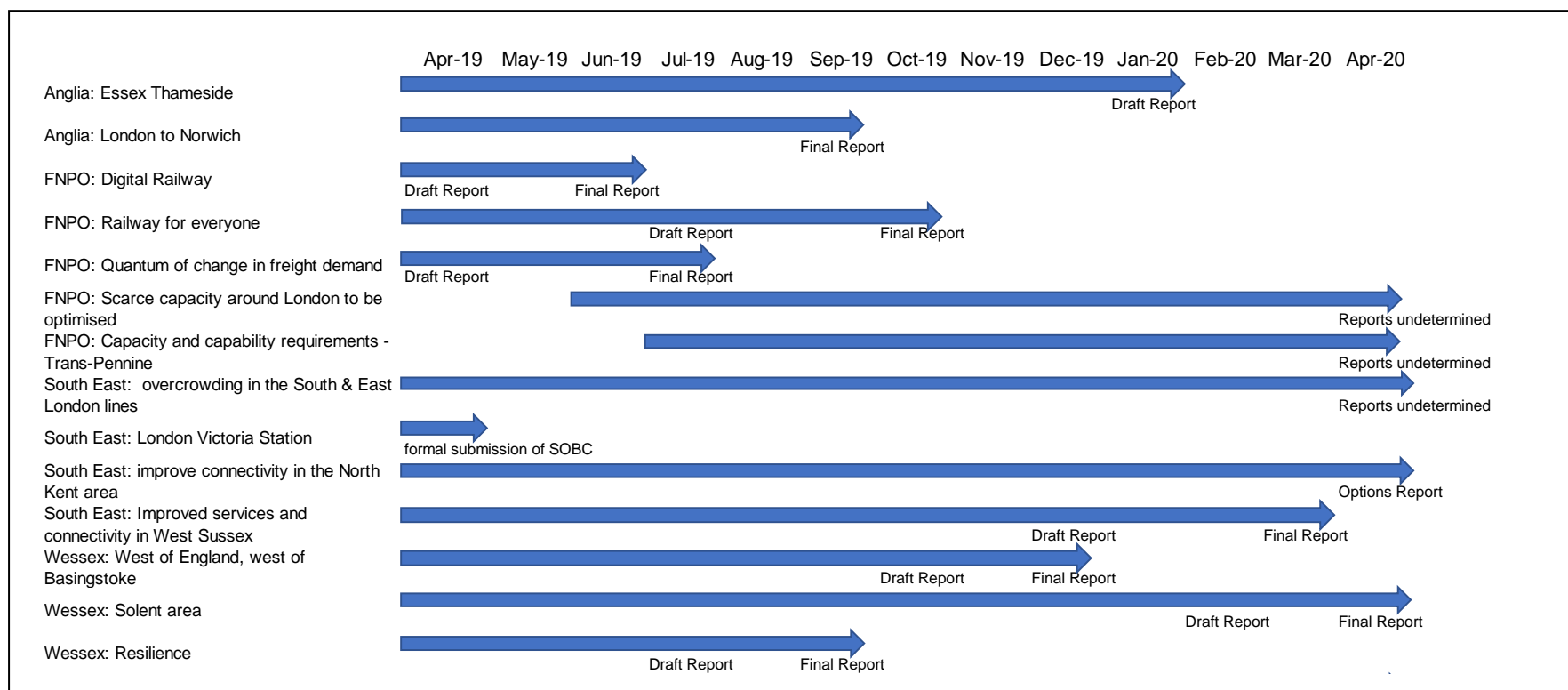
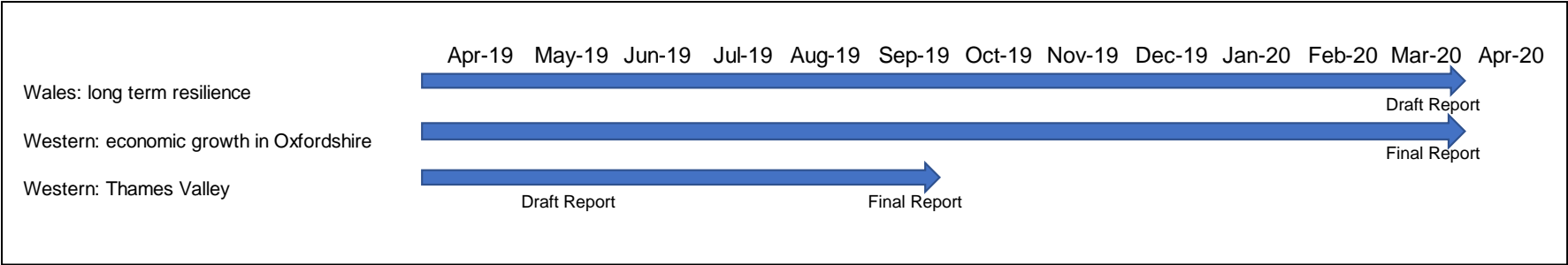
Figure 6.3 CMSP 2019/20 plan (Scotland)**Figure 6.4 CMSP 2019/20 plan (South)**

Figure 6.5 CMSP 2019/20 plan (Wales and Western)



6.1.5 Relationship with the System Operator Scorecard

The delivery of the CMSP annual plan will be measured by the milestones established through the remit for each strategic question. For the 2019/20 annual plan, these milestones consist of draft, and final outputs for each strategic question as detailed in Appendix E. These milestones are brought together at a network-wide level for measurement on the System Operator scorecard. The progress of CMSP activity is then visible in a disaggregated manner using the relevant Strategy & Planning director (Tier 2) and System Operator Route (Tier 3) scorecards.

Figure 6.6 Strategic planning activity in our scorecard

Strategic Planning		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Strategic Planning Milestones	WORSE THAN TARGET	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%

This measure is underpinned by the following number of milestones outlined within the CMSP CP6 Year 1 plan. It should be noted that the number of milestones does not indicate the volume of activity, noting the differing complexity and scope of each strategic question.

Route	Number of Strategic Questions in 19/20	Number of Milestones in 19/20
Anglia Route	2	2
F&NPO Route	5	6
LNE & EM Route	7	11
LNW Route	7	4
Scotland Route	2	2
South East Route	4	4
Wales Route	1	2
Wessex Route	3	6
Western Route	2	2

6.2 Managing output change – Enhancements

6.2.1 System Operator role in enhancements

Where capacity requirements are to be delivered using physical infrastructure we act as network client on behalf of the funder and industry, holding the project to account for delivering the agreed network outputs within the funding provided.

This includes defining the governance arrangements and tracking of funding and output commitments at the portfolio level, including management of the DfT and Transport Scotland Portfolio Board meetings, and the management of change control processes with funders and the ORR.

Along with being accountable as a client for infrastructure enhancement projects and programmes, we are also the client for the Network Rail overall enhancement portfolio of works and provide overall leadership for the approach to portfolio management. These responsibilities include assuring that enhancements projects and programmes are planned and governed in line with required timetable planning processes and associated timelines.

To fulfil the Scottish Ministers' requirements, our plan is based on a whole-rail-system client role in Scotland, maintaining industry client responsibility from project inception to close-out; with a clear accountability for ensuring that benefits are defined and delivered.

We act as the project sponsor throughout the early development of enhancements, leading the development of business cases which are underpinned by economic analysis to inform joint decisions with funders to progress with the development, design and finally delivery of enhancement programmes.

6.2.2 Incremental funding of enhancements

Following the Bowe review (which recommended a move away from early funding commitments to projects to a more incremental approach) the DfT

and TS Statement of Funds Available (SoFA) for PR18 did not contain specific funding provisions for any individual projects and makes clear that funding for projects will be decided in an incremental way.

The industry Long Term Planning Process identifies with key stakeholders the main interventions required on a route. These priorities are discussed with funders, along with the outputs of any planning processes undertaken separately by funders, and where a need for development is established, funding is secured until the next decision point to support development activity in advance of a commitment to deliver.

Department for Transport

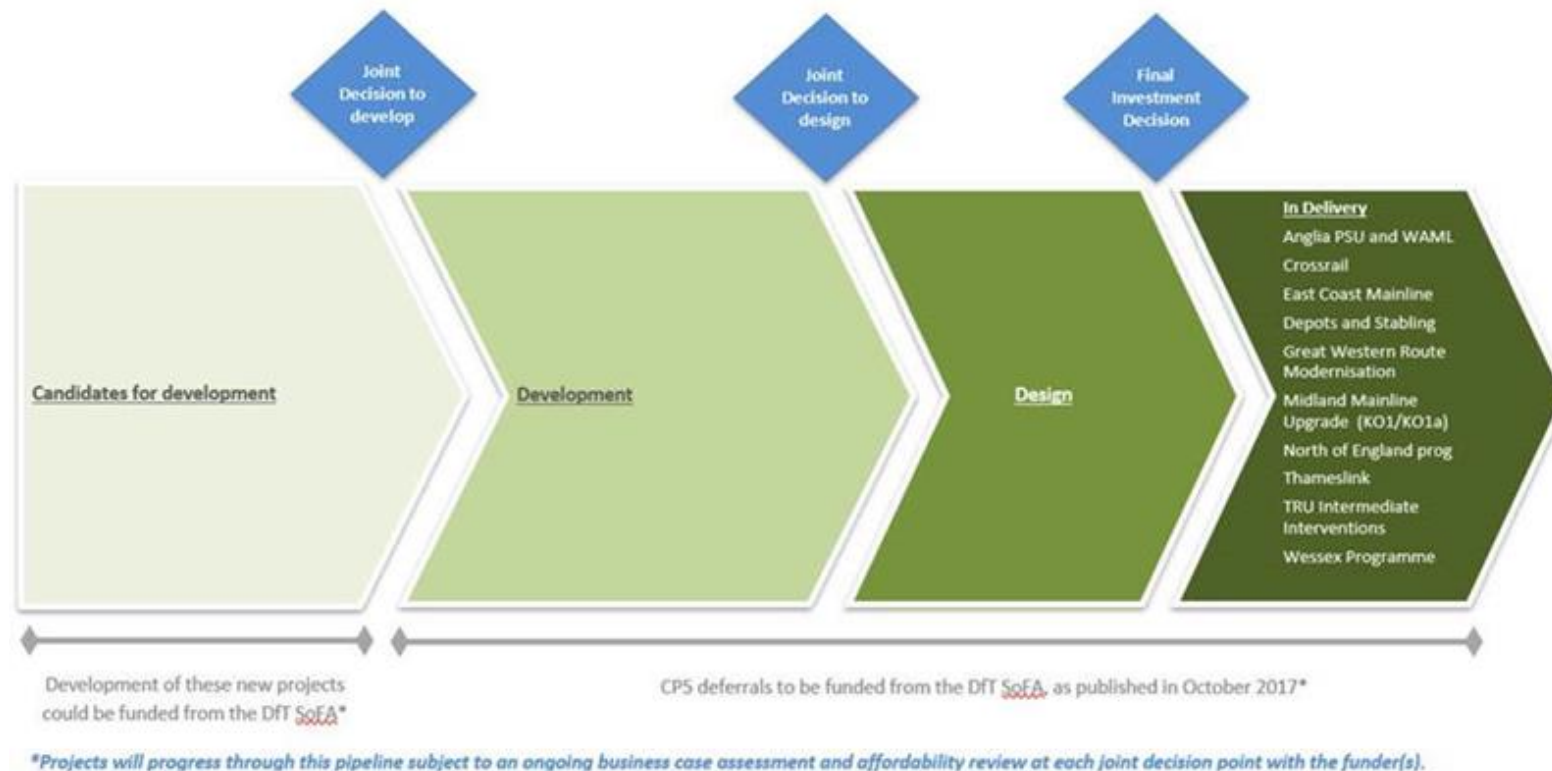
There are three key decision points for enhancements projects in the Investment Decision Framework which has been developed jointly with DfT. All three decisions are taken jointly:

- Joint Decision to develop a programme – the initial decision to invest in the development of a programme is informed by a Strategic Outline Business Case (SOBC) prepared in accordance with Treasury Green Book guidance.
- Joint Decision to design – the decision to design a project and prepare it for a Final Investment Decision is informed by an Outline Business Case (OBC).
- Joint Decision to deliver (Final Investment Decision) – the final decision to deliver a project to an agreed cost and schedule. This is informed by a Final Business Case (FBC) and a thorough understanding of the service output required together with the cost, scope and risks of delivery.

We have agreed to use this framework with DfT for all enhancements projects

Figure 6.7 below sets out the investment decision framework, and identifies those programmes that have achieved a final investment decision as of January 2019.

Figure 6.7 Investment decision framework for England & Wales



Transport Scotland

A process that provides similar transparency and decision points has been developed with Transport Scotland and is outlined within their Rail Enhancements and Capital Investment Strategy.

This framework also has three decision points for enhancement projects, based on HM Treasury guidance, however Strategic Business Cases are required to follow the Scotland Transport Appraisal Guidance (STAG) to

GRIP 1/2 and have agreed Transport Planning Objectives prior to being submitted to the Investment Decision Makers.

Projects will progress from OBC to FBC once Transport Scotland is fully informed by the development of the business cases to ultimately achieve a thorough understanding of service outputs, affordability, scope and risks of delivery, as set out in Figure 6.8.

Figure 6.8 Transport Scotland Capital Investment Strategy

DIAGRAM ONE

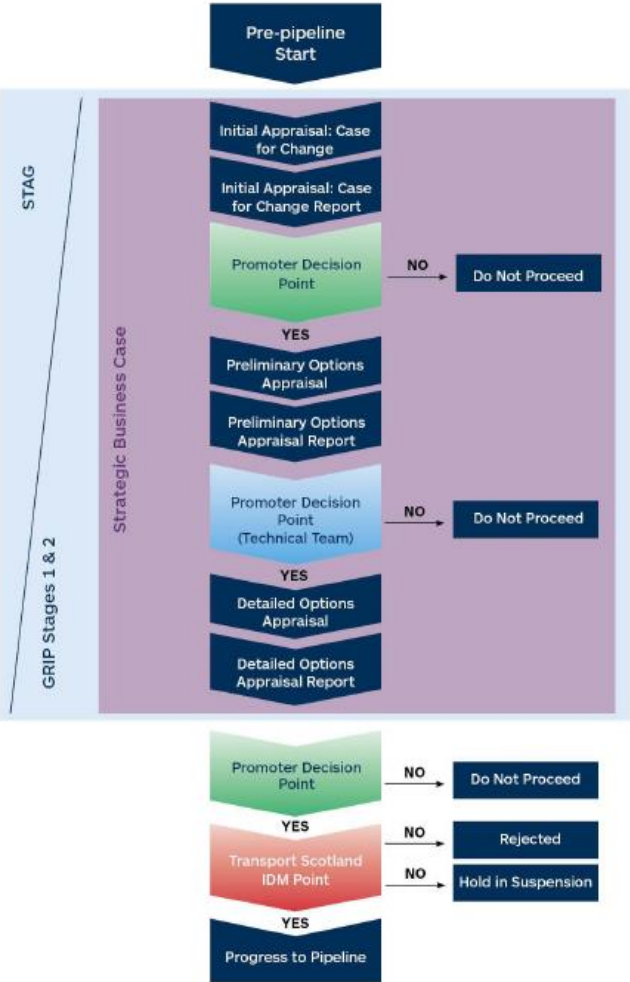
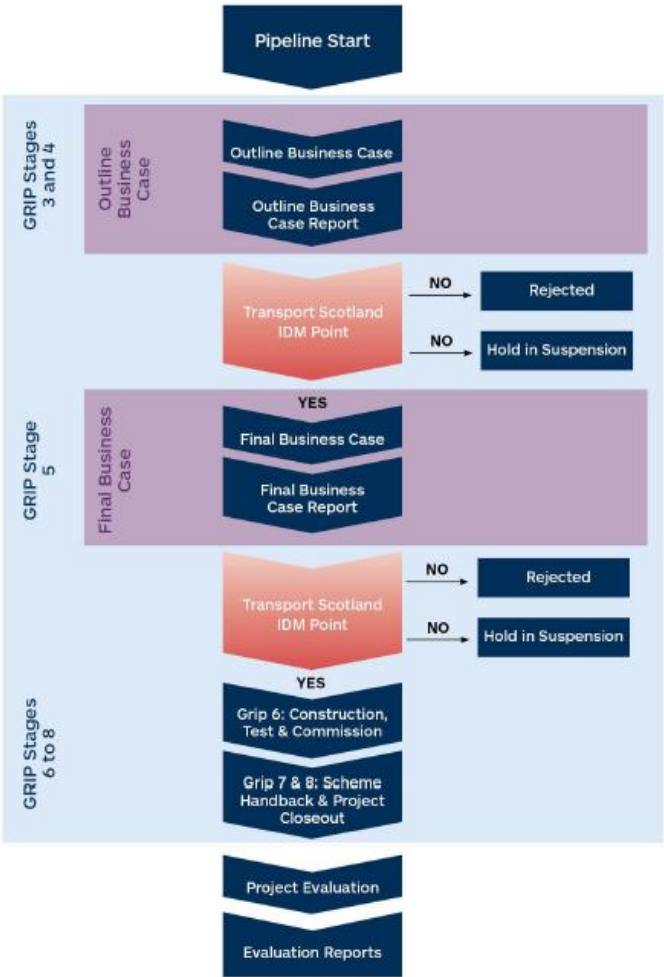


DIAGRAM TWO



6.2.3 System Operator development activity

The outputs of our strategic planning process will identify options for funders to address capacity challenges. These options may include enhancement of the infrastructure, including digital solutions to capacity challenges, which we will discuss with funders.

Our discussions will identify priorities for development to the first decision point in the relevant decision framework (development to the point of Strategic Outline Business Case in England & Wales, or Strategic Business Case in Scotland).

On achieving a joint decision, we will agree capital funding requirements for the next stage and a schedule for the development activity to be undertaken with the relevant funder. We will then include the agreed milestones for this activity within our scorecard structure.

Accordingly, we anticipate updating our scorecards on a regular basis as System Operator activity to develop and design schemes is agreed with funders.

6.2.4 Major programmes (other funders) and third party investment in the railway

Our activity in developing enhancements throughout CP6 will also include development activity in support of third party funded schemes, including HS2, Crossrail 2 and Northern Powerhouse Rail.

We will govern investment decisions in support of development activity using the framework developed with the DfT and Transport Scotland to provide transparency and decision points linked to the developing maturity of the programme.

When funding is confirmed for a major programme (for example, HS2 and East-West Rail), System Operator will also perform an integration role. This will involve working with the DfT, delivery body (if not Network Rail) and other stakeholders with the aim of maximising benefits for the whole GB rail system from that investment. See Section 6.7 for more information

about our integration role, and the specific integration of HS2.

Working collaboratively with Northern Partners, TfN and the Department for Transport, we have been developing the Northern Powerhouse Rail network vision, making progress in improving the economic case for the Northern Powerhouse Rail network, whilst retaining the scale of ambition required to transform the North.

TfN and DfT are the funding co-clients for Northern Powerhouse Rail, and Network Rail and HS2 Ltd are delivery partners. The SOBC for the programme is being finalised for submission in February 2019 and it is anticipated that the programme will complete OBC / Joint Decision to Design during CP6 with early phases of delivery moving to FBC.

Crossrail 2 is a project that will transform travel across London and the wider South East, linking destinations across the region with direct train services. It will grow the UK economy by supporting jobs across the country during the construction phase and when operational. The route will release capacity on existing lines, helping to relieve crowding and congestion on the wider transport network. It will support regeneration and the development across the region.

The project is being developed in partnership with Transport for London and the Department for Transport. GRIP 2 development work is underway now to prepare for the submission of a Hybrid Bill to Parliament in 2021. Assuming the Bill receives Royal Assent by 2023, construction could start in 2024. The indicative construction programme is 10-11 years long.

We also work with colleagues in Route Businesses and the wider industry to secure third party funding, for example, to support small scale schemes commonly funded by local beneficiaries such as developers and Local Authorities. We assess such proposals and provide advice on their strategic fit with the operation and planned use of the system.

6.2.5 Relationship with Route plans

Enhancements cannot be considered committed for delivery until progression through a final investment decision. Accordingly, only

enhancements which have achieved this position have been included within the relevant Route Strategic Plan.

Upon reaching this stage and progressing through the final investment decision, we will incorporate the enhancement programme within the relevant Enhancement Delivery Plan, and a change control process will apply to adjust Route Strategic Plan outputs to reflect the impact of the enhancement.

This is likely to include adjustments to operational, maintenance and renewal costs and/or volumes, as well as other considerations such as the impact on performance.

6.2.6 Relationship with the System Operator Scorecard

The System Operator scorecard outlines our outputs where enhancement

development activity has been confirmed with the relevant funder. The progress of our enhancement development activity is visible in a disaggregated manner using the relevant Strategy & Planning director (Tier 2) and System Operator Route (Tier 3) scorecards.

At the appropriate points in the relevant investment decision structure, we will agree the relevant funding and schedule for the development activity to be undertaken, and include the agreed milestones for this within our scorecard structure. Accordingly, we anticipate updating our scorecards on a regular basis as System Operator activity to design and develop schemes is agreed with funders.

Transport Scotland's HLOS priorities for CP6 include journey time improvement and a depot and stabling plan. The System Operator team in Scotland are developing plans in conjunction with the industry which are monitored by the Scottish HLOS tracker.

Figure 6.9 Development activity in our scorecard

Managing Output Changes		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Transport Scotland Priorities	WORSE THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%
	TARGET	95%	95%	95%	95%	95%	95%	95%	95%
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%
Subnational Transport Body Priorities	WORSE THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%
	TARGET	95%	95%	95%	95%	95%	95%	95%	95%
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%
Welsh Government/Transport for Wales Priorities	WORSE THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%
	TARGET	95%	95%	95%	95%	95%	95%	95%	95%
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%
DfT Project Development Milestones	WORSE THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%
	TARGET	95%	95%	95%	95%	95%	95%	95%	95%
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%

6.3 Managing output change – Franchising

6.3.1 System Operator role in franchising and concessions

Network Rail's role in DfT's refranchising process was strengthened in 2017, with the System Operator and Route Businesses providing advice and information about the deliverability of franchise specifications.

Our approach through the end of CP5 has been to co-locate member of Network Rail staff with every competition team in order to provide a single point of contact for the DfT and for bidders. This single point of contact has been accountable for coordinating Network Rail's information inputs as well as managing advice on the deliverability of specification items.

In order to support Route Businesses and franchising authorities in CP6, we are establishing a team of 4 franchise professionals as, since 2017, this activity has been undertaken through secondments. The full remit of this team will be shaped by the CP5 learning and the outcomes of the Williams Review.

We propose the franchise professionals will support Route Businesses and all franchising authorities in CP6, as this arrangement is not exclusive to DfT (e.g. supporting TfL in their concession activity and TfN across the North as the franchising authority for TPE and Northern).

6.3.2 System Operator deliverables

For each franchise competition process in CP6, we will agree with Route Businesses and the relevant franchising authority:

- the resources we will provide to support and coordinate the competition process from the initial planning period pre-Expression of Interest through to the Contract Award and Mobilisation;
- how System Operator will provide information to inform the development of the Invitation to Tender (ITT) specification;
- how Network Rail will provide information to bidders in a fair and transparent way;

- how Network Rail will provide advice to franchising authorities on the deliverability of franchise specifications as well as the deliverability of relevant aspects of final bids;
- how Network Rail will provide information and advice to franchise authorities and bidders to develop proposals to bring track and train closer together for the benefit of passengers; and
- how Network Rail will support the mobilisation of new franchises and the demobilisation of outgoing franchises.

Our activity plans in CP6 are determined by the DfT's Rail Franchise Schedule as well as by the plans of other franchising authorities. For the purpose of providing a consistent baseline, our Strategic Plan is informed by the most recent version of the DfT's Rail Franchise Schedule (July 2017 version) and by Transport Scotland's plans for the next ScotRail and Caledonian Express franchises.

We are aware that the franchise market place may change considerably during CP6 as a result of the Williams Review. Our resource plans have been shaped to meet the needs of the DfT's July 2017 Franchise Schedule and, as such, there has been a degree of adjustment in our planned activities for CP6 to best reflect what is known through information in the public domain.

A key lesson for the industry arising from the May 2018 timetable change is the necessity of sufficient advanced timetable development and industry consultation to support a successful implementation of timetable change and greater industry alignment.

Clarity of franchise expectations for a timetable change should be understood sufficiently in advance of timetable commencement, to enable an effective industry Event Steering Group to operate and provide outputs, which may include options and choices for franchising authorities.

This activity should conclude early enough to ensure that timetable development can be undertaken with confidence.

6.3.3 Planned activity

Our plan is based on establishing a team of franchise professionals within the System Operator, who will support Route Businesses so that Network Rail is accountable for;

- Leading the provision of information and advice to franchising authorities up to the ITT stage, drawing in teams of subject matter experts from Network Rail.
- Leading the provision of information to bidders up to the ITT stage, drawing in teams of subject matter experts from Network Rail.
- Leading the provision of information and advice to franchising authorities post the ITT stage.
- Providing information to bidders about ways of bringing track and train closer together.
- Realising the intended collaboration, performance, capacity and timetable benefits for passengers.

The franchise professionals will cascade between competitions during CP6 and, on the basis that a typical competition takes around 2 years from pre-Expression of Interest to mobilisation, it is anticipated that each person will work on 2 full competitions and start another new competition within CP6.

An example of our deliverables in CP6 is set out in the table below. This is based on the DfT's July 2017 Schedule with a degree of provisional adjustment for known changes such as East Coast Partnership, the suspension of the Cross Country competition and different options for Great Western. It should be noted these adjustments are provisional pending confirmation of timings from DfT.

Therefore, it is likely that change control will be exercised to this section of our Strategic Plan in order to be contemporaneous with updates to the July 2017 schedule.

Table 6.1 Franchise activity and System Operator milestones

Franchise <i>Based on the July 2017 version of the DfT Franchise Programme.</i>	Planned ITT	Planned Franchise Award	System Operator Milestones			
			Agree with the Franchising Authority the resources, plan and programme for Network Rail's input and advice	Allocate a Franchise Professional as the Single Point of Contact (SPoC) within the competition team	Provide information to bidders about the network in line with agreed information protocols.	Provide information and advice to the Franchising Authority about the deliverability of the Invitation to Tender specification
West Coast Partnership	2017	2018	Completed	Completed	Completed	Completed
East Midlands	2018	2019	Completed	Completed	Completed	Completed
Cross Country	2018	2019	Completed	Completed	Competition Suspended	
Great Western	2019	2019	Completed	Completed	Note: Direct Award likely	
East Coast Partnership (LNER)	TBC	2019/20	TBC	TBC	TBC	TBC
Thameslink, Southern and Great Northern (note potential split & remapping)	2020	2021	Dec-19	Feb-20	Jul-20	Jul-20
Chiltern	2020	2021	Feb-20	April-20	Oct-20	Oct-20
Trans-Pennine Express	2022	2022	Jun-21	Aug-21	Feb-22	Feb-22
South Western	2023	2024	Oct-22	Dec-22	Jun-23	Jun-23
Northern	2024	2024	Jun-23	Aug-23	Feb-24	Feb-24
East Anglia	2024	2025	Dec-23	Feb-24	Aug-24 (CP7)	Aug-24 (CP7)
ScotRail ⁴	TBC	2021 or 2024	TBC	TBC	TBC	TBC
Caledonian Sleeper	TBC	2022 or 2030	TBC	TBC	TBC	TBC

⁴ Note that ScotRail will require specific arrangements given Route Business Alliance with current franchise operator

6.3.4 Relationship with the System Operator Scorecard

We will agree the milestones relating to System Operator outputs in support of franchise competitions with the relevant franchise authority and Route Businesses as and when a competition process is planned. Accordingly, we anticipate updating our scorecards on a regular basis as System Operator activity is agreed with franchise authorities.

The progress of our franchising activity is visible in a disaggregated manner using the relevant Strategy & Planning director (Tier 2) or System Operator Route (Tier 3) scorecards.

Figure 6.10 Franchising activity in our scorecard

Managing Output Changes		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Franchising Milestones	WORSE THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%
	TARGET	95%	95%	95%	95%	95%	95%	95%	95%
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%

This measure is underpinned by the following number of milestones outlined within our CP6 Year 1 plan (as set out in Table 6.1):

Franchise	Number of Milestones in 19/20
Thameslink, Southern and Great Northern	3
Chiltern	2

6.4 Managing output change – Event steering groups

6.4.1 Role of Event Steering Groups

The Network Code, Part D, requires the formation of an Event Steering Group for 'Events' specified in the Calendar of Events, which is developed with the industry and published bi-annually.

Event Steering Groups (ESGs) are convened to enable delivery of identified 'events' which are major timetable changes driven by the completion of infrastructure enhancements, the introduction of new vehicles or changes driven through franchising process. These groups consist of operators and industry wide stakeholders and are set up to co-ordinate the challenges and potential opportunities associated with future timetable changes.

Effective use of ESGs within the industry can identify and initiate discussion on potential issues which may otherwise manifest later within the timetable development process when fewer opportunities exist to consider options supported by effective analysis and industry consultation.

Our Strategic Plan is informed by the timetable changes captured within the Calendar of Events, which will continue to be updated throughout CP6 to reflect the outputs of the franchising process and investment decisions made in relation to enhancement programmes.

6.4.2 ESG Code of Practice

We, in collaboration with the industry, have developed a Code of Practice to address lessons learned throughout CP5 in order to better prepare for major timetable change. The Code of Practice will;

- Drive greater consistency in inputs / outputs and the ESG meetings themselves
- Improve the effectiveness of ESGs;
- Clarify the roles and responsibilities of those involved in the ESG process; and

- Provide evidence through informed analysis to decision makers prior to the timetable drafting period.

To support the implementation of the Code of Practice, and the effective management of ESGs throughout CP6, we are strengthening accountabilities for ESGs and associated advanced timetabling activities within Capacity Planning to work with the industry in undertaking much of the timetable analysis required to inform the ESG process.

Dedicated project management support will also be provided to plan and facilitate the ESG process, including establishing a project plan and sub-groups (such as Specification, TPR and Concept Train Plan sub-groups) and the introduction of a defined stage gate process to support the evolving maturity of each individual ESG in advance of the relevant timetable development process.

6.4.3 Activity summary

The ESG Process will follow the framework and principles of a seven-stage project lifecycle (Figure 6.11) with structured deliverables. It has a built-in stage gate process to help manage each project and deliver successful change. Integral to the process is a Review stage which embeds continuous improvement within each project cycle.

The ESG project plans will establish several standard and project specific milestones. These will include key event milestones, leading indicators and Go/No Go decision points, informing and communicating of stage and status of projects to the industry and readiness for change implementation.

Figure 6.11 ESG Project lifecycle



The lifecycle approach is intended to support the range of focuses that ESGs will be required to consider in preparing for significant timetable change. In each case, these focuses will be different depending on the geography, services and nature of the changes to the output of the railway being delivered.

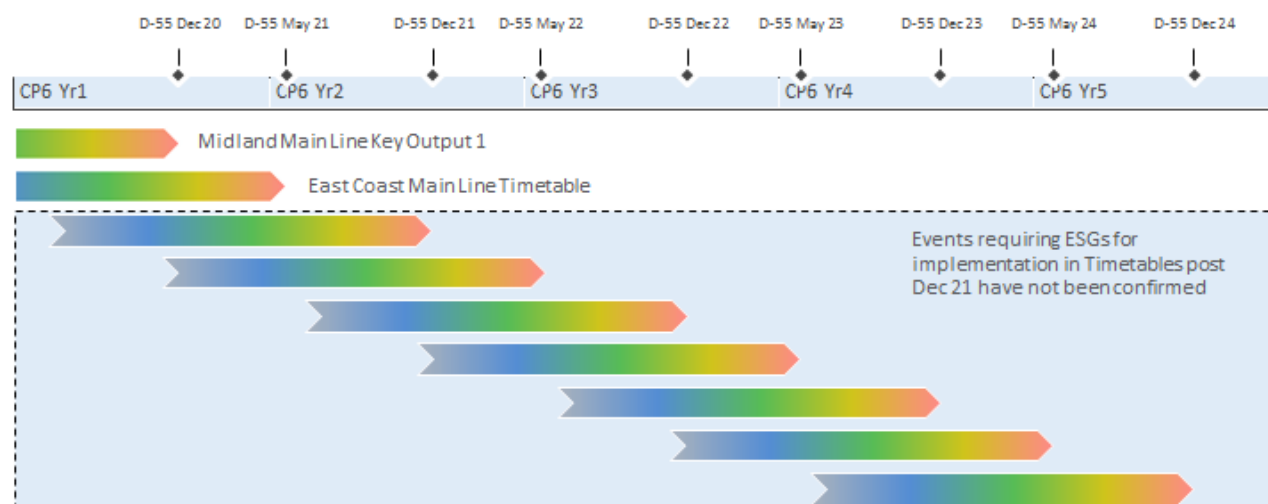
It has been recognised through the ESG improvement programme that completion of any indicative capacity/performance analysis or concept train plan work should be prior to D60, thus providing sufficient time for any affected operators to capture the change in their Notification of Significant Change submissions at D55, forming the main outputs of the ESG feeding into the timetable production process.

We will therefore agree the intended output(s) of each ESG as part of initiating the group and establishing an agreed plan of activity. These outputs, rather than the operation of the ESG themselves, will then inform the measurement of our ESG activity in the System Operator scorecard.

The resources we have introduced create the capability to plan and execute a maximum of five ESGs in parallel. In the event of any material changes to the schedule of ESGs in CP6, we will need to undertake a formal change control and resource impact assessment.

Figure 6.12 gives an indication of the windows within which ESGs will be progressed in advance of the D55 milestones within CP6.

Figure 6.12 Indicative ESG activity



6.4.4 Relationship with the System Operator Scorecard

We will agree ESG outputs as part of the project plan for each individual event, with the relevant steering group. These outputs will be measured on the System Operator scorecard.

Figure 6.13 ESG activity in our scorecard

Delivering an improved timetable service		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Event Steering Group Outputs	WORSE THAN TARGET	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%

6.5 Management of access rights framework

Access rights need to carefully balance the needs of operators with the flexibility that optimises use of the network and creates the most effective and efficient timetable (using the industry agreed decision criteria). All this must be done consistently with Network Rail's operating licence and in accordance with the industry's Network Code.

6.5.1 Role of the System Operator in the Access Rights Framework

It is our role as the System Operator to facilitate Network Rail's decisions on whether to support an operator's application for access rights. This is managed within Network Rail by a framework that consists of Network Rail's Access Policy, its sale of access rights process, and the creation of the network-wide timetable.

As System Operator we own and continue to develop this framework which informs Network Rail's decision on whether to support an operator's application for access rights to the ORR, ensuring the capacity allocation process is conducted effectively and objectively.

This is conducted through having the Sale of Access Rights (SOAR) Panel consist of the correctly experienced individuals, informed by timely and accurate information to enable Network Rail to operate a process that ensures there is no undue discrimination between route functions, or route businesses and any other business function.

The ORR makes the final capacity allocation decision taking into account its regulatory and wider legal duties. Our role is to provide information and analysis to the ORR to support it in its decision making.

6.5.2 Review of the SOAR Framework within Network Rail

We have been running cross industry stakeholder engagement sessions throughout 2018 to help identify key issues, opportunities and concerns with the current process. This has included a detailed change impact analysis, and engagement with;

- The SOAR Panel;
- The Standing Advisory Groups;
- The Cross-industry Access Frameworks Group;
- The System Operator Leadership Team
- Route Businesses customer and executive teams

6.5.3 Proposed changes and implementation plan

A package of reforms to the SoAR process have been developed following engagement internally and externally. The end-state of these reforms would be a stronger route-based ownership of the process, an improved customer experience, reliable assurance and governance, and improved System Operator involvement to provide Route Businesses with early advice and support network-level decisions.

Proposed reforms are phased, with the first part being delivered immediately and the second part subject to the completion of the wider strategic planning process review, and further approval following confirmation of consistency of recommendations.

The proposed change components for delivery by the early stages of 2019/20 include:

- Updated SOAR Panel submission paperwork, including benefit management documentation, providing greater ownership and accountability within Route Businesses for the process and benefits management. It is also designed to collaborate with other System Operator improvements, such as the end-to-end programme detailed in Section 7.1 of our plan
- earlier engagement of key SOAR Panel members within Route Businesses to build a more effective process;
- reform of the central SOAR panel, its roles and responsibilities, including enhancing the role of the Chair to be accountable for the delivery of the SOAR Process across the organisation, a senior representative from each route and the inclusion of a quasi-independent panel member;
- development of an information governance and assurance framework (including database & systems) at multiple levels, to

enable more detailed recording of decisions, track delivery of benefits, and record reasons and policy approaches established by SOAR panel in its decisions;

- the development of a training material for Network Rail customer teams supporting the process on behalf of their TOC and FOC customers;
- clearer communications framework within the submission process between routes and soar Panel; and
- re-development of the submission process, including guidance notes and information requirement.

We have also identified a series of change components that provide more fundamental reform, which we will evaluate in the light of the outputs of the 100 Day Review within Network Rail. These components include;

- development of a structured timeframe and service level agreement for the completion of the SoAR process, providing clearer accountability at route level;
- reform of SOAR process at route level, with the development of a route submissions panel, its roles and responsibilities, enabling early engagement with Business Capacity and Performance leads;
- escalation process that enables an operator to bring a submission paper to SOAR Panel, even if unsupported by a Route Business, for strategic consideration;
- the development of a competence framework for Network Rail's customer teams;
- development of clear operating frameworks between the SoAR Process and technology improvements led by the System Operator; and
- review and update of the SoAR Panel derogation frameworks, providing increased accountability for decisions at Route level.

We will update our plan to reflect the delivery of these change elements as we consider the outputs of the 100 Day Review and mature our implementation plans. This will enable us to incorporate relevant milestones within the appropriate scorecard.

6.6 Timetable production

The Working Timetable and Timetable Planning Rules development process will continue to be delivered using a bi-annual development period during the early stages of CP6. We remain committed to improving this process and embedding the principles designed by the Industry Access Programme baseline timetable concept working with our customers and stakeholders.

The scale of timetabling activity is informed by the Calendar of Events, included in Appendix B, which sets out timetable changes which have not been considered to constitute a major timetable change event, in addition to those which are supported by an ESG.

The May 18 timetable, and the consequent decision to adapt a different approach to the December 18 timetable, represented a challenging time for the industry. We have since strengthened our CP6 plans for the Capacity Planning team (constituting a 30% increase in operational expenditure compared to CP5) to support delivery of timetable production as we forecast both the volume of change and the complexity of the process to increase. Furthermore, this plan sets out other areas of strengthening, including the continuation and strengthening of an Industry Timetable Assurance PMO to oversee and assure timetable change readiness.

6.6.1 Working Timetable

The Working Timetable development process is set out within Part D of the Network Code.

Although we are keen to explore industry appetite in reforming the timetable development process, both through our review of the Network Code Part D (as set out in Section 7.1) and our contribution to the timetable process review led through the industry readiness PMO, we currently anticipate continued use of the existing process which sees a Principal (December) and Subsidiary (May) timetable change in CP6 Year 1.

It features a number of key dates in the production process (Figure 6.12) which we have used to inform the milestones of the System Operator scorecard. These are;

- D-40 – Start of Timetable Production Period / PDNS
- D-26 – Network Rail Publish New Working Timetable

Table 6.2 Timetable Production milestones in CP6 Year 1

Working Timetable	Milestones	Date
December 2019	D-40	08/03/2019 – CP5 Year 5
	D-26	14/06/2019
May 2020	D-40	09/08/2019
	D-26	15/11/2019
December 2020	D-40	06/03/2020
	D-26	12/06/2020 – CP6 Year 2

The process concludes 26 weeks in advance of the operation of the timetable, with a four week Offer Response period, and therefore there is a delay between our activity in developing the timetable, and the implementation of the timetable.

This is indicated in Figures 6.14 and 6.15 overleaf.

Figure 6.14 Timetable development process

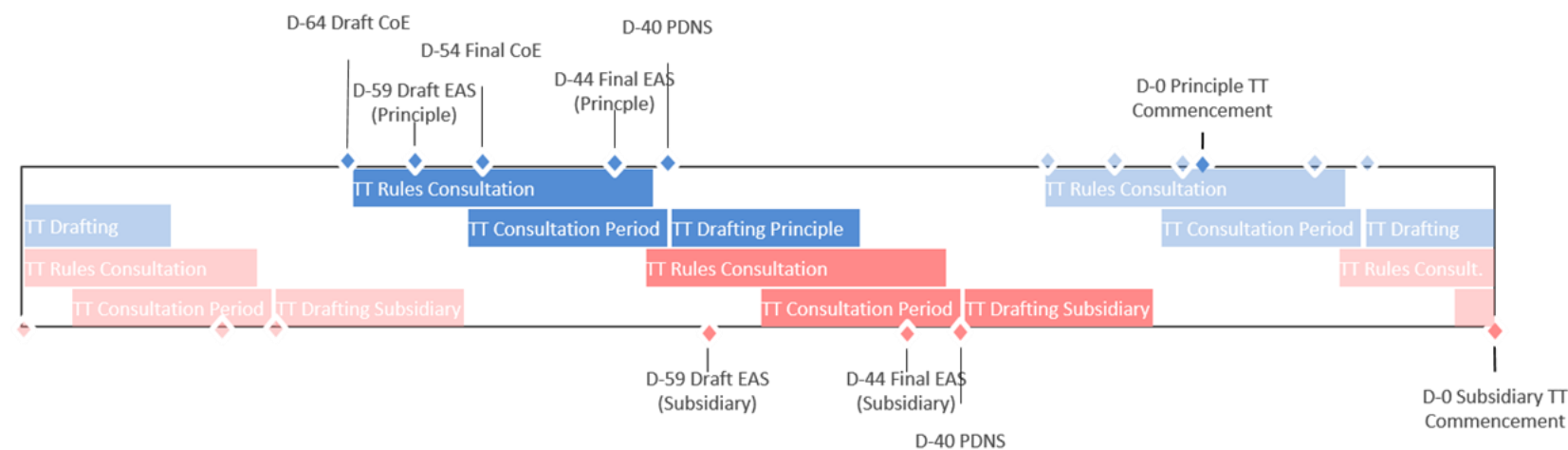
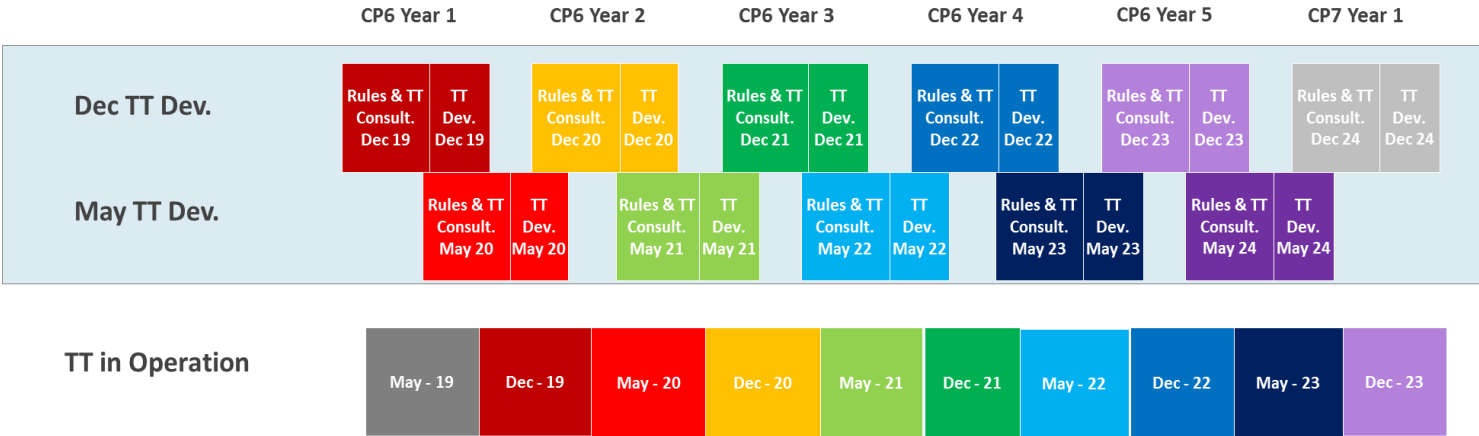


Figure 6.15 Timetabling activity throughout CP6



6.6.2 Timetable adjustment

Short term timetable adjustment to reflect engineering works or commercial needs is undertaken after conclusion of the timetable development process, in a manner that is consistent with the Network Code Part D, although we are keen to explore industry appetite in reforming this process alongside potential reform to the working timetable development process.

Our plan reflects the delivery of the Informed Traveller process (to adjust the timetable for engineering work) concluding 12 weeks in advance of the relevant timetable week throughout CP6 Year 1, with our delivery against this commitment indicated on the System Operator Tier 1 scorecard, which indicates the percentage of train operators for which adjustment to train services had concluded at least 12 weeks before operation (TW-12).

This process, and the information that results from it (providing advice to passengers on the availability of train services) was heavily affected by industry issues experienced in advance of the May 2018 timetable, and subsequently a recovery plan was implemented to enable the industry to return to providing passengers with reliable information 12 weeks in advance of timetable operation.

The recovery plan is being delivered in full, and recovery to the TW-12 obligation is due to complete by the end of Period 2 CP6 Year 1.

6.6.3 Strengthening our timetable planning capability

The challenges experienced during the introduction of the May 2018 timetable have highlighted the limitations of the current system when normal industry timescales for timetable change are not met. There is a need to build rail industry capability to increase the speed and efficacy of timetable production without compromising the robustness of the end product. This industry capability extends across the range of people, systems, processes data and contractual frameworks, and ultimately crosses all rail communities including stakeholders, train operators and Network Rail.

We have already established a people strategy, set out in Table 6.3, targeting an improved people capability, with implementation planned, and therefore benefit realised, before the start of CP6. A number of the benefits, such as employee competence, has a lead time before delivery, and this is already taken into consideration with the resource plans.

The main areas of focus for People and Capability are around the following:

- Retention – salary review, people strategy;
- Recruitment – improved attraction, selection and on-boarding processes
- Skills – Development of technical and leadership skills and career paths, Access Planning Competence Framework; and
- Capability – resource levels fit for anticipated (but not unlimited) volumes, strengthened Timetable Planning Rules development.

The benefits of these initiatives include the reduction in the impact of a new starter replacing an experienced planner by decreasing the time between joining and achieving Level One competence.

Organisational change will introduce progression opportunities and clearer accountability for complex planning at specialist level. The success of these initiatives will be measured using metrics such as Retention and Competency (as included in our Tier 1 scorecard) and leading indicators such as the Operational Planner vacancy gap

Table 6.3 In flight, Planned and Complete actions from the Capacity Planning people strategy

Action	Estimated Date	Benefit
Organisational change to increase planner resource	May 2018 (Complete new recruits began arriving in April 2018).	Additional Planner resource added to existing structure to strengthen capability and capacity
New 'wave' training model introduced	April 2018 (Complete)	Review of planner training and competence development material to support achievement of Level 1 competence in a reduced timescale.
Accelerated planner recruitment	April – November 2018 (Complete)	Improved recruitment process and attraction campaigns established to increase resourcing levels in line with requirements – 80 FTE recruited in 6 month period.
Competency framework review	June 2018 (Complete)	Improved competency assessment across the team.
Salary Uplift for L1 and L2 planners	June 2018 (Complete)	Salary uplifted for relevant roles supporting retention and knowledge sharing.
Organisational structure change and new roles introduced	Union consultation November 2018 Implementation December 2018 to end CP5	Introduces technical career path and progression opportunities. Improved ratio of planner to managers to support development. Clearer accountabilities for complex planning and competence development at specialist level.
Establish Operational Planning Team Leader training programme	December 2018	Professional support for the team leader community to strengthen technical and leadership competencies
Establish senior technical career path	April 2019	Introduction of senior technical roles to support retention of talent, skills, and knowledge

6.6.4 Further investing in Capacity Planning

The Network Rail Executive Committee agreed the provision of funding in 2018/19 to enable accelerated recruitment of Operational Planners up to the CP6 target levels in order to avoid any delay in readiness.

Alongside the delivery of the people strategy outlined earlier, the original CP6 budgets for Capacity Planning were formulated before the timetable implementation issues that were experienced in 2018.

We have further developed our plans following these issues, identifying a need to invest further in support of 9 incremental improvements to our February 2018 Strategic Business Plan, delivering the necessary organisation structure changes and salary reviews to address a number of long standing issues in support of the Capacity Planning people strategy.

Table 6.4 Incremental investments in Capacity Planning since our February 2018 SBP

	Description	Reason
1	16 additional planners above anticipated CP6 level	Increase to core planner headcount in order to respond to industry demand for further additional resource levels within Capacity Planning
2	Provision of a £750k fund to cover risk of overtime for work above core headcount triggered by volume or late change process including strike plans and severe weather	As highlighted by the ORR's May '18 inquiry, responding quickly to short term requirements for increased demand of planning activity is not feasible. Overtime remains an essential solution to emerging unplanned demand, including extreme weather events, planning for sustained disruption scenarios and strike planning. We therefore propose a contingency budget to support overtime payments where unforeseeable demands create an increase in workload (note, it is not for funding unlimited levels of late change to possession plans, or unexpected Train Operator Variation Requests)
3	Contingent resource of 11 posts within the organisation (including planners, specialists and leadership roles)	The events of 2018 have proven the potential necessity for a contingency fund above steady state resource. The Informed Traveller Recovery Plan has secured £2.1million to cover a range of legitimate costs in 2018, and this example team structure is a realistic outcome if any form of sustained planning emergencies arise. We therefore propose contingency resources for unforeseeable demands creating a sustained increase in workload (note, it is not for funding unlimited levels of late change to possession plans, or unexpected Train Operator Variation Requests)
4	Additional Future Service Integration Manager roles	The Future Services Integration Manager role currently only exists in Western Route, as an essential role in Capacity Planning, acting as a key interface for Capacity Planning into the Route businesses. These posts will be responsible for working alongside the Heads of Strategic Planners, the Timetable

	Description	Reason
		Production Manager and the Capability & Capability Analysis team in order to better enable future Timetable specifications to be integrated centrally by Capacity Planning, and to inform Capacity Planning's future work plans.
5	Two additional training specialists to accelerate and strengthen Planner competence framework.	Demand and commitment to the acceleration of resource capability in Capacity Planning. This is a specific action from our response to the ORR's findings in relation to the May 18 timetable and the requirements of our Licence
6	Two additional specialists to own the complexities of station working and associations on LNE (York/Leeds)	The need for these roles was not anticipated at the time of developing our Strategic Business Plan, but the number of Close Calls and performance incidents now being experienced has made it clear that the complexity of the operational plan around York and Leeds requires additional dedicated planning resource.
7	Non-recoverable time of the Programme Director	The CP6 finance assumption was that the Programme Director would recover 100% of their costs from the capital budget. This is proving to be an incorrect assumption, and will only attract about 50% recovery.
8	A new senior role to be created in the Timetable Production team to support the Head of Production on technical delivery	A new role is required to relieve the Head of Production from many of the technical planning aspects of the role.
9	A newly created role as a dedicated Access and Timetable Dispute Specialist	Capacity planning does not have a single point of contact with appropriate technical skills to understand the necessary contracts and regulations associated with timetable production. This results in each dispute being 'owned' by an individual who is not necessarily familiar with the Dispute Panel process, or the full extent of legal procedure to support it.

6.6.5 Industry Readiness PMO

The above initiatives will significantly enhance the System Operator's train planning capability. However, it will be important to complement this with whole industry assurance for timetable change, the benefits of which have become clear over the past year. This role, to be fulfilled by the Industry Readiness PMO, will involve clearly and consistently assessing the status of and risks associated with infrastructure enhancement and capability programmes, rolling stock changes, timetable planning capability and Route/Operator readiness required for the implementation of each timetable change⁵.

The PMO team, which was established post May 2018, is principally populated by Network Rail but, crucially, is overseen by an industry wide Steering Group with representation from Owner Groups and freight operators, and specialist Operator input to support some assurance activities.

The longer term structure and organisation of the PMO is being considered as part of the 100 Day Review Programme within Network Rail and in the context of the ORR's Glaister inquiry. Following these outputs, we will continue to work with industry partners to develop the organisation further into a fully effective and trusted industry assurance function for timetable change.

For the time being, the enhanced PMO team has been included in the cost plan for the System Operator function. If necessary, these plans will be amended to reflect the abovementioned reviews and structural developments.

⁵ The Industry Readiness PMO has evolved from the *Network Rail Strategic Management team for the Informed Recovery*, which was set up to inform the Secretary of State's request to provide recommendations to de-risk the December 2018 timetable change. Until now there has been no single body or team at industry level set up to perform this role.

6.6.6 Relationship with the System Operator Scorecard

There are three metrics reflected in the System Operator scorecard demonstrating our delivery in timetable production;

- WTT production milestones, which have been distributed throughout the relevant financial year, and may be subject to change as changes to the Network Code are considered;
- TW-12 Compliance to demonstrate delivery of the informed traveller process; and
- Bid to offer cycle delivery demonstrating System Operator processing time of timetable amendments (within 4 weeks), particularly where in some instances, informed traveller compliance may not be a priority for a customer.

Further measures of timetable production are included in the Capacity Planning Director (Tier 2) scorecard. It should be noted the TW-12 Compliance metric is heavily dependent on the provision of Network Rail Variation Requests on time (by TW-18.)

Figure 6.16 Timetabling activity demonstrated on our scorecard

Delivering an improved timetable service		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
WTT production milestones	WORSE THAN TARGET								
	TARGET	4	4	4	4	4	4	4	4
	BETTER THAN TARGET								
TW-12 compliance	WORSE THAN TARGET	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%
Bid to offer cycle (4 weeks)	WORSE THAN TARGET	90%	90%	90%	90%	90%	90%	90%	90%
	TARGET	95%	95%	95%	95%	95%	95%	95%	95%
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%

The WTT milestone measure is underpinned by the following number of milestones outlined within our CP6 Year 1 plan (as set out in Table 6.2):

Working Timetable	Number of Milestones in 19/20
December 19 Timetable	1
May 20 Timetable	2
December 20 Timetable	1

6.7 Railway integration

6.7.1 System Operator role in railway integration

The ORR's independent inquiry into May 2018's timetable disruption found that there were "systemic weaknesses in the planning and delivery of major network changes", leading to a "bow-wave of risk" to delivering the timetable for passengers that had built up "over a period of several years".

The System Operator was identified as best placed by ORR to identify, integrate and intervene to address this system-level risk. As such the key lessons we have reflected on in developing our plan are:

- we need to better identify and align the industry and business changes required to successfully deliver the benefits of rail investment;
- the integration of major network changes is necessary to avoid the risk 'bow-wave' building up and the industry reaching a point where difficult, late decisions, trade-offs and compromises are required, often resulting in sub-optimal outputs; and
- delivering that successful integration is a long time in the planning so must be commenced several years before implementation of the network and timetable change.

This need and approach has already been reflected in our plan for HS2 integration, discussed further in this section and commenced during the final years of CP5. This acknowledges HS2 as driving a fundamental step-change in the outputs and capability of the GB rail network, which will depend on a set of major timetable changes across the network to succeed and deliver benefits for passengers and freight users.

However, in consultation of our strategic plan, and as our collective understanding of the scope of this activity has matured, we have been challenged by stakeholders as to whether sufficient resources have been identified to fulfil this role, for HS2 and across other major network changes (for in addition to HS2, there are several other planned or aspirational changes to the network's outputs and capabilities across routes which will be in development and delivery during CP6).

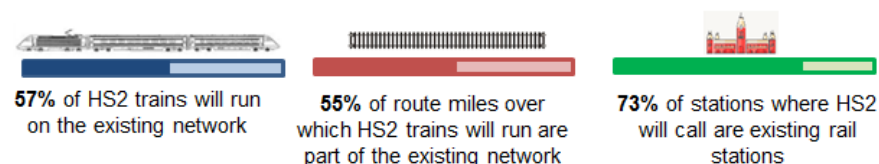
Successful railway integration across all major network changes will be crucial to the delivery of their benefits, and of a joined-up GB rail network and timetable. Therefore, in response to these lessons and challenges, we've included within this plan resources to strengthen the existing teams in order to:

- reinforce the criticality and scope of activity required to integrate HS2 services into the existing GB rail network alongside other major rail programmes;
- establish a lean 'centre of excellence' for railway integration to develop the framework, best practice, process and professional capability required to support the successful operation of the rail system through future major changes; and
- fulfil an active integration role in other major network changes in a way that is consistent and appropriately aligned with our approach to HS2 Integration.

6.7.2 System Operator role in integration of HS2

Over half of HS2 services will spend a significant portion of their journey on existing rail infrastructure, running alongside and interacting with local, freight and other long-distance trains. As a consequence, the finalised network – including new HS2 routes – will need to be integrated, allowing it to perform as one, seamless railway system, delivering maximum benefits to the UK economy, and optimal outputs for all passengers.

Figure 6.17 HS2 and the existing network



Our HS2 Integration directorate will oversee and co-ordinate this activity. Working with partners across the industry, it will gather, assess and interrogate evidence in order to facilitate and drive informed choices by

decision-makers (including DfT, other funding bodies, HS2 Ltd and Network Rail).

This will allow those decisions to be made in a timely manner, informed by sufficient evidence and knowledge of that decision's impact on the post-HS2 rail system, and wider UK socio-economic benefits.

Progress towards successful HS2 service introduction will be monitored through our System Migration Path (see figure 6.13). This will allow gaps to be identified and filled as early as possible, protecting the HS2 programme's schedule while optimising the UK rail system outputs and benefits. An Integration Framework has also been developed, setting out all those activities which must be progressed to enable a controlled and evidence-based process of integrating HS2 into the UK rail network.

This crucial role will involve working with the rest of Network Rail, HS2 Ltd, the DfT, the West Coast Partner franchisee, and the wider rail industry. A key factor in the programme's success will be the ability to draw on resources across the entire System Operator.

6.7.3 HS2 integration throughout our operating model

We will draw on and input to the strategic planning process by building HS2 considerations into relevant strategic questions and setting and agreeing a clear baseline and set of assumptions upon which further long term planning can be based.

We will also co-ordinate outputs with other investment programmes and initiatives, not necessarily just within the rail sector, to identify and facilitate opportunities to maximise system-level benefits to the UK. We will work closely with the West Coast Partner to deliver the best outcome for passengers, and will input and monitor all other re-franchising processes to make sure that HS2 benefits and assumptions are protected and associated opportunities are maximised by the industry. We will also make sure that decisions are taken within the Access Rights Framework, and that this framework accounts for the post-HS2 system.

Enhancements will form a key part of our role. We will work across the

industry to identify any unspecified enhancements required to deliver HS2 outputs, and to bring funding into the industry where possible to maximise HS2 opportunities and deliver value-for-money to the taxpayer. We will also lead the early programme development of HS2-related works, such as the Redevelopment of Euston Conventional Station (RECS) to make the most of HS2's released capacity and build a commercial hub to drive regeneration in the area.

We will oversee and co-ordinate planning of the train service specification for all phases of HS2, through our Concept Train Plan (CTP) workstream. This forum, which reports to DfT's Train Service Specification Focus Group (TSSFG), will gather knowledge and input from across the industry, to fairly assess and identify trade-offs and options for funding bodies so that the best cross-industry solutions can be reached. Timetable production will be the end-point in this process, and the System Operator is best placed to apply lessons learned from the May 2018 timetable introduction, and to use a mature and well-developed Events Steering Group process in support of a seamless service introduction.

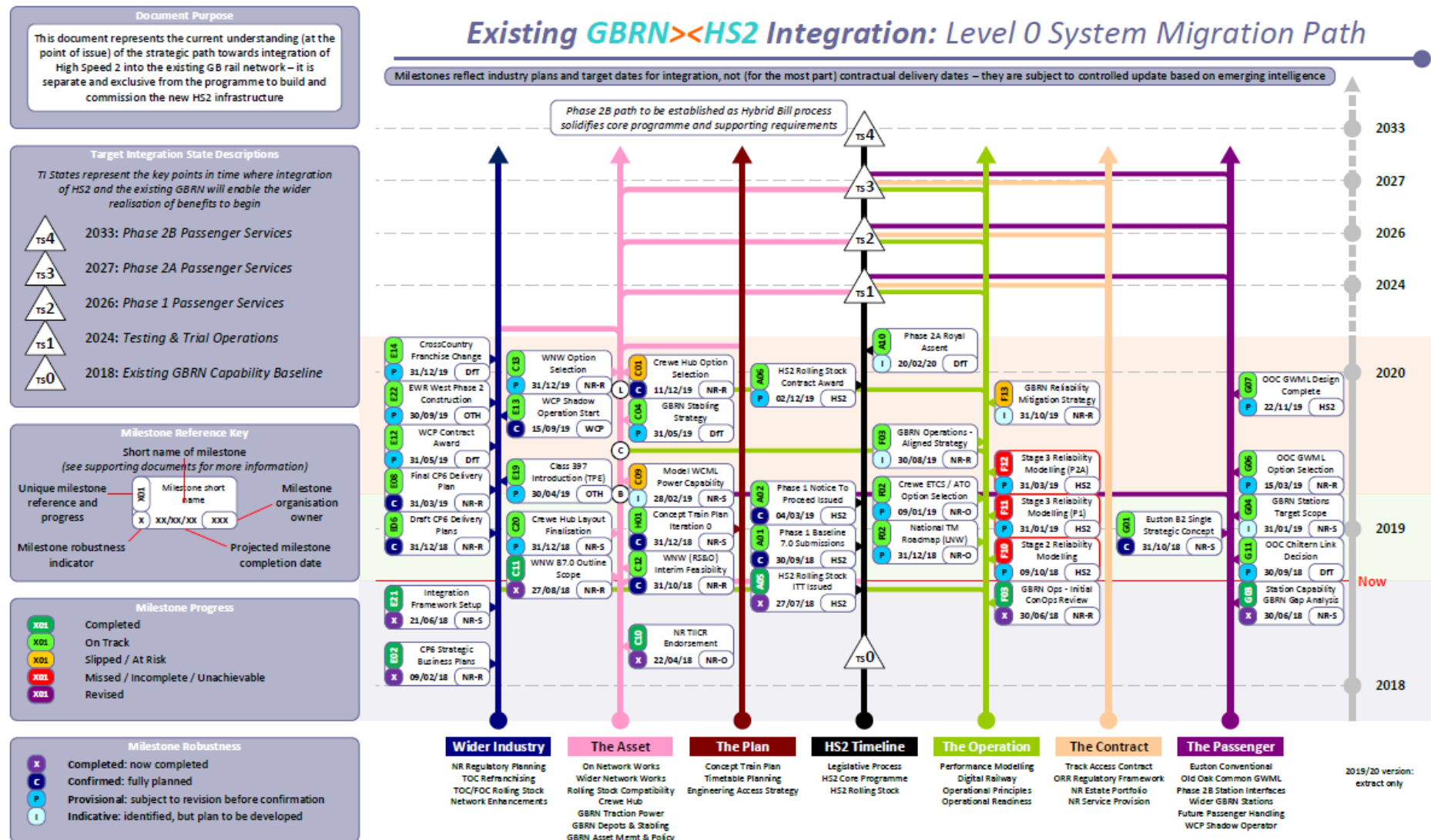
6.7.4 Relationship with the System Operator Scorecard

As we mature our plans in supporting railway integration for other major network changes, we will incorporate metrics across our scorecard structure.

In addition, the HS2 Integration Director (Tier 2) scorecard demonstrates both our delivery in respect of integrating HS2, as well as customer priorities informed by HS2 Ltd and DfT.

An example of the strategic integration plan we will be progressing in support of our HS2 integration delivery (and informing our scorecard) is included overleaf in Figure 6.18 for illustrative purposes.

Figure 6.18 HS2 System Migration Path (SMP)



7. Improvement initiatives

Across strategic planning; economic and capacity analysis, and timetable production we will strive to streamline, improve and make our processes more transparent. The following section sets out the improvement initiatives we will deliver, their associated timescales and anticipated benefits, focussing both on process improvements and technology improvements we will deliver throughout CP6.

Each suite of improvements is set out within a summary outlining;

- What we seek to deliver (objectives)
- Who we will work with to achieve it (stakeholder engagement)
- What will be different (benefits)
- How and when we will deliver the programme (timeline & milestones)

We will frequently review the portfolio of improvement initiatives throughout CP6, particularly those delivered within the resource base established by our operational expenditure so that we remain focussed on delivering improvements in line with our role and vision.

It should be noted that our technology focused programmes (and related business change) are at an early stage of development. Scope and requirement specification are purposefully planned to be developed with the wider industry. Although some feasibility work has been undertaken, development can only start in earnest when supported by the funding required.

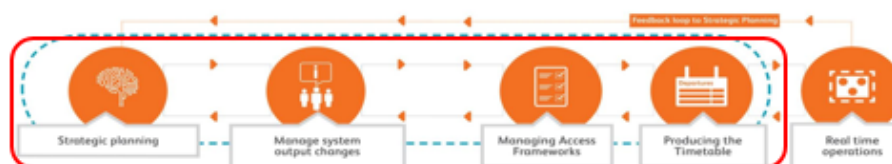
The governance framework – set out in section 7.3.3. – explains the process by which we will make decisions on scope and expenditure.

7.1 Process improvements

7.1.1 End to End Planning

Programme Information	
Sponsoring Director	Policy & Programmes Director
CP6 Programme Duration	Years 1-3 (2019 -- 2022)
Programme Cost	Incorporates elements of £5.5m capital expenditure

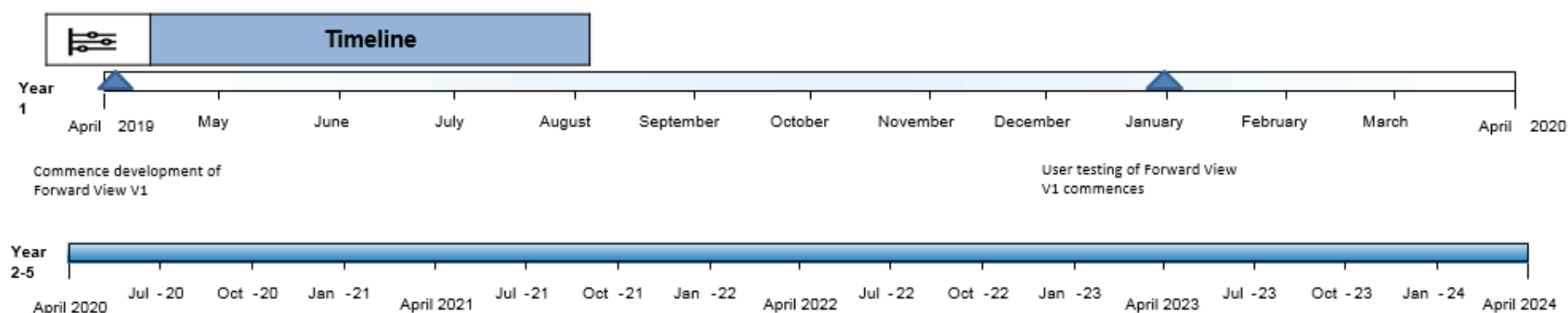
Programme Impact:



Programme objectives	
<p>The End to End Planning programme examines how the System Operator operating model, and the processes that support it, could be improved to ensure that the end-to-end capacity allocation process is fit for purpose. The aim of the programme is to improve the processes that underpin the operating model to enable a clear line of sight between strategic thinking on potential changes to train service outputs and the ultimate delivery of those outputs such that the intended benefits can be realised.</p> <p>Delivery of the programme will mean that we are better able to assure customers and stakeholders, that the intended benefits of any proposed timetable change are both measurable and deliverable.</p> <p>In CP6 we will focus on delivering a 'Forward View' of planned and proposed train service changes to inform and support strategic decision making'. This will be captured within and accessed via a user friendly software interface whereby interdependencies and risks are identified to support and inform strategic planning.</p> <p>Work streams delivered in CP5 which underpin the overall programme:</p> <ul style="list-style-type: none"> To ensure appropriate and effective change control processes are in place that ensures strategic objectives are delivered and, where the delivery of the benefits planned is no longer appropriate, such decisions are accurately documented and communicated. To provide comprehensive guidance for strategic planning teams which strengthens a 'whole system thinking' approach that considers implications across the System Operator operating model throughout the various stages from design to delivery. To produce a revised Sale of Access Rights (SoAR) process to improve and provide a more efficient, evidenced and transparent access rights framework. Provision of a Version 0 'Proof of Concept' Forward View tool that demonstrates capability to inform further developments with increased functionality. 	

Stakeholder Engagement	
Key Stakeholder	Relationship management
Department for Transport	Engagement with relevant team in respect of Forward View to inform strategic planning.
Transport Scotland	Engagement with relevant teams, in alignment with Scotland System Operator team in respect of Forward View to inform strategic planning.
Sponsor Community	Workshop to establish necessary changes to processes to ensure benefits identified are embedded within standard processes.
Route Businesses	Engagement via System Operator Heads of Strategic Planning
Strategy and Planning Directors	Direct briefings on content, target audience and use of products.
SO Strategic Planning teams	Briefings and user testing with strategic planning teams on inputs required, outputs, benefits

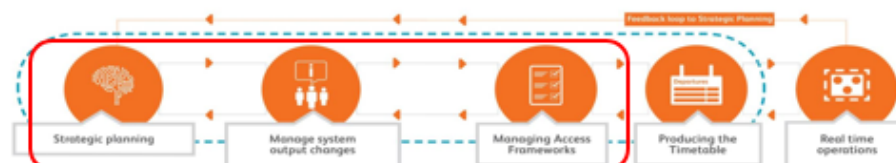
Programme Benefits			Critical Path	
Benefit type	Value	End user	Key Risks (affecting delivery)	Mitigation
A continuously updated 'forward view' of train service changes, captured within and accessed via a user friendly software interface whereby interdependencies and risks are identified to support and inform strategic planning;	Up-to-date, accurate information on strategic development options at varying stages of maturity to inform and enable better and timely decision making.	Funders Network Rail Passengers through improved connectivity in strategic planning	Accuracy and timeliness of data input is maintained to ensure the validity of Forward View to inform decisions.	Incremental development of the breadth and depth of the tool in consultation with System Operator teams to ensure the data collection arrangements are established in a format that is efficient and easy to use.
Greater stakeholder confidence and better management of stakeholder expectations.	Improved customer engagement and satisfaction levels.	Funders Franchising authorities TOC's/FOC's	Stakeholder expectations develop beyond the outputs and outcomes planned.	Stakeholder engagement to manage expectations and identification of potential future developments beyond the original programme brief.
			The review of the May '18 timetable introduction may produce new requirements that alter the scope of and resource requirements for future versions of Forward View	Regular engagement with the Sponsoring Director to ensure the project team is sighted on potential developments.



7.1.2 Enhanced Analytical Capability

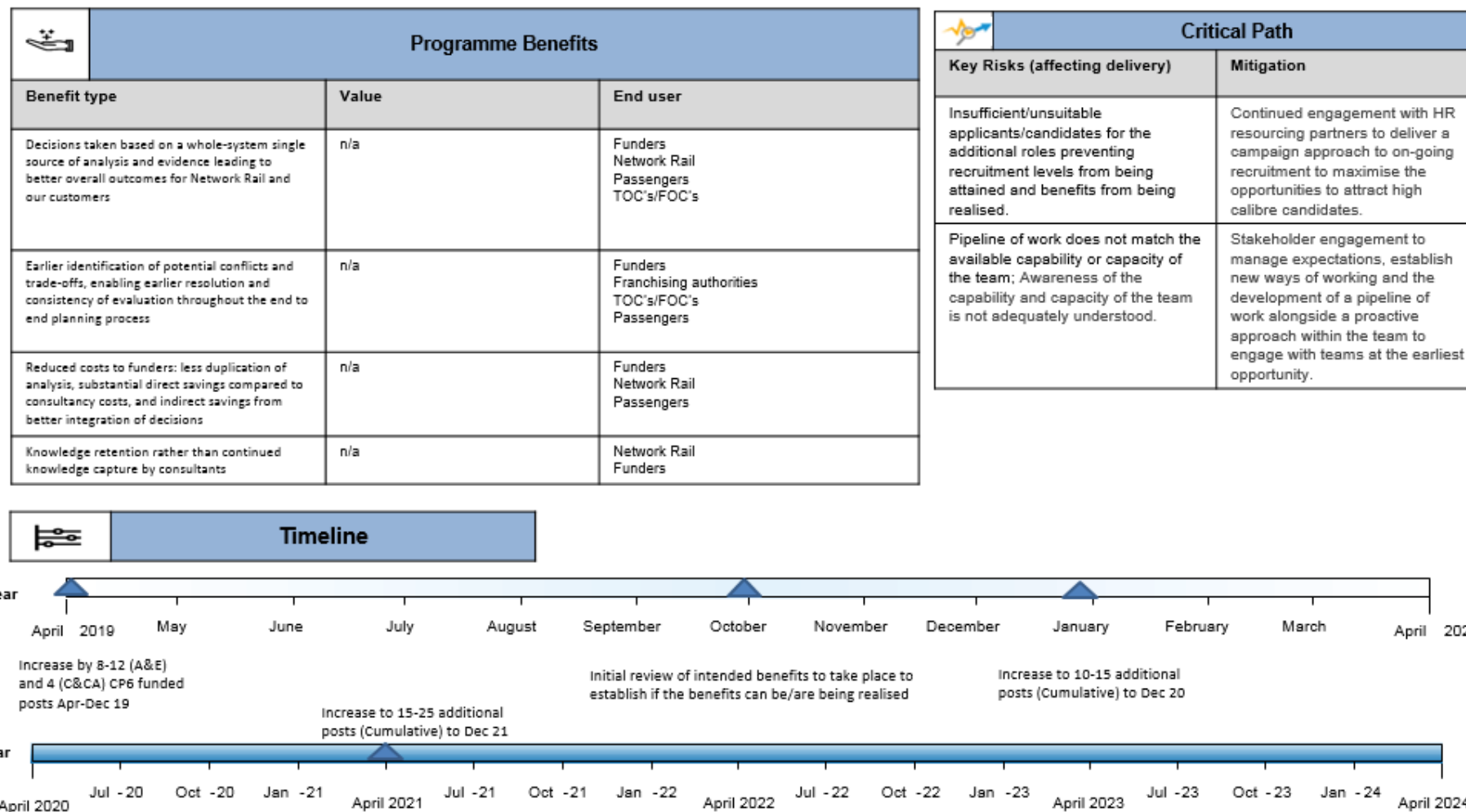
Programme Information	
Sponsoring Director	Policy & Programmes Director
CP6 Programme Duration	Years 1-2 (2019-2021)
Programme Cost	£12m (within operational expenditure)

Programme Impact:



Programme objectives	
<p>To enhance the analytical role and capability of the System Operator within Network Rail in order to provide a source of data and information on which both Network Rail, as internal client, and our industry partners can rely, and which supports decision making and strategic development across the rail industry.</p> <p>An enhanced team will provide high quality and accurate evidence, as trusted advisor and analytical expert for industry stakeholders, to support capacity allocation decisions across the industry from Long Term Planning, through development of train service specifications in franchises, right through to capacity allocation decisions.</p> <p>These decisions directly impact the service provided by and to our customers to the travelling public.</p> <p>Additional capability provided by the Programme includes;</p> <ul style="list-style-type: none"> Increased breadth and depth of analysis to support strategic decisions arising from Continuous Modular Strategic Planning (CMSP) and funder considerations. Deeper analysis of trade-offs. Improved economic analysis to support the value management of infrastructure and service trade-offs and to support franchise service specification. Support Sale of Access Rights (SoAR) decisions and avoid disputes thus improving outcomes and efficiencies using evidence already gathered earlier in planning process Improved analysis and monitoring of passengers and their behaviour to inform our operating model Post implementation review of enhancements. Crowd management advice to managed stations. 	

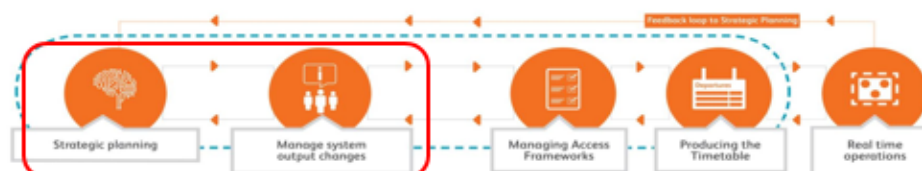
Stakeholder Engagement	
Key Stakeholder	Relationship management
Department for Transport – Rail Analysis	Indirectly managed through periodic review engagement. Direct engagement to discuss proposed approach and mutual benefits.
Transport Scotland	
Sponsor Community	Directly engaged to structure new ways of working and pipeline of activity.
Route Businesses	Engagement via System Operator Heads of Strategic Planning to raise awareness of the enhanced role and capability of the analysis teams.
Strategy and Planning Directors	Direct briefings on additional capability and capacity to support new ways of working within the strategic planning teams.
SO Strategic Planning teams	Directly consulted to support involving the analysis teams earlier in and throughout the development phase.
Office for Rail and Road	Periodic review engagement to provide assurance of effective use of funding.



7.1.3 Early Stage Project Development

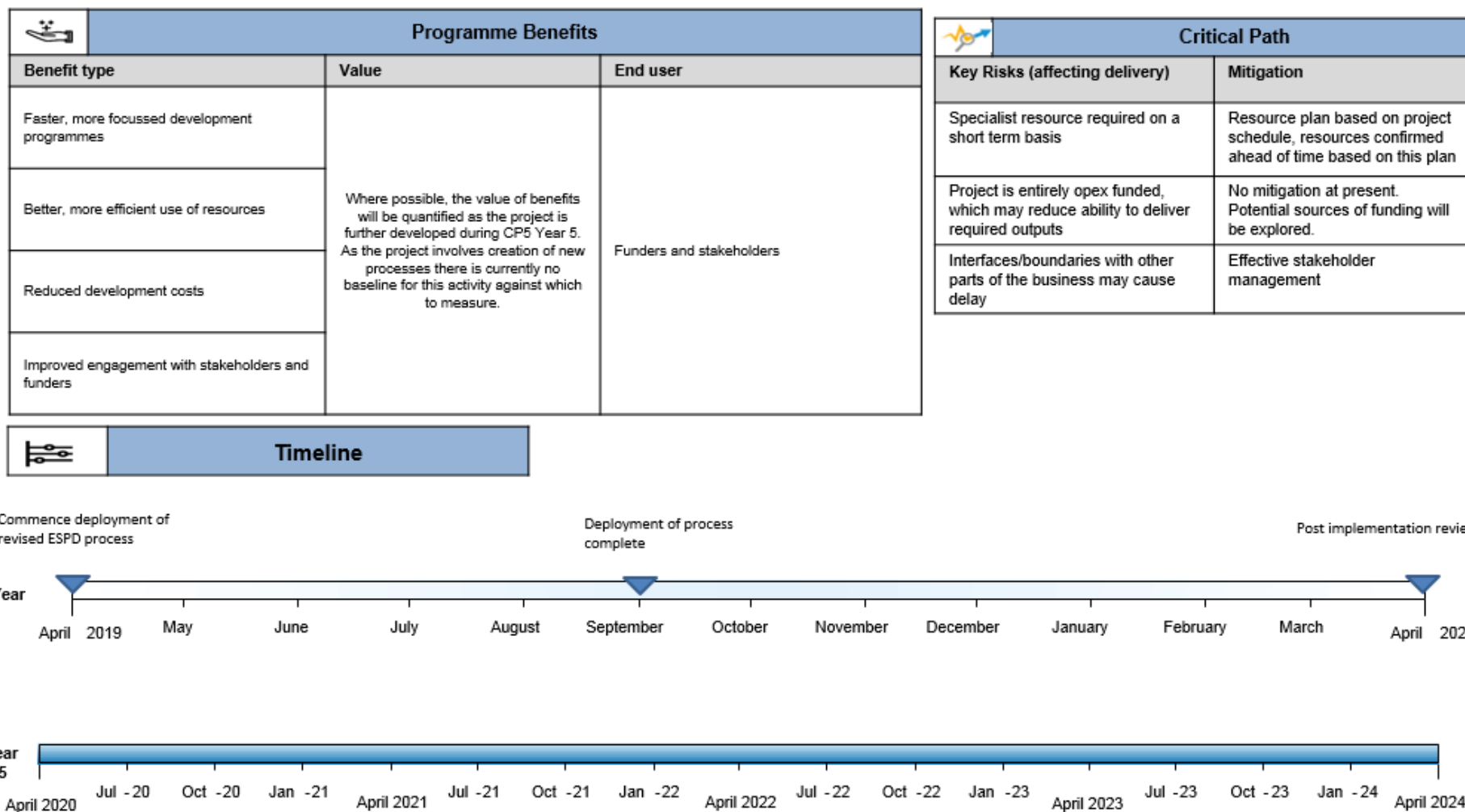
Programme Information	
Sponsoring Director	Strategy & Planning Director - South
CP6 Programme Duration	CP6 Year 1 (2019/20)
Programme Cost	Not applicable

Programme Impact:



Programme objectives	
<p>The programme will review Network Rail's current early stage development processes, make recommendations for an improvement plan, and implement this plan. Once delivered the changes will enable the System Operator to:</p> <ol style="list-style-type: none"> 1. Create a compelling narrative which supports engagement with funders and customers and which better describes the value that we bring in planning and developing the rail network as an integrated whole. 2. Provide an improved articulation of the role of the System Operator within Network Rail. This objective also interfaces with work to develop the clienting guidelines, led by the Client Portfolio team. 3. Operate within a transparent, defined and robust framework with processes, tools and techniques that support consistent and efficient early stage development of projects and programmes and enable an effective transition. 4. Develop the capabilities required to fulfil its accountabilities in an appropriate, efficient and sustainable way. This may include identifying areas where skills and services should be bought from the supply chain. 5. Right-size the planning and development teams and ensure the necessary skills are in place. 	

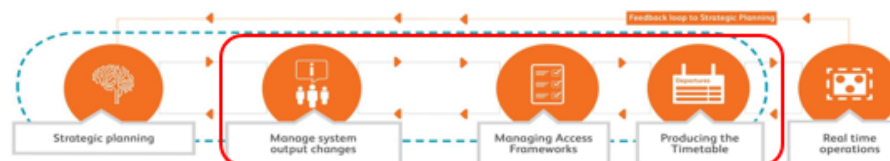
Stakeholder Engagement	
Key Stakeholder	Relationship management
Department for Transport	Indirectly managed through periodic review engagement, and by ensuring ESPD work is aligned with broader enhancement development proposals
Transport Scotland	
Infrastructure Projects and Network Rail Design Delivery	Engagement throughout development of the proposals to ensure alignment with other functions
Route Businesses	Briefings offered to Business Development Directors/route sponsors, taking into account proposals for potential further devolution
Strategy and Planning Directors	Direct briefing to ensure development of suitable proposals
Client Portfolio team	Close and regular engagement to ensure alignment with enhancements portfolio management proposals



7.1.1 Review of the Network Code Part D

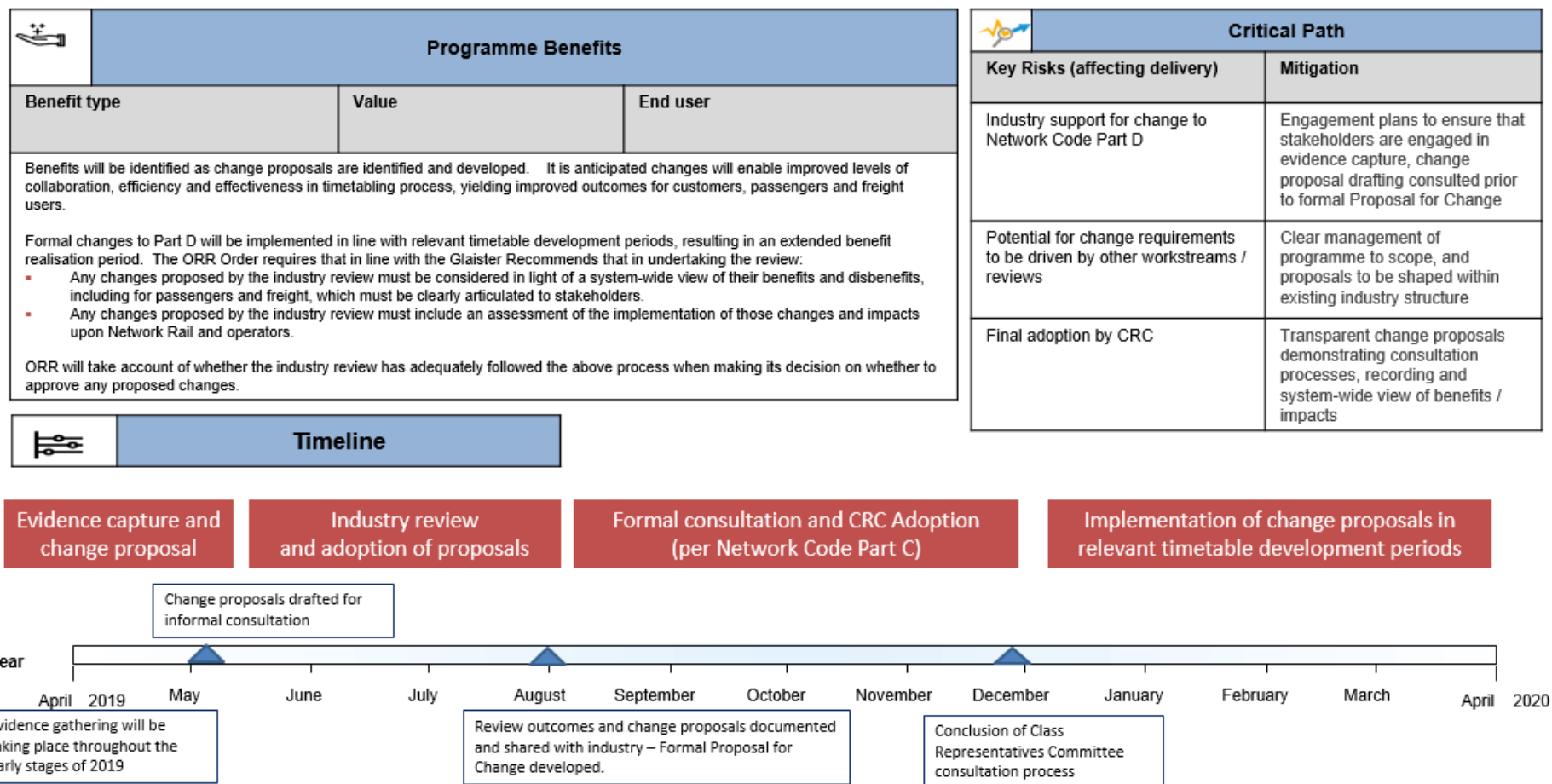
Programme Information	
Sponsoring Director	Policy & Programmes Director
CP6 Programme Duration	Years 1-2 (2019 – 2020)
Programme Cost	Not applicable

Programme Impact:



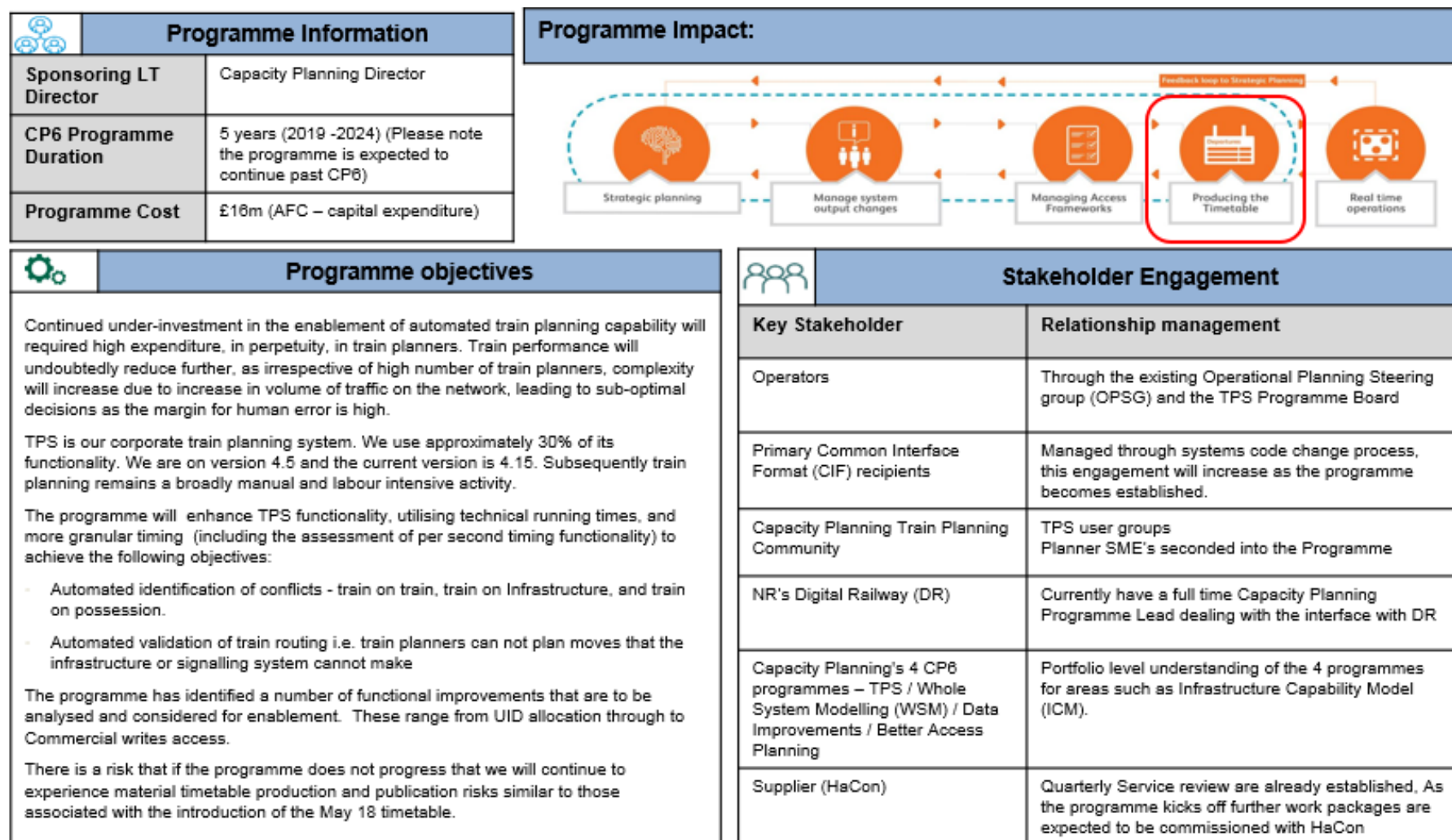
Programme objectives
<p>Although there is a divergence of views regarding whether the Network Code Part D is fit for purpose, it is acknowledged within the industry that a review would be beneficial. Accordingly, the inquiry into the May 2018 timetable recommended that the System Operator lead an industry review of Part D.</p> <p>We recognise that industry reforms and the embedment of the industry assurance PMO longer-term may require subsequent changes to Part D, but this shouldn't prevent the industry from reflecting on how the current Part D works with the timetabling process and what improvements can be made now.</p> <p>Accordingly the objectives of the programme are to;</p> <ul style="list-style-type: none"> • deliver Glaister Report recommendations • improve the efficiency and effectiveness of the timetabling process, • capture process improvements suggested by industry, • improve ease of reference and use of (Part D of) the Code, • promote more collaborative industry and funder behaviours, • improve management and allocation of capacity, • improve outcomes for customers and end users. <p>We will consider any changes in light of a system-wide view of their impacts, including for passengers, freight end-users and other infrastructure managers. We will also consider the impact of implementing changes for all parties beholden to the Network Code Part D.</p> <p>The initial scope of the programme will not include consideration of medium to long term changes in anticipation of the Williams Review.</p>

Stakeholder Engagement	
While the Class Representatives Committee (CRC) is the ultimate industry consultation mechanism for change, the review will be undertaken in an open and collegiate way and seek to involve stakeholders and plans include the use of an industry task and finish group to provide advice and support.	
Key Stakeholder	Relationship management
Managing Director, System Operator	Executive sponsor of the programme to support alignment with the industry assurance PMO and Glaister recommendations.
Timetable Participants	<p>Direct engagement through three key stages;</p> <ul style="list-style-type: none"> • Evidence gathering • Drafting the plan • Developing issues for consultation and proposals for change • Informal (non CRC) consultation • Formal CRC consultation <p>This will be undertaken through a range of System Operator fora (e.g. Standing Advisory Groups), Operational Planning Steering Group, CRC and ARDC discussions, as well as specific workshops, meetings and interviews.</p>
Office of Rail and Road	Demonstration of progress of the review through the System Operator scorecard, and engagement alongside timetable participants in a range of meetings including the Advice and Steering Group.



7.2 Technology improvements

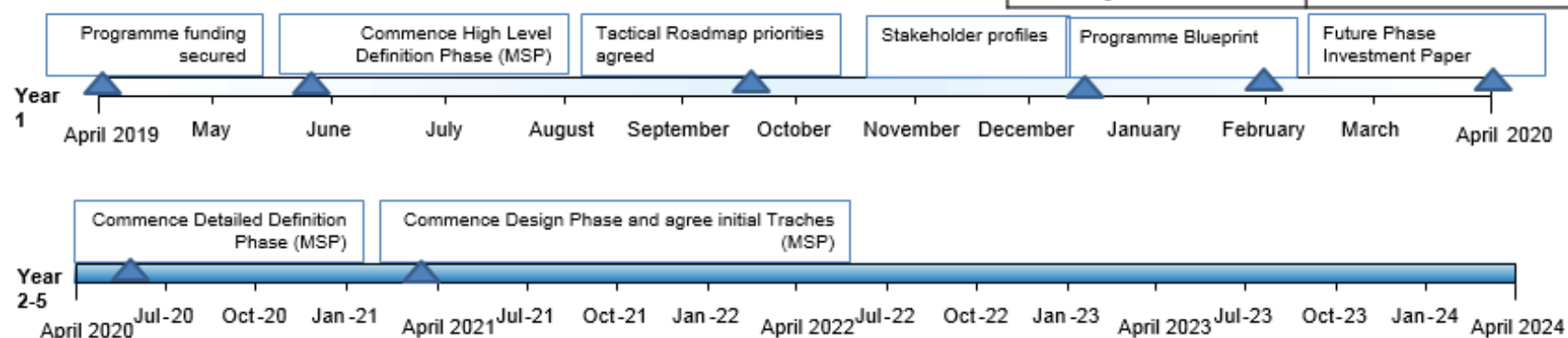
7.2.1 Train Planning System



Programme Benefits		
Benefit type	Value	End user
The continued rise in traffic on the network mean the current highly manual process for planning trains is fast becoming a non-viable way to work. If we are unable to change it is believed the current processes will cease to work in the ever increasing complexity of the train plan.		
Train Performance – Reduction of the number of defects in the published timetable.	Increase in Customer Satisfaction. Reputational – NR competency to deliver a timetable.	Ultimately the Passenger and Freight end user benefits from a more reliable and deliverable timetable.
Safety – reduction in timetable conflicts	Reduction in opportunity for a error in the timetable to translate to an incident.	Operational Staff less reliant on making an intervention. Passenger, freight and track workers reduce risk of incident.
Financial Efficiency	It is envisaged staff would be able to offer accurate paths potentially allowing for NR to generate more revenue. Opportunity to divert resources to more 'value add' activities.	Maximising use of our assets and reaping the financial benefits by selling more access, and / or allocating capacity correctly to avoid penalties.
Legal - TAF/TAP compliance (European legislative requirement)	Legislative compliance	Freight and passenger operators

Critical Path	
Key Risks (affecting delivery)	Mitigation
Delivery of TPS upgrade project to TPS version 4.13 by the end of CP6, including the legacy of a sustainable upgrade process	Dedicated Capacity Planning team set up to support delivery
Fit for purpose Infrastructure Capability Model	Alignment to the ORBIS Programme Investigating potential alternatives if ORBIS are unable to deliver
Industry acceptance to move to TRT's and data driven decisions	Involve the owning groups in shaping the programme Industry representation on Programme Board
Automated identification of conflicts, "train on possession",	Alignment to the Better Access Planning Programme (one of the 4 Capacity Planning CP6 Programmes)
Disparate train planning systems (software and processes) make it difficult to share information in a common format across the various systems at different stages of timetabling	Investigate the appetite and barriers to operating a common platform between industry timetable participants

Timeline




7.2.2 Access Planning Programme


Programme Information	
Sponsoring LT Director	Capacity Planning Director
CP6 Programme Duration	2019-2024 (5 years)
Programme Cost	£12.5m (AFC – capital expenditure)

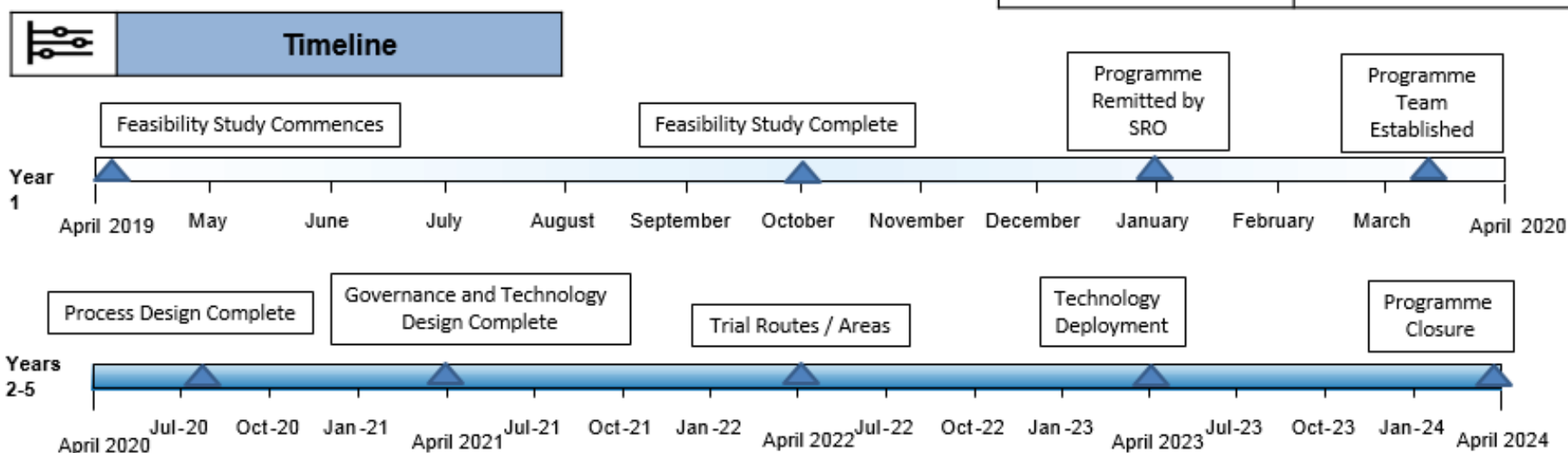


Programme objectives	
<p>Why is it important?</p> <ul style="list-style-type: none"> Access planning and timetable planning are interdependent. The performance and stability of the access plan heavily influences the performance and stability of the timetable. System Operator is the responsible owner for the access planning framework, although the production of the access plan is devolved to the routes, it is therefore System Operators responsibility to run a timely, efficient and economical process. <p>What will we do?</p> <ul style="list-style-type: none"> The programme will deliver a review and revise the access planning process to create a stable base for the development of the timetable plan. The programme will map and make effective the end-to-end process, by adjusting the process where necessary, introducing a robust new governance framework and supporting the trade offs between plan stability and passenger information as well as those between Network Rail cost and operator revenue. The programme will consolidate and build upon localised best practises, such as the measurement and reporting of late possession starts on Western Route. The programme will iterate design work from the Industry Access Programme, such as the Baseline Timetable Project and assess the deliverability and relevance of these designs. The programme will review and make fit-for-purpose the technology supporting the access planning process (including PPS), for example, having access planning data in a format consumable by TPS. <p>What happens if we don't do it?</p> <ul style="list-style-type: none"> If System Operator does not take steps to stabilise the access plan and integrate the timetabling and access planning process it will be unable to make the necessary improvements to it's safety and performance targets through CP6, primarily through the number of trains planned through possessions. Better planning for and risk assessment of infrastructure delivery within industry timetable production will avoid the need for re-planning of timetables later in the process. 	

Stakeholder Engagement	
Key Stakeholder	Relationship management
Route Businesses and Access Optimisation Programme	<ul style="list-style-type: none"> Central Route Businesses will have a seat on the Programme Board
PPS Users	<ul style="list-style-type: none"> Newsletters via the PPS Support Team Workshops on technology change and requirements
Access Planning Managers	<ul style="list-style-type: none"> Direct 121s in initial phases Utilising existing forums National Access Planning Manager to sit on Programme Board
Train & Freight Operators	<ul style="list-style-type: none"> Engagement via OPSG and Planning and Performance Forums Seek representative on Programme Board
Timetable Production Managers	<ul style="list-style-type: none"> Direct 121s in initial phases

 Programme Benefits		
Benefit type	Value	End user
Safety – reduction in trains through possessions	To be quantified as part of programme deliverables	Capacity Planning
Reduction in timetable defects (502a delay)	To be quantified as part of programme deliverables	Capacity Planning
Compliance with Network Code (Part D) obligations.	To be quantified as part of programme deliverables	Capacity Planning
Improved prospect of meeting Maintenance, Renewal & Enhancement targets.	To be quantified as part of programme deliverables	Route Businesses
Delivery costs – increased certainty early in the plan reduces re-work and cost later. Reduction in Schedule 4 by obtaining more access at greater discount level	To be quantified as part of programme deliverables	Route Businesses

 Critical Path	
Key Risks (affecting delivery)	Mitigation
De-confliction of access and timetable plan requires a single infrastructure model that is not yet available	Dependency on ORBIS / STE delivery. Build relationships with STE/ ORBIS and Innovation Team Investigate potential alternatives if ORBIS is unable to deliver
Resource to initiate the programme	Outsourcing other programmes initiation work to allow this programme to be started
Industry consensus is a barrier to implementation of access and timetable initiatives	Engage the industry early in the scoping and design phases rather than during implementation



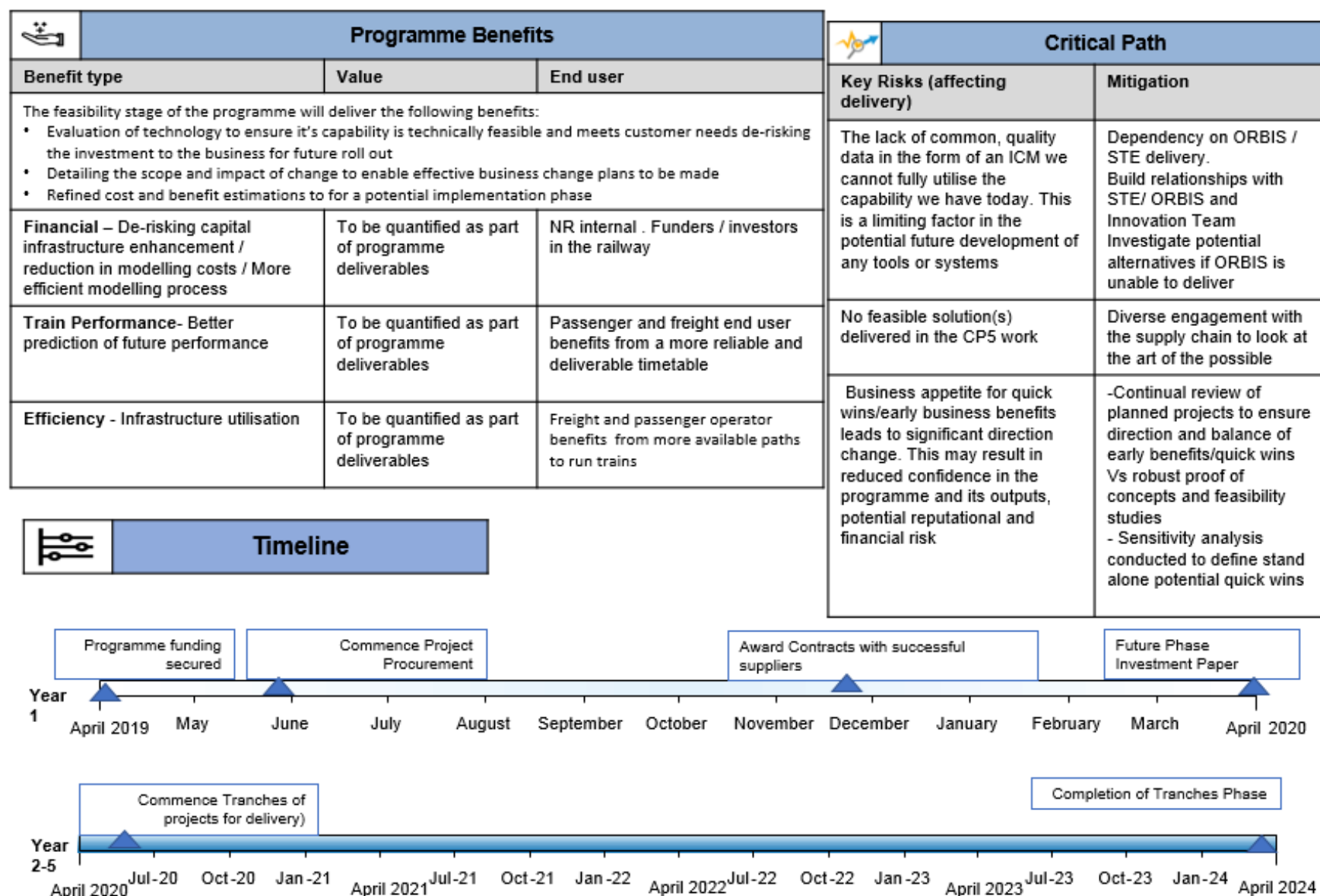
7.2.3 Whole System Modelling

Programme Information	
Sponsoring LT Director	Capacity Planning Director
CP6 Programme Duration	5 Year duration (2019 – 2024)
Programme Cost	£18.6m AFC (capital expenditure)



Programme objectives	
<p>The Whole System Modelling programme is designed to improve the quality of modelling outputs by establishing improved interfaces between models, reduce the time it takes to model a scenario and increase the overall volume of modelling work undertaken.</p>	
<p>Delivering a better railway requires us to balance five main factors; safety, cost, capacity, performance & journey time. Trade-offs between these constrain the delivery of customer value. Network Rail has two key needs :</p>	
<ul style="list-style-type: none"> • Better consider decisions in terms of these trade-offs so it is understood how choices made affect the value delivered to customers and so consistent decision making can be made with a consistent view of what is optimal. • Innovate to improve these trade-offs, so that Network Rail can simultaneously improve all four factors, shifting the system dynamics to enable better trade-offs. 	
<p>The objective of the programme is to assess the feasibility of options to improve how we model the impact of change on the safe performance of the rail system. The current CP5 feasibility programme comprises of 12 projects to:</p>	
<ol style="list-style-type: none"> 1. document and benchmark current industry modelling processes and capability to understand where improvement is required 2. assess the feasibility of options to improve existing processes/tools to maximise their value 3. assess the feasibility of new technologies, including their data requirements 	
<p>The intention is to utilise the outputs of the feasibility programme to form a delivery programme to roll out the capabilities that will improve the quality of modelling outputs.</p>	

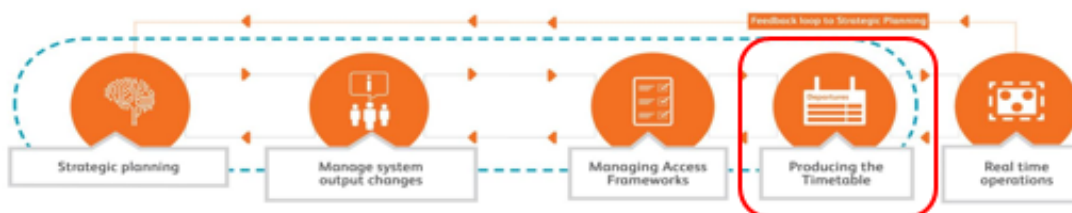
Stakeholder Engagement	
<p>The plan is that each stakeholder is treated individually and needs to be taken on a journey that will give them a well-rounded understanding of the programme and the part that they play towards making it a success. The stakeholder journey and each of the activities is summarised below by Stakeholder category:</p>	
Audience	Approach
Industry	Programme Board with industry representatives Operational Planning Strategy Group National Task Force Industry workshops and working groups
Senior Leaders	Programme Board Weekly visualisation meetings
Technical Experts	Technical Steering Group Project communications and plans
Our teams & wider NR colleagues	Internal intranet articles and use of internal communications tools such as Yammer
<p>We will use these forms to share to build relationships and share programme successes. We will also use pulse check surveys to measure and reflect on our stakeholder engagement, and views on the progression of the programme.</p>	



7.2.4 Data Improvement Programme


Programme Information	
Sponsoring LT Director	Capacity Planning Director
CP6 Programme Duration	5 Year duration (2019 – 2024)
Programme Cost	£8m (AFC – capital expenditure)


Programme Impact:



Programme objectives
<p>The Data Improvement Programme is a CP6 change programme identified to address the need to understand and utilise high quality data, on which to base decisions for train planning. It will work across the industry to develop a rich picture of our current standing and articulate our desired future state. Working with all parties to bridge the gap and deliver measurable and incremental benefits through the delivery of agreed and specified projects.</p> <p>At this early stage of programme initiation it is envisaged this will include:</p> <ul style="list-style-type: none"> • Governance • Quality measures and assurance • Access and usability • Improvements to specific data sets • Identification of system development

Stakeholder Engagement	
Key Stakeholder	Relationship management
Operators	<p>Funding was made available to start the development of this programme in September (RSIT authorised £0.350m). Hitachi Information and Control Systems Europe (HICSE) have completed a consultation of industry planning practitioners on their proposed priorities for the programme. The consultation report is in draft form and will be shared with stakeholders in January 2019. 12 data projects have been identified through the process. These are to be discussed and prioritised with stakeholders.</p>
CIF recipients	
Data technical leadership	
Asset Managers & IP	<p>RSIT (Chief Information Technology Officer team) have been commissioned to develop a train planning data architecture reference model (DARM). This will allow data processes, technology and organisational factors to be mapped and analysed for areas of improvement.</p>
Industry Data Leadership	<p>A programme board will be established with external industry representation (as per the recommendations set out in the Nichol's independent report on CP6 capex programme governance) to direct the approach to prioritising the finds from the consultation and the DARM.</p>
Digital Railway	

 Programme Benefits		
Benefit type	Value	End user
502a incident and minute reduction – data enables automated conflict detection and performance modelling capability enhancement	Benefit will be realised through TPS enhancements & Whole System Modelling programmes	Passenger and freight end user benefits from a more reliable and deliverable timetable
Reduction in NWTT or STP bid/offer cycle time – increased automation of validation will lead to current processes in Network Code Part D reducing in duration	Possibility of consistent achievement of A for B timetables and a reduction in the 14 week NWTT development cycle	Freight and passenger operator benefits from a quicker response to bids
Enablement of DR benefits – DR business case is predicated on a conflict free timetable already being importable. Timetable data quality needs to be high to ensure 'optimisation' of traffic genuinely is 'optimal'.	Linked to Digital Railway business cases	Passenger and freight end user benefits from a more reliable and deliverable timetable

 Critical Path	
Key Risks (affecting delivery)	Mitigation
There are varying views held about what improvements in train planning data processes are required.	Undertake a consultation to gather all views, analyse trends and prioritise
ICM might not be delivered by ORBIS by the end of CP5	Include funding to continue the activity in the data improvement programme
Cost of enhancing 'downstream' systems being able to import more granular timetable data	Engagement of business system owners in the development of the programme Development of business cases for investment where change is required

Timeline



7.2.5 Migration to an industry train planning platform

ORR's independent inquiry into the operational implementation of the May 2018 timetable demonstrated inefficiencies within the timetabling process, particularly in the use of technology across the industry. ORR's recommendations include continued progress in providing greater access to the Train Planning System, as well as the creation of an industry timetabling technology strategy.

Our Strategic Plan sets aside an initial £40m capital expenditure to support the start of migration to an industry train planning platform. In developing this very early stage cost estimate we have assumed that this constitutes wider industry use of TPS, including adaptation of hardware, servers and support costs for wider industry use. We will review this assumption as we develop our plans and engage with our customers, recognising that the potential solution, associated industry change and alignment with other technology investment (both within our plan and external to the System Operator) is at a very early stage of identification.

This additional funding prompts the need for a considered alignment of the AFCs associated with the original CP6 investment plans in order to make best use of development at industry level. There will be a possible requirement to revisit the anticipated annual phasing of funds once this consideration has taken place.

Wider industry use of TPS could deliver significant improvements in the timetabling process, including;

- common data sets;
- removal of industry operational expenditure associated with multiple-handling of data; and
- reduction in volume of timetable alterations associated with commercial data alterations where Operators are able to undertake changes directly

We anticipate that this would be undertaken in multiple phases, beginning with a pilot phase informed by the outcomes of the current trial activity being co-ordinated by the Industry Readiness PMO team, which will be evaluated in 2019.

A pilot phase with a small number of Operators is important to validate the

revised system setup and processes as well as proving parallel operation capabilities, particularly in terms of managing the process transition within Capacity Planning to new ways of working.

Following the pilot phase, we would move forward with deployment to Operators in phases based on geography and number of users.

7.3 Programme governance and reporting

7.3.1 Project and programme governance

Our programmes are managed using Network Rail's governance process providing a consistent and transparent approach to delivering change and improvements into the business.

Managing Successful Programmes for Network Rail (MSP4NR) is applied to business change programmes which are fundamentally linked to strategic objectives, of high benefit value, may require extensive system changes and impact behavioural change.

The approach ensures programmes fully consider their remit, outcomes and benefits; developing robust project documentation and plans whilst managing risk, budgets and resources effectively.

Figure 7.1 Managing Successful Programmes for Network Rail stage gates



7.3.2 System Operator Delivery Board

Supporting the System Operator leadership team, an internal System Operator Delivery Board has been introduced. This Board is formed of members of the leadership team, and provides high level governance of our improvement programmes and review of the System Operator scorecards.

7.3.3 Capital expenditure processes and controls

As part of the periodic review process working with ORR, a jointly commissioned independent reporter study of our project and programme governance arrangements was undertaken by Nichols.

This review found that there is a good foundation of processes and controls for the effective management of our capex programmes for CP6, which comply with Network Rail investment regulations (a framework for making investment decisions).

We support the recommendations made by Nichols to strengthen these processes and controls, and we have since implemented improvements in order to clarify and/or improve;

- The role and appointment of industry representatives to our programme governance boards, including escalation channels;
- The way in which we gain industry support for the objectives and aims of our programmes;
- The reporting we provide to our governance bodies, and other industry meetings; and
- Our readiness to deliver our portfolio of activity

A plan setting out our actions to respond to the recommendations of the Nichols review, and progress in delivering them is set out in Appendix F.

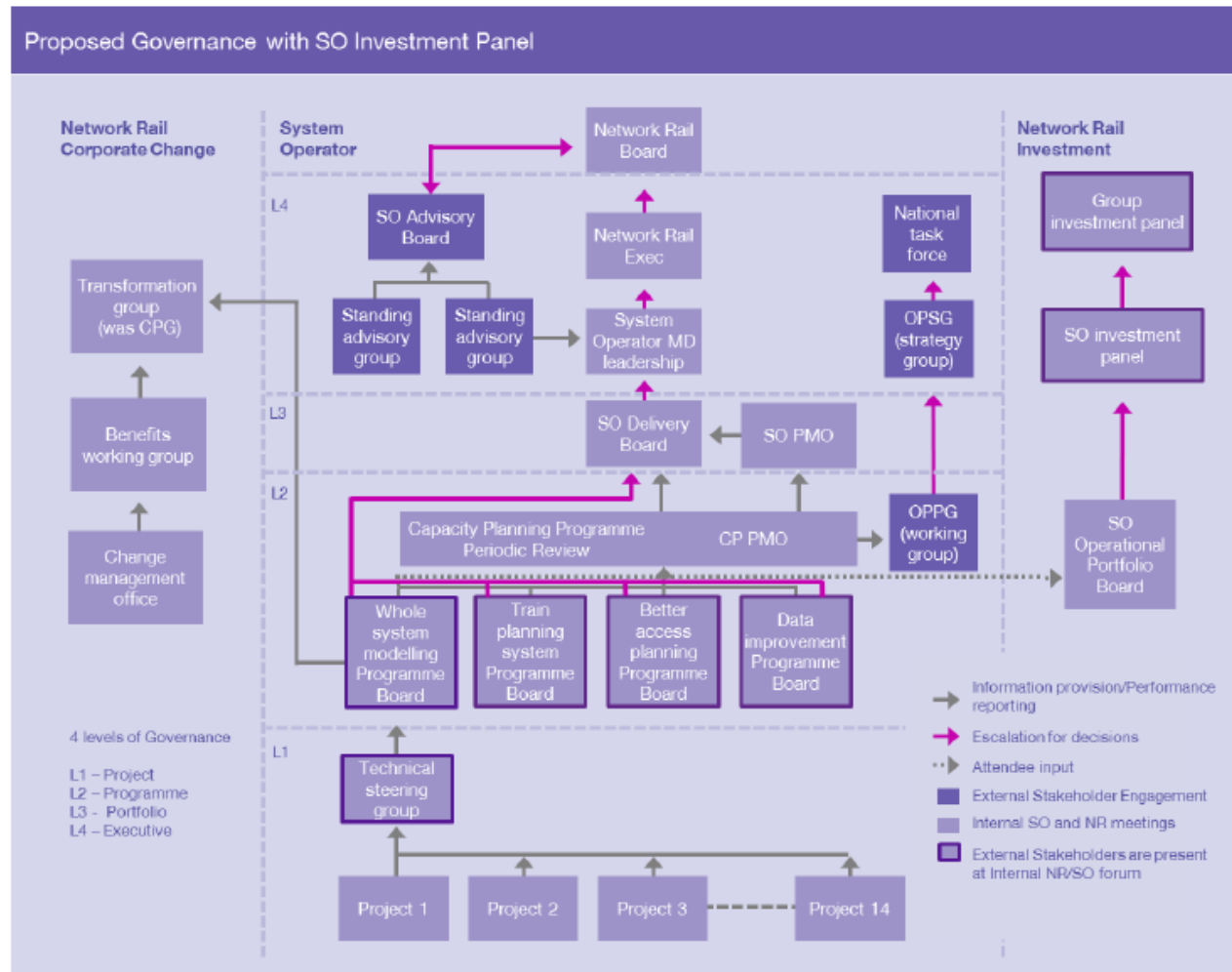
As part of our plan, we propose to implement a System Operator investment panel meeting to enable us to make investment decisions supporting our programmes to be made transparently, and in a manner supporting the unique position of the System Operator within the industry.

Industry representatives to support our programmes will be drawn from the Operational Planning Strategy Group for each of our capital expenditure programmes.

The remit of these Programme Boards will include scrutiny and challenge as our programmes progress through the MSP4NR framework, and providing budget holder authority in advance of decisions at the System Operator investment panel.

An Operational Portfolio Board will be maintained to oversee and integrate investment in the System Operator technology portfolio with the ongoing maintenance and renewals spend undertaken within Route Services.

Figure 7.2 Programme governance framework



7.4 Relationship with the System Operator scorecard

The delivery of improvement initiatives is demonstrated throughout the System Operator Tier 1 scorecard, which specifically sets out our progress in improving our timetable technology capability.

Milestones for each programme will be baselined at an appropriate stage of maturity, and on conclusion of the feasibility activity. We will additionally discuss the progress of our technology programmes in our Annual Narrative Reporting, with a focus on the progress of our stakeholder engagement.

Figure 7.3 Improvement initiatives demonstrated on our scorecard

Delivering an improved timetable service		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Whole System Modelling programme	WORSE THAN TARGET	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%
Train Planning System programme	WORSE THAN TARGET	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%
Access Planning Programme	WORSE THAN TARGET	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%
Data Improvement Programme	WORSE THAN TARGET	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%
Network Code Part D Review	WORSE THAN TARGET	80%							
	TARGET	90%	This metric may be removed following 2019/20						
	BETTER THAN TARGET	100%							
Improvement Programmes		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Improvement initiative Milestones	WORSE THAN TARGET	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%

8. Investment in our people

8.1 Summary of our people plan

As System Operator, our vision is to be the recognised expert in planning the railway – optimising the use of the existing network and creating new capacity to provide a better network for passengers and freight.

To deliver on our plans, meet our customer and stakeholder expectations, and achieve our vision we will require a high performing team of capable and engaged people.

Our people strategy shows how we will achieve this through an effective organisation that will drive;

- safety in everything we do;
- one inclusive team;
- a lean organisation; and
- a plan for developing people capability

Our people are our principal asset. It is imperative that we recruit, retain and invest in our people. Our focus will be to ensure that we are able to attract, recruit and retain the best people available for roles throughout our organisation, and by retaining them through robust talent management, training and personal development.

We will continue to embed a suite of representative groups within the System Operator to focus on health, safety & wellbeing; diversity and inclusion; and employee engagement.

These groups are championed at functional director level, each delivers a co-ordinated periodic plan of activities across the themed areas, engaging and involving staff across the System Operator.

Our strategy includes developing the professions of Strategic Network Planning and Capacity Planning to further recognise the importance of the

skills and abilities of our people, and to continue to develop our capabilities in making the complex decisions necessary of an effective System Operator.

Figure 8.1 Network Rail People Strategy



8.2 Leading great people and great teams

A cohesive and consistent team will be one that is fully engaged and led by people who are able to recruit, motivate and retain top talent.

Our focus upon talent management, succession planning and diversity and inclusion, places a large onus upon people managers to manage their teams well, keeping people motivated, engaged, developed and working to their full potential.

Network Rail leads the industry in planning for and developing leadership and skills to meet the future needs of the railway

- Our Leadership Teams will prioritise learning & development budgets to build capability 'to inform, analyse, advise and decide' into CP6. Specifically this will include building professional capabilities including: Relationship management, effective project management and business change.
- We will prioritise developmental investment by using four key themes - Safety/Regulatory, Leadership & Management, Strategic Imperatives and Professional Skills.
- We will ensure those identified in succession planning for senior/business critical roles have an up-to-date personal development and plan in place.
- Our organisation capability, roles and structure will be continually reviewed to address gaps in knowledge and skills, in both analytical and client roles, creating competency frameworks where applicable.
- We will consider and implement changes to our organisation and capability to ensure our plans are relevant to contextual industry challenges. For example, creating technical and people management career paths in Capacity Planning, and providing franchise professionals to support greater industry alignment through franchise transactions

Network Rail encourages great leadership and is a place where there is mutual trust and respect between line managers and employees

- Our leadership and management training will be supported by local non-costed interventions to strengthen our people management capability and share best practice
- We will drive a culture of continuous improvement by ensuring targeted training of our managers and teams
- The System Operator Leadership team and Health & Wellbeing group will demonstrate clear leadership and management support and focus on H&W matters. This includes supporting the roll out of the national Mental Wellbeing and Resilience project to benefit of System Operator staff, for example through the use of Wellbeing Champions and line manager training.
- The System Operator Leadership team and Engagement group will ensure that our teams are aware of how they can become involved in making improvements through engagement champions, having regular discussions with their line managers and being encouraged to share knowledge and be involved through team activities.

Network Rail attracts, develops and retains dedicated and committed people

- We will work together to identify current and future resourcing needs, including any skills gaps, to create an effective workforce plan. This will be supported by a three year talent and succession plan within the function, focussing on critical roles and skillsets within the SystemOperator
- We will identify internal resources and external pipelines (e.g. make or buy decisions) so that recruitment can be more focused. This includes developing a graduate programme, continuing to grow the Operational Planner new starter training programme, providing career paths for our train planning roles, developing an early engagement strategy and building analytical capability.
- Support managers to identify 'potential' across System Operator which will feed into senior leadership discussions.

8.3 Making the System Operator a great place to work

We will focus on attracting diversity of talent; supporting staff who wish to work flexibly to enable them to balance caring or parental responsibilities with a fulfilling and meaningful role; and supporting those with additional needs so all are able to contribute effectively.

Our leadership culture will be an open and approachable one, where our leaders inspire and support their teams to be successful.

Network Rail is a place people are proud to work

- Leaders within the System Operator provide opportunities for our people to engage with them on a regular basis, and across teams including an annual System Operator Conference
- We will regularly communicate the System Operator strategy and vision to our people, including achievements, changes and future direction
- Continued use of employee engagement surveys ('Your Voice') and leadership of action plans throughout the function, supported by a representative group

Network Rail prioritises mental health and employee wellbeing, and supports and develops resilience in its people

- Our Health, Safety & Wellbeing group will develop a plan to build awareness of health & wellbeing issues, opportunities and resources across the function through a programme of regular engagement and communications
- Health & wellbeing will be a feature of our regular 1to1 meetings throughout our function, investing in our line management capability to conduct these conversations
- We will maintain measures of our health and safety performance throughout our scorecard structure to support 'Everyone home safe everyday'.

Network Rail's environment enables everyone to reach their full potential

- We will regularly review our people capability throughout the organisation, assessing performance, behaviours and potential
- We will review and maintain a succession plan for business critical and key senior roles over a three year horizon, supported by personal development plans
- Our leaders will discuss development including; skills, capability, experience; and behaviours, to support training and career development
- We will embed the 'Professional Head' roles for key System Operator areas, which will provide technical leadership and deploy an appropriate framework for the profession, sponsoring competency frameworks and development initiatives

Network Rail is one of Britain's best employers

- Our attraction strategy will be regularly reviewed to increase brand awareness, supporting our teams and representative groups to build employee advocacy
- We will design and implement a graduate training scheme with rotational placements in Capacity Planning, Programmes and Strategy & Planning to start in September 2019
- We will develop a System Operator apprenticeship programme to be in place for CP6
- We will actively encourage our teams to support our communities by volunteering with registered charities or Network Rail Community lead projects

8.4 Reflecting the society that we serve

We recognise that there is still work to be done before the diversity of the organisation reflects the society that it serves. Our people strategy includes a continued focus towards becoming a more respectful, inclusive, diverse and welcoming organisation; where every employee feels respected and valued for who they are and what they can bring to the System Operator. This is supported by a representative group focussed on diversity & inclusion.

Network Rail is a place people feel safe, looked after and treated with dignity and respect

- We are committed to encouraging agile and flexible working within our teams, supporting our managers and sharing best practice
- Our leaders will encourage their teams to bring their whole selves to work, recognising everyone as unique talent
- We will develop a resourcing strategy that widens our talent pool, including early engagement activities in schools and universities and improves our brand awareness

Network Rail is leading the way in making the railway industry more diverse and inclusive

- The Diversity & Improvement representative group will work with the Leadership team to promote our D&I strategy and activities that encourage collaborative working and increased engagement with diversity topics within System Operator and wider Network Rail.
- We will create an inclusive recruitment strategy that attracts diversity into System Operator, for example through early engagement, removing gender bias from adverts, and advertising on diverse platforms
- Our training will include capabilities such as delivering Diversity Impact Assessments, and our teams and line managers will be provided focussed training to support a diverse and inclusive environment
- We will promote and support the internship scheme, which forms part of a wider initiative to increase the amount of BAME and female talent in Network Rail, and promote Network Rail's diversity strategy.

8.5 Capability development

We will provide opportunities for career progression and succession within the System Operator so employees are able to develop their professional skills and expertise, which underpins our ability to deliver, and we can retain talented and dedicated people.

To attract and develop new talent within our function we will introduce a graduate programme, focussed on developing the future leaders of System Operator. We will also provide opportunities in our Capacity Planning and Station Capacity teams for a year in industry student, to support a future pipeline of talent and bring new ideas into System Operator.

Our training and development investment will comprise of a range of externally and internally delivered solutions. Priorities will be determined against four key themes: safety and regulatory, leadership and management, professional skills and strategic imperatives.

Figure 8.2 Training and development four key themes



8.5.1 Safety & regulatory

We recognise the importance of safety by design and the contribution that can be made to the safety of the railway system, is recognised in our competence frameworks and the emerging work on our professions. Formalised training includes our internally verified workshops Construction Design and Management (CDM) regulations, Common Safety Methods (CSM) and other identified role based training.

8.5.2 Leadership & management

Line management and development of our employees is critical to the success of our teams and we recognise how important these skills are. We will provide a range of externally and internally delivered solutions to develop our line management capability and leadership skills.

We will provide a range of courses and developmental 'in house' interventions, including formal leadership training such as 'Rail Industry Leaders', and 'Senior Leaders' for senior roles, and various management training courses such as 'Inclusive Leadership' and 'Coaching'. Our HR teams will continue to create a suite of events which sets out the expectations of our people managers, describes the role of a people manager and how they will best work in all people related matters. Other developmental activities will include knowledge sharing, coaching, and mentoring.

8.5.3 Professional skills

To ensure we are equipped to lead the way through CP6 we have introduced two System Operator specific capability development workstreams covering Strategic Network Planning and Capacity Planning each of which is led by a new Professional Head.

We are also giving consideration to professionalising our analytical and integration capabilities within the System Operator.

We will work with other external organisations, which operate professional networks and memberships, within the rail and wider transportation

sectors, to establish enhanced competencies and explore opportunities for external accreditation.

Capacity Planning

In addition to the investment in timetabling capability set out in Section 6, we will maintain and improve our competency suite supporting the capacity planning profession. We will also continue to develop our very successful competence development programmes to enable rapid and effective development of planning skills for new operational planners joining Capacity Planning.

We will continue to lead the Industry Competency Development Group, working with train operators to provide dedicated development and training courses supporting more advanced operational and access planning capabilities to industry delegates, and considering other training interventions to support ongoing industry capability development.

Strategic Network Planning

Our plans include a workstream to cement Strategic Network Planning as a recognised profession with clear career pathways. This work will develop standardised approaches and methods for our long-term planning capability, alongside the roll-out of tailored strategic planning competencies.

These initiatives will provide a framework around which individuals can shape their personal development; they will also allow us to design training packages and align to career pathways in the wider transport and infrastructure planning industries.

8.5.4 Strategic imperatives

To foster a continuous improvement environment we have committed to train our staff in continuous improvement approaches and will drive and encourage this structured approach to continuous improvement in all aspects of our work to identify opportunities to 'Be Better Every Day', be more efficient and drive innovation.

Structured continuous improvement is a core element of our delivery philosophy. By concentrating upon providing value to our customers, stakeholders and funders we will deliver the service they deserve and the efficiencies they should expect through empowering our teams to make the changes to be better every day.

We will identify and train a representative number of people across the System Operator via either a one day 'awareness' workshop or three day course to become a 'lean champion'.

We will regularly review and develop strategic training and development interventions to reflect the developmental needs of our teams in achieving the System Operator vision.

8.6 Relationship with the System Operator Scorecard

Our internal management reporting processes will demonstrate delivery of our people strategy, including;

- levels of work-related absence;
- the delivery of our 'your voice' employee engagement plans;
- the delivery of plans led by our representative group focussing on health, safety & wellbeing within our teams;
- our action plans and functional statistics in support of diversity and inclusion; and
- our commitment to sustainability throughout the function demonstrated by the number of volunteering days undertaken in support of registered charities and Network Rail Community lead projects.

This reporting will supplement the System Operator scorecard in enabling the Managing Director and System Operator Leadership Team to manage the function, and in making the System Operator a great place to work.

The System Operator scorecard is designed to demonstrate metrics that reflect the priorities of our customers, which has indicated a need to maintain focus in ensuring that our timetabling functions have adequate

resources in place to support timely delivery of the timetable.

Accordingly, in addition to measuring vacancy levels in key roles that support the delivery of timetable planning (Operational Planners), we are focussed on developing the capability of the organisation in a manner that can be meaningfully measured for our customers.

We have developed a metric which we will report quarterly, which demonstrates the capability levels within Capacity Planning. This recognises the roles and competency levels throughout the organisation by associating experience and competency levels through 'units of capability'.

With greater numbers of individuals meeting competency levels associated with their role, higher 'units of capability' can be achieved. Consequently, the impact of vacancies and developing new starters can be demonstrated. Our target levels for CP6 Year 1 are driven by the recruitment activity in the lead up to the start of the year, and will be re-forecasted annually throughout CP6.

Each of these measures is demonstrated in Figure 8.3 overleaf.

Figure 8.3 Measures on our scorecard to support our people plan

Delivering an improved timetable service		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Operational Planner Vacancy Gap	WORSE THAN TARGET	8%	7%	7%	6%	5%			
	TARGET	6%	5%	5%	4%	3%	TBC	TBC	TBC
	BETTER THAN TARGET	4%	3%	3%	2%	1%			
Capacity Planning capability metric	WORSE THAN TARGET	280							
	TARGET	310	TBC	TBC	TBC	TBC	TBC	TBC	TBC
	BETTER THAN TARGET	340							

9. Financial plans

9.1 Cost and volume summary

Unit of measure	CP5	CP6						CP7	
	18/19	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26
Business Improvement (capex) £m	n/a	8.1	17.7	22.8	28.3	29.7	106.6	TBC	TBC
Controllable opex £m	30.6	53.3	55.3	58.2	60.4	61.8	289.0	63.7	65.7
Non-controllable industry costs £m	0	0	0	0	0	0	0	0	0
Total £m	30.6	61.4	73	81	88.7	91.5	395.6	63.7	65.7
Permanent Headcount	901	1038	1039	1044	1044	1044	1044	1044	1044
Agency	0	0	0	0	0	0	0	0	0
Total headcount	901	1038	1039	1044	1044	1044	1044	1044	1044
Headroom (held by Network Rail centrally)	n/a	0	1.0	1.0	1.0	1.0	4.0	n/a	n/a

Costs indicated are in cash prices. Our plan also includes £4m of headroom to mitigate business performance risk we face in the control period, and in recognition that we will need to react to the priorities of our funders and stakeholders.

If needed, we also have the opportunity to access portfolio headroom in CP6, particularly for inflation risk. Again, we will ideally spend this on further investment to improve the railway. Portfolio headroom will be controlled through our corporate business planning process. Increased investment will depend on successful delivery of the company's plans and good business cases.

Figure 9.1 Summary of costs by team or activity within the function

Activity/team	CP6 total (£m)	Comments
Director	61.6	Includes costs of training and development for the function. Presently holds £24m associated with System Operator strengthening, and £27.9m functional inflation adjustment
Strategy & Planning (Scotland)	9.2	Includes delivery of Scottish HLOS requirements. Substantially delivers in Strategic Planning and Managing Output Change elements of our operational model.
Strategy & Planning (North)	21.5	Incorporates HS2 associated activity, including WCML timetable recast work. Substantially delivers in Strategic Planning and Managing Output Change elements of our operational model.
Strategy & Planning (Wales & Western)	13.6	Substantially delivers in Strategic Planning and Managing Output Change elements of our operational model.
Strategy & Planning (South)	18.4	Substantially delivers in Strategic Planning and Managing Output Change elements of our operational model.
HS2 Integration	4.6	Substantially delivers in the Managing Output Change element of our operational model.
Capacity Planning	224.0	Split by £122.9m opex and £101.1m capex. Delivers across the operational model via analysis and capability work, and fully delivers production of the timetable.
Policy & Programmes	42.7	Split as £37.2m opex and £5.5m capex. Supports delivery across the operational model.
Total	395.6	

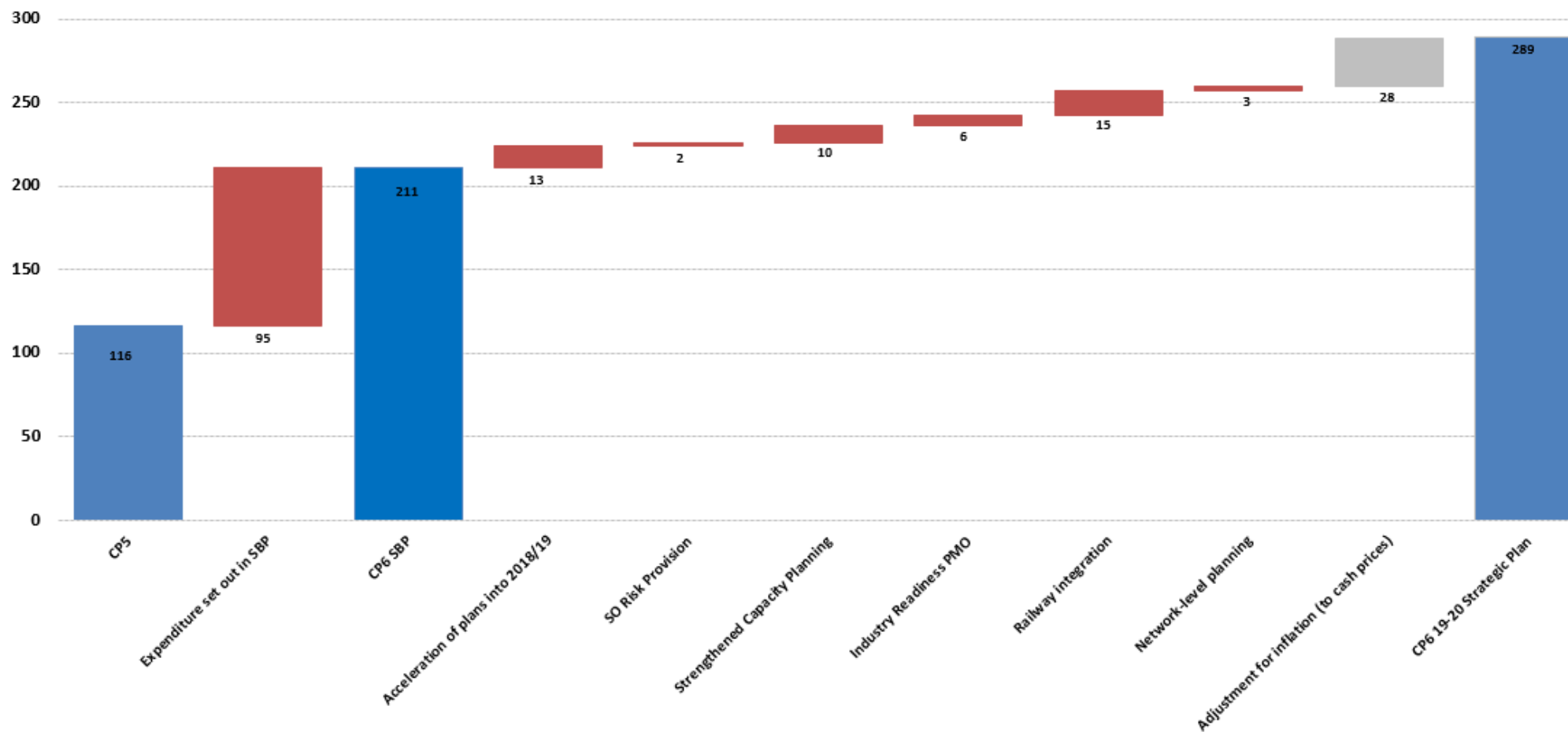
9.2 Route Business Scotland details

Figure 9.2 Route Business Scotland details

		CP6					
		19/20	20/21	21/22	22/23	23/24	CP6 Total
National Cost (£m)		61.4	73	81	88.7	91.5	395.6
Scotland Cost (£m)		6.5	7.7	8.6	9.4	9.6	41.8
Scotland (%)		10.6%	10.6%	10.6%	10.6%	10.6%	10.6%
Basis for allocation to Route Business Scotland	Headcount supporting Scotland teams, and central teams/capex split by route miles						
Activity	Operational Expenditure <ul style="list-style-type: none"> Dedicated timetabling resource (26 heads) within Capacity Planning, including training & familiarisation for the Scottish network. Strategic planning capability (14 heads) including alignment and integration with the rest of the network, including supporting economic, station and capacity analysis activities. Early stage enhancement project development informed by the Transport Scotland Capital Investment Strategy and enhancement pipeline Identification of third party investment opportunities and evaluation of the whole network strategic fit for proposed investment in Scotland Key requirements of the Scottish HLOS (£2m uplift vs CP5) Development of whole industry client capability and resource Leading development and reporting of Journey Time metric Ongoing support for the development of a 'Scottish gauge requirement' and continued use in strategic planning Engagement and support in developing key freight growth and leading development and reporting of average speed improvement activities Development of engineering access frameworks to support London-Scotland possession deconfliction Supporting policy, programme and franchising capability within the System Operator, including delivery of process improvement projects benefitting Scottish outputs and activities 						
	Capital Expenditure <ul style="list-style-type: none"> improved timetabling capability including introduction of greater granularity in the timetable, conflict detection, and timetable data management, with benefits to performance in Scotland to be calculated improved access planning capability including introduction of a replacement for the Possession Planning System used in Scotland creation of greater analytical capability, informing choices made in Scotland and nationally surrounding the balance of performance, operational requirements and journey time; and plans to support migration to an industry train planning platform 						

9.3 Cost drivers, headwinds and efficiency

Figure 9.3 Detail of cost change between our February 2018 SBP and the 2019/20 Strategic Plan



9.3.1 Cost drivers and headwinds

Our Strategic Business Plan, published in February 2018 set out a detailed overview of the cost changes to the System Operator function between CP5 and CP6, which includes a number of strengthening elements which we have accelerated into CP5, primarily in Capacity Planning, in response to the ORR findings in relation to a breach of the Network Rail licence.

Our plan now includes further strengthening of the team as set out in Section 6.6 including accelerated recruitment of the strengthening described within our SBP to occur within 2018/19, and the incorporation of a £2m System Operator risk provision in addition to the System Operator headroom to enable response to emerging needs and priorities.

In addition, a number of other changes to our plan have been informed by our learning from the operational implementation of the May 2018 timetable change.

This includes funding to undertake a strengthened role in railway integration in support of complex timetable change (as set out in Section 6.7.1) and the cost of a separate, but complementary, enhanced industry timetable assurance PMO (as discussed in Section 6.6.5), with sufficient resources to sustain this capability throughout CP6. Furthermore, we've included 6 FTE to undertake greater network-level planning (as set out in Section 6.1.3).

These changes have been incorporated within our core operational expenditure profile, and therefore not incorporated as headwinds. We have also indicated the impact of inflation on our plan.

9.3.2 Efficiency

As with the rest of Network Rail, the System Operator function recognises the need to demonstrate strong progress in achieving efficiencies during the remainder of CP5 and throughout CP6.

We must also respond to feedback and industry learning from the May 2018 timetable change. Our engagement with customers has identified a number of areas where we need to enhance our service offer to them. To deliver this we must continue to strengthen the function in certain areas.

Our key challenge in CP6 in terms of efficiency is therefore to enhance our productivity rather than reduce costs. In a people centric team, reducing costs can only be achieved by reducing headcount and, generally, we do not propose to do this given our customers are demanding more from us. Our key productivity gains will be through our implementation of structured continuous improvement. This will enable us to work in a more complex environment, whilst delivering enhanced outputs within existing resources.

A key aspect of our plan is to reduce our reliance on external consultants and use more internal resource. This opportunity to be cost effective has been focussed on our analytical resources in our economics team, our station capacity team and in our capacity planning team.

We are also examining the opportunity to invest in technology that could deliver efficiency gains and headcount reduction towards the end of CP6.

Theme	Area	Description	Net % change
Other(9) System Operator	Efficiency	Cost avoidance through structured continuous improvement to address the more complex environment in which we operate	0%
	Tailwind	n/a	0%
	Inefficiency	n/a	
	Headwind	Devolution of funding and specifying environment, increase in timetabling complexity and strengthening role of System Operator included within core opex plan. Costs associated with developing transformational enhancements in CP6 assumed to be delivered via recoverable work. Strategic planning work associated with HS2 introduction is no longer separately funded (HS2 fund withdrawn). Costs included in core plan.	

9.4 Risk and uncertainty in the CP6 plan

Pre-efficient costs in our plan are based on current ways of working and productivity within the System Operator and include additional scope and outputs that are required to be delivered in CP6. We have used 2018/19 prices to develop our plan, applying Retail Price Index forecasts to demonstrate a cash price.

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 is our 'submission' and represents the 'most likely outcome' for CP6. The content of our plans reflects the funding that we understand to be available in CP6. We consider this plan to be realistic and, therefore, deliverable in CP6.

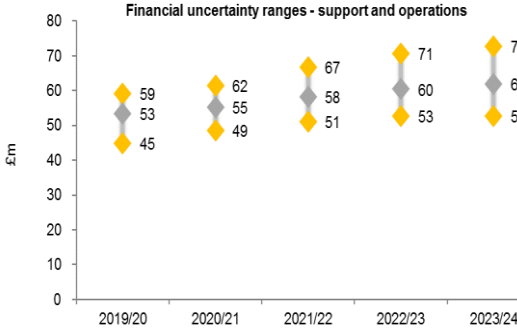
Whilst it is difficult to precisely estimate the likelihood of delivering our plan in CP6, the uncertainty ranges considered in developing our plan and assumptions outlined within Appendix B suggest that, overall, there is an 85% likelihood of the outputs in the plan being delivered for the forecast cost in our CP6 plan.

This means that there is a high likelihood that we will be able to deliver our plan for the forecast cost. The variation in the outputs that we are required to deliver, and the activity required to do so is described in the table below.

At this point it is too early to be precise about any changes to our CP6 plans as a consequence of the Williams Review, and of the internal review commissioned by Andrew Haines. The outputs may materially affect the industry structure within which we deliver, and therefore our confidence in delivery for the funding set out within this plan.

We will engage with our customers and stakeholders as part of evolving our plans in the future as the outputs of such reviews becomes clear.

9.5 Uncertainty ranges for CP6

Area	Potential range (low – spot – high)	Summary of key drivers of the uncertainty range	% of range																									
		Driver of range	Lower %	Upper %																								
Operational expenditure	 <table><caption>Financial uncertainty ranges - support and operations</caption><thead><tr><th>Year</th><th>Low</th><th>Spot</th><th>High</th></tr></thead><tbody><tr><td>2019/20</td><td>45</td><td>53</td><td>59</td></tr><tr><td>2020/21</td><td>49</td><td>55</td><td>62</td></tr><tr><td>2021/22</td><td>51</td><td>58</td><td>67</td></tr><tr><td>2022/23</td><td>53</td><td>60</td><td>71</td></tr><tr><td>2023/24</td><td>53</td><td>62</td><td>73</td></tr></tbody></table>	Year	Low	Spot	High	2019/20	45	53	59	2020/21	49	55	62	2021/22	51	58	67	2022/23	53	60	71	2023/24	53	62	73	Assume timetable activity and Calendar of Events (Appendix B) is accurate (+/- 9.46% on capacity planning).	-4.66%	4.66%
		Year	Low	Spot	High																							
		2019/20	45	53	59																							
		2020/21	49	55	62																							
		2021/22	51	58	67																							
		2022/23	53	60	71																							
		2023/24	53	62	73																							
		Use of forecasts to reflect inflation (RPI)	-2%	3%																								
		Potential vacancy gap greater than 1% across the organisation.	-2.44%	0%																								
		Plans across the organisation are aligned and deliverable (+/- 4.7% on capacity planning)	-2.33%	2.33%																								
		Forecast activity and associated cost in strengthening capability within the System Operator are correct (-30% of £34m strengthening costs)	-3%	0%																								
		Resource planned for recoverable works is deployed on recoverable works for an assumed % of time (+19% on analysis and forecasting).	0%	1.32%																								
		Continuous Modular Strategic Planning (CMSP) is able to increasingly deliver the outputs required for SOBCs) (-25 /+50% on strategy & planning SOBC costs).	-1.10%	0.57%																								
		The CP6 people and process change programme is deliverable within the core plan and the benefits are realised as expected (+/-8% on policy & programmes).	-0.59%	0.59%																								
		The policy team is adequately sized (+/- 7% on policy & programmes).	-0.54%	0.54%																								
		Uncertainty in level of franchising manager resource required (+7% on policy & programmes)	0%	0.54%																								
		More context specification requires significantly more resource to manage (+4.7% on analysis and forecasting).	0%	0.31%																								
		The MoU framework can be implemented with no further resource increases in the portfolio team or analysis & forecasting teams (+3% on policy & programmes).	0%	0.27%																								
Uncertainty in HS2 resource external to System Operator required (+/- 0.21% on full SO)	-0.21%	0.21%																										
Impact of third party funding and financing proposals on analytical activity is uncertain (+3% on analysis and forecasting).	0%	0.20%																										
Level of resource required to inform CMSP is correct (+/- 0.28% on full SO).	0%	0.14%																										
Scottish HLOS activity can be delivered through the core plan (+/-2.9% on Scotland strategy & planning).	-0.06%	0.06%																										
Accommodation costs associated with Euston House	0%	0.02%																										

Area	Potential range (low – spot – high)	Summary of key drivers of the uncertainty range	% of range																			
		Driver of range	Lower %	Upper %																		
Capital expenditure	<p>Financial uncertainty ranges - capex</p> <table><tr><th>Year</th><th>Lower Bound (£m)</th><th>Upper Bound (£m)</th></tr><tr><td>2019/20</td><td>8</td><td>10</td></tr><tr><td>2020/21</td><td>17</td><td>30</td></tr><tr><td>2021/22</td><td>22</td><td>34</td></tr><tr><td>2022/23</td><td>27</td><td>40</td></tr><tr><td>2023/24</td><td>29</td><td>41</td></tr></table>	Year	Lower Bound (£m)	Upper Bound (£m)	2019/20	8	10	2020/21	17	30	2021/22	22	34	2022/23	27	40	2023/24	29	41	Level of maturity associated with early stage estimates for capital expenditure programmes	0%	41%
		Year	Lower Bound (£m)	Upper Bound (£m)																		
2019/20	8	10																				
2020/21	17	30																				
2021/22	22	34																				
2022/23	27	40																				
2023/24	29	41																				
		Use of forecasts to reflect inflation (RPI)	-3%	4%																		

9.6 Relationship with the System Operator Scorecard

Our financial performance is measured for both our operational and capital expenditure plans, as indicated on the Tier 1 scorecard for the full function, and disaggregated as appropriate throughout the suite of scorecards.

The measures are calculated by taking our forecast expenditure in each year, and producing a metric based on a percentage variance to target:

- +/-1.5% variance to operational expenditure plans
- +/- 6% variance to capital expenditure plans

Figure 9.4 Financial performance in our scorecard

Financial Performance		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Financial Performance Measure – Opex (£m)	WORSE THAN TARGET	0.80	0.83	0.87	0.91	0.93	1.50%	1.50%	1.50%
	TARGET	0.00	0.00	0.00	0.00	0.00	0	0	0
	BETTER THAN TARGET	-0.80	-0.83	-0.87	-0.91	-0.93	-1.50%	-1.50%	-1.50%
Financial Performance Measure - Capex (£m)	WORSE THAN TARGET	0.49	1.06	1.37	1.70	1.78	6%	6%	6%
	TARGET	0.00	0.00	0.00	0.00	0.00	0	0	0
	BETTER THAN TARGET	-0.49	-1.06	-1.37	-1.70	-1.78	-6%	-6%	-6%

10. Governance & Reporting

10.1 System Operator governance framework

Acting on behalf of the whole network may sometimes mean taking challenging decisions in the best interests of the system even when these may be in conflict with the wishes of one of Network Rail's Route Businesses, a funder's aspiration, or an operator's business proposal.

We need to be seen and trusted by all stakeholders to operate on this basis. We aim to be open in our decision making, invite scrutiny, and advance network policies that command the confidence and support of our stakeholders.

Our independent supervisory mechanisms, self-imposed transparency requirements, and governing processes are crucial elements in driving the desired behaviours internally and providing our stakeholders externally with the aspired level of comfort in the decisions being taken.

As we committed during the establishment of the framework in 2018, we are planning to undertake a review of the framework following its operation in shadow mode, and changes made will be reflected in our future plans.

10.1.1 Framework principles

In order for our customers (funders, operators, Route Businesses and other infrastructure managers) to be confident in our governance, we have set out a set of clear principles to guide the establishment of the governance bodies, their relationships, the approach to reporting, and the behaviours.

Principle	Why is this important for our governance framework to be effective?
Whole industry accountability	The System Operator must be able to demonstrate openness and invite scrutiny from all its stakeholders on an equitable basis – with all its customers built into engagement activities. Reporting should include Scorecards with clear measures and customer informed targets.
Transparency	The governance framework should be clearly defined and set out, with stakeholders consulted over business plans, investments or policy that could materially impact on their businesses. There should be collective, route and stakeholder grouped channels of communication as appropriate.
An independent mind-set	The System Operator should be able to function as a distinct entity within Network Rail, and not be incentivised to favour one industry sector over another. Scorecards (and incentives) should be reviewed by a senior and independent governance body to provide support to independent behaviour.
Independent governance within Network Rail	A senior and independent governance body should also be able to review and where necessary check (for Network Rail Board-level review) any centrally proposed changes by Network Rail to the System Operator's business plans.
Separation of commercial and competing interests	The System Operator should comply with regulatory and legislative separation requirements (including those of capacity allocation bodies due to its timetabling activity), and avoid risks of commercial conflicts or advantage for any industry participants.
Fact based approaches	Decision making and advice should be high quality - informed by data and stakeholder input, and be increasingly proactive.
Using and setting best practice	The framework should apply identified best practice from similar rail bodies and System Operators from other industry sectors, and its evolution be informed by benchmarking.

10.1.2 Independent Advisory Board

The Advisory Board holds the System Operator to account, consistent with its remit, for the development and delivery of our business plan on behalf of our funders, customers and end users.

Activities include:

- Ongoing consideration of our overall performance, priorities, risks, opportunities, plans and funding, capabilities and incentives,
- Monitoring delivery through scorecards, customer surveys, etc., and
- Promoting openness, transparency and scrutiny of the System Operator's work.

The make-up of the Advisory Board is intended to reflect end beneficiaries (taxpayers, passengers and consigners) and provide high-level strategic challenge backed up with a range of technical knowledge.

The Advisory Board provides ORR with visibility through a variety of channels. In addition to the public reports of its meetings, there is direct liaison through either the MD System Operator and established regulatory meetings, or independently through the Board Chair.

10.1.3 Supporting the Advisory Board

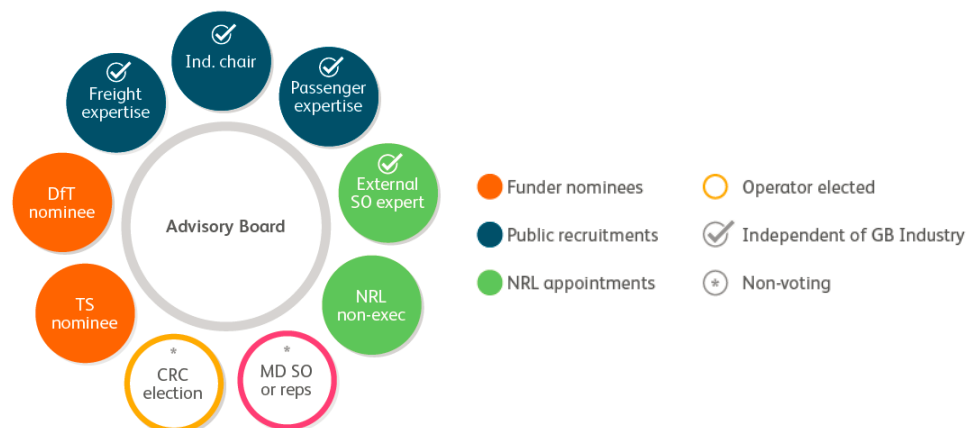
We maintain open channels of communication at local level through our route based teams and at network-wide level through industry bodies and our Standing Advisory Groups (SAGs) - one for operators and one for infrastructure managers (Route Businesses and other IMs).

The two Standing Advisory Groups, chaired by a director within the System Operator leadership team, support independent governance activity for the System Operator with dedicated channels for network-wide industry engagement.

The groups provide a forum to discuss business plans and policies, their execution, effectiveness, and ongoing engagement. We will consult the groups in a structured and regular way – meetings being held three to four times per year.

The SAGs support industry engagement, scrutiny and consultation with groups of like stakeholders. They allow for input into plans and strategies, and exchange with the System Operator's Leadership Team and the Advisory Board. SAGs are consulted on any plans that could have a significant material impact on their members' activities and can provide forums for consultation and system-level co-ordination.

Figure 10.1 Structure and roles of the Advisory Board



10.2 System Operator reporting

The System Operator measurement system enables greater transparency and accountability to our stakeholders. Our reporting framework is designed to enable visibility of our outputs and throughout our operating model as well as demonstrate the delivery of our customers' priorities.

10.2.1 System Operator scorecards

Our scorecards are intended to offer a balanced reflection of;

- Management metrics – indicators which demonstrate our position in relation to safety, financial and managerial performance, including metrics which represent the health & wellbeing of our teams and levels of customer advocacy.
- Operating model metrics – indicators which demonstrate our delivery of outputs and milestones in each section of our operational model
- Bespoke locally driven metrics – indicators which represent the priorities of our customers, varying across the network to ensure we are responsive to the needs of our customers.

Because of the diverse nature of our customer base, there are not a significant number of metrics that are of equal importance to all customers that can be displayed on a single scorecard. As a result, our scorecards reflect a tiered structure, with customer priorities demonstrated in a manner which aligns to the routes on which they operate.

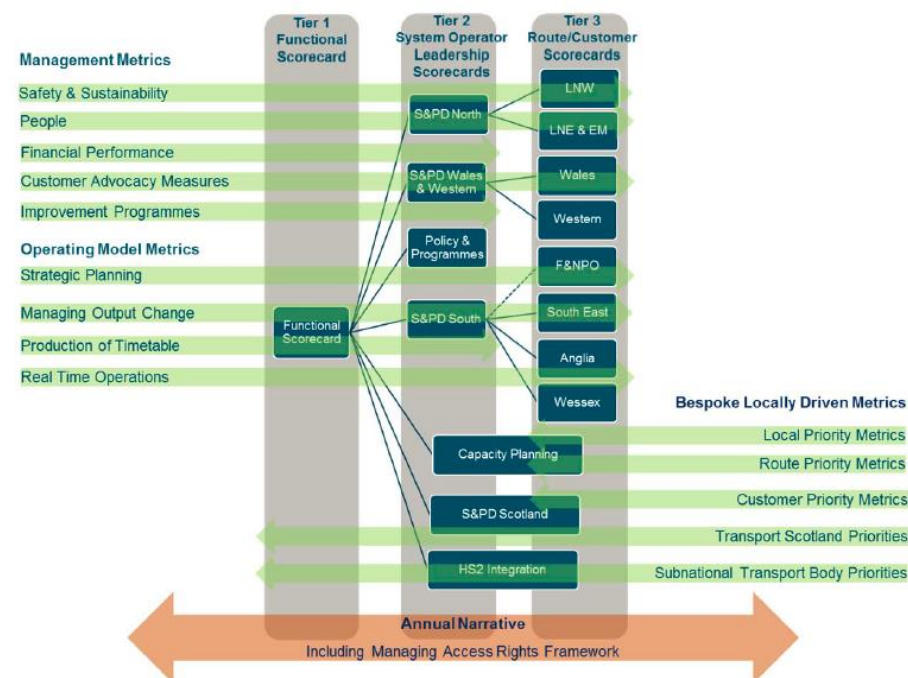
It is also important to recognise that a significant proportion of our activity does not lend itself to quantitative measurement and reporting and will require narrative context. We will therefore use a range of supplementary reporting mechanisms for more qualitative aspects of our delivery, including an annual narrative report.

As well as providing an overview of the capabilities and outcomes of the system, the System Operator's suite of reporting arrangements also provides a window for stakeholders to see our independent approach at work.

The following diagram illustrates the relationships between the scorecard

tiers and the visibility of each type of metric.

Figure 10.2 System Operator scorecard



The functional scorecard (Tier 1) broadly demonstrates our delivery at an aggregate network-wide level.

This is underpinned by Tier 2 scorecards aligning to the System Operator leadership team structure (Strategy & Planning Directors, HS2 Integration Director, Policy & Programmes Director and Capacity Planning Director), measuring specific outputs within the operational model for which these directors are accountable. These scorecards contain a number of common indicators relating to the functional scorecard and also focus on our delivery throughout the operational model at a more granular level.

Supporting the Tier 2 scorecards, we will utilise scorecards developed annually with our route and operator customers (Tier 3). These scorecards are set out in Appendix C.

We are acutely aware that customer priorities can change, as well as changes being likely to our customer base particularly in relation to rail franchisees. Therefore, this third tier of will be established annually throughout CP6.

This iterative approach will allow for the development of a suite of bespoke measures which may inform the choices of our customers in how their priorities might be measured, and allow for effective measures to be quickly cascaded across the Tier 3 scorecards. These scorecards can be used to complement the Route Businesses TOC and FOC scorecards to enable customers a complete view of how Network Rail is performing against their priorities.

10.2.2 Annual Narrative Report

We recognise that there is information that is of interest to our customers and to the regulator that does not lend itself to expression as a metric on a scorecard. This is typically information that requires narrative to lend context to an otherwise meaningless number.

Our annual narrative report will provide commentary on our delivery against our scorecard to lend context to our business performance, as well as providing information on the System Operator's progress in areas such as the management of the access rights framework, for which no industry recognised measure exists.

There may also be demand for revision and relaunch of the System Operation dashboard, an annually updated suite of cross-industry measures to demonstrate how well the rail system is operating overall. We will review this with industry stakeholders through our Standing Advisory Group structure.

The Annual Narrative Report will feature topic areas that we will develop with our customers on an annual basis to ensure that it is meaningful and valuable to them, as well as relevant to the activity undertaken in the year.

As representatives of the key customers of the report, it is important to engage with our Standing Advisory Groups to develop both the structure of the report, and the draft content before it is endorsed by the System Operator Advisory Board. We will undertake this engagement annually to enable the report to be published following conclusion of the financial year.

This engagement will enable the report to evolve and ensure that the views of our customers inform the continuous improvement of the report and the process by which we develop it.

The System Operator Annual Narrative Report for 2018/19 will be published by July 2019.

11. Developing our plan

11.1 Development of our annual plan

We will update our plan on an annual basis to reflect the outputs we will deliver as established with our customers, and the associated funding requirements.

This will align with Network Rail's business planning cycles, and will be supported by ongoing customer and stakeholder engagement to inform our plans. This engagement will be undertaken alongside our Route Businesses colleagues to enable our customers a joined up engagement experience and opportunity to inform Network Rail's strategic plans.

Each annual iteration of our plan will be used to:

- set out our key deliverables in the forthcoming year as established with our customers and funders;
- provide an updated view of our improvement programme portfolio and people strategy;
- outline scorecards to demonstrate our delivery of these outputs in the forthcoming year; and
- provide an updated view of our financial and resourcing plans.

The updated plan will be published by March for the forthcoming year, and will be used as the baseline by which change control will apply in relation to the System Operator outputs set out for the forthcoming year.

Figure 11.1 Annual business plan update process



11.2 Changing our plan

Our customers and stakeholders will be involved throughout the development of our outputs, consolidated in the metrics within the System Operator tier 1 scorecard on an annual basis. This involvement ranges from the proposed approach to govern the Long Term Planning Process to the outputs defined within the Network Code Part D.

We will continue this engagement with our customers in the management of change to our outputs throughout our operating model to ensure that changes to our outputs are consulted, and clearly communicated with both

our Advisory Board and ORR. Such changes will then be consolidated within our suite of scorecards.

The following table indicates:

- how we will establish our outputs and with whom we will engage to do so;
- the way in which these outputs will be measured, and where within the System Operator scorecard suite they appear; and
- the processes we will use to manage change to our outputs.

Table 11.1 Establishing and changing our outputs

Output	How is our activity established?	What is measured?	Where is this measured?	How would it be changed?
Continuous Modular Strategic Planning	Proposed LTPP Governance framework which oversees the development of a CMSP annual plan	Milestones delivered against the approved annual CMSP plan.	Tier 1 Scorecard – network wide Disaggregated to Tier 2 and 3	LTPP Governance framework
Project Development	Bilaterally with the relevant funder. DfT & TS portfolio overseen by the relevant Portfolio Board.	Milestones established with the relevant funder as part of progression through the relevant decision framework throughout the year.	Tier 1 Scorecard – network wide, with some priorities indicated specifically Disaggregated to Tier 2 and 3	Formal change control to milestones agreed with the relevant funder.
Franchising	Bilaterally with the franchise authority or concession authority.	Milestones established with the relevant franchise or concession authority.	Tier 1 Scorecard – network wide Disaggregated to Tier 2 and 3	High likelihood of extra-System Operator change led by the franchising or concession authority.
Event Steering Groups	Calendar of Events process established in Network Code Part D. Project plans approved at relevant ESG	Outputs established with the relevant ESG, as and when formed to an appropriate level of maturity.	Tier 1 Scorecard – network wide Some disaggregation to Tier 3 where a priority for Routes/TOCs	Calendar of Events process established in Network Code Part D includes regular review. Change planned outputs at relevant ESG meeting.

Output	How is our activity established?	What is measured?	Where is this measured?	How would it be changed?
Working Timetable	Part D requirements	Milestones reflective of the key dates in Network Code Part D	Tier 1 Scorecard Tier 2 Capacity Planning Scorecard	Changes to Part D possible through the Class Representatives Committee.
Amendments to the Timetable	Part D requirements	Milestones reflective of the key dates in Part D.	Tier 1 Scorecard Tier 2 Capacity Planning Scorecard	Changes to Part D possible through the Class Representatives Committee. Target performance levels changed by endorsement of the OPSG.
Improvement initiatives	Approval of programme milestones at Programme Board & Delivery Board	Milestones established and ratified through the relevant Programme Board for capital expenditure programmes which includes industry representatives. Non capital expenditure improvement initiatives undertaken within the System Operator through relevant governance.	Tier 1 Scorecard Tier 2 P&P Scorecard	Changes to milestones via Programme Board & System Operator Delivery Board. Changes to programme costs managed through System Operator Delivery Board.
Performance of the Timetable	Performance levels established through dialogue with the OPSG and presented to the System Operator Advisory Board through the Tier 1 Scorecard.	Delay incidents and minutes associated with timetable planning	Tier 1 Scorecard – network wide Disaggregated to Tier 2 and 3 (where considered a priority)	Dialogue with the OPSG and through review with System Operator Governance meetings.
Customer advocacy	Performance levels established through dialogue with the Standing Advisory Groups and presented to the System Operator Advisory Board through the Tier 1 Scorecard.	Customer advocacy of System Operator services measured through surveys	Tier 1 Scorecard – network wide Disaggregated to Tier 2 and 3	Dialogue with the Standing Advisory Groups and through review with System Operator Governance meetings.

12. Sign-off

This document and accompanying templates are owned by the Managing Director, System Operator.
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 Director 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:



Jo Kaye
Managing Director, System Operator

8th February 2019



James Coowar
Financial Controller

8th February 2019

Appendix A – Stakeholder Engagement

1. Scope and Methods of Engagement

a. Who are our stakeholders?

Engagement with our stakeholders is part of the day to day business of the System Operator team and includes a variety of stakeholders. The following parties have been directly engaged as part of the development of our strategic plan;

Train & Freight Operators		Funders	Local Government and Industry Groups	Others
Arriva Rail London	Merseyrail	Department of Transport	County Councils	Associated British Ports
Arriva Trains Wales	MTR Corporation	England's Economic Heartland	City Councils	Doverport
c2c	Northern Railway	Midlands Connect	City Regions	Eversholt Rail
Caledonian Sleeper	Rail Operations Group	Transport for London	Local Enterprise Partnerships	Highways England
Chiltern Railways	Southeastern	Transport for the North	Rail Delivery Group	HoverTravel
Colas Rail	Transpennine Express	Transport Scotland	Transport Focus	HS2
CrossCountry	West Midlands Trains	Transport for South East		Gatwick Airport
DB Cargo	Virgin Trains	Welsh Government		Heathrow
Devon and Cornwall				RSSB
Railways				Network Rail Routes
Direct Rail Services				
East Midlands Trains				
Freightliner				
GB Railfreight				
Greater Anglia				
Great Western Railway				
GTR				
Heathrow Express				
Keolis Amey				
London North Eastern				
Railway				

b. How have we engaged with our stakeholders?

We have looked to align our engagement with Route Business teams as far as possible, to enable a more efficient and consistent consultation process. In addition to this, we have used our regular engagement and governance meetings, such as Route Investment Review Groups, the Operational Planning Strategy Group and the Standing Advisory Group meetings to engage with our customers and stakeholders. This has been supported by a number of direct meetings throughout August, September and October 2019.

Consistent materials, with opportunity to be adapted with more localised content to discuss the priorities of individual customers, have formed the basis of our engagement. These materials have set out the changes in structure and focus of the System Operator strategic plan, the ways in which we describe and plan our outputs, and the improvement plans set out for the function.

We have also drawn from our Customer Advocacy survey, undertaken in February 2018, which offered opportunities to our customers to provide written feedback. We have considered this feedback in the development of our plan.

There have been occasions where stakeholders been unable to engage in our consultation process. This has primarily been a result of resourcing constraints; however, all material has been sent to all parties requesting any feedback.

Our Strategic Plan has featured in 3 System Operator Advisory Board meetings in the lead up to publication in March 2019, with notes of these meetings set out on the Network Rail website.

2. Outcomes of engagement

a. What are our stakeholder requirements?

The priorities of our customers are set out in Section 4 of the Strategic Plan.

It is important to note that much of our engagement has been undertaken during a challenging period for the industry, as we collectively responded to issues surrounding the operational implementation of the May 18 timetable, delivered a recovery plan for Informed Traveller, and a hybrid timetable development approach for the December 18 timetable.

The resulting focuses and priorities of our stakeholders has therefore focussed on the industry processes to develop the timetable, including;

- Strengthening timetabling resources and capability in the System Operator;
- Ensuring sufficient focus and weighting of timetabling activity in the System Operator scorecard;
- Developing timetabling technology to support improved alignment and efficiency; and
- Delivery of the Informed Traveller and working timetable processes

b. How have we prioritised stakeholder needs?

Competing stakeholder needs feature more generally in the delivery of the processes throughout the System Operator operating model (e.g. in timetable development) than in the way in which we plan to deliver and resource these processes.

We seek to engage our customers in developing our outputs throughout our operating model, for example, in identifying strategic questions for the Continuous Modular Strategic Planning annual plan, and these discussions are undertaken and recorded throughout our regular meeting structures.

The key areas of conflicting views and requirements set out by customers relate to whether timetabling capability should be devolved, or to a lesser extent, geographically dispersed amongst the routes. Our plan for CP6 currently maintains and develops our timetabling capability in Milton

Keynes, recognising the complexities of establishing a network-wide timetable and the needs of our multi-route customers.

c. How do stakeholder priorities link to our short and long-term objectives?

As set out earlier, the industry focus during the development of our Strategic Plan has prompted us to;

- Set out strengthening of our Capacity Planning teams, and to work with the Operational Planning Strategy Group to agree the key objectives of the technology development plan
- Amend our functional scorecard to introduce greater focus on timetabling activity, capability and technology
- Introduce funding to our plan to enable us to respond to the lessons learned from the operational implementation of the May 2018 timetable change, such as funding for an Industry Readiness PMO, and a strengthened System Operator role in system integration

Stakeholder priorities also help to inform the CMSP Annual Plan, and in informing the development activity that we undertake with our funders. The former is set out throughout Appendix E, setting out the strategic questions we will answer throughout 2019/20 to consider the future needs of the network and options for funders and specifiers.

3. Ongoing engagement

Further engagements are planned throughout February and March 2019 to set out the high-level changes detailed within this strategic plan.

We plan a further opportunity for customers to respond to our Customer Advocacy survey in February 2019, which we plan to follow up with a face-to-face discussion to gain a richer level of feedback in September 2019.

We will continue to utilise our regular engagement and governance meetings, such as Route Investment Review Groups, the Operational Planning Strategy Group and the Standing Advisory Group meetings to engage with our customers and stakeholders, and to further develop our strategic plan.

We will also continue to discuss our plan with the System Operator Advisory Board, particularly as we evaluate any impact of the 100 Day Review activity, and outputs of the Williams Review.

Appendix B – Assumptions

Reference	Topic	Assumption	Areas of spend impacted
1	Government	There is no significant change in national or devolved government administration, strategy or policy.	All aspects of the plan
2	Network Rail structure	System Operator remains part of Network Rail, albeit separately regulated.	Opex
3	Industry structure	Whilst aware of, and contributing to, the Williams Review and Andrew Haines' internal review, as of January 2019 for the purposes of this plan we assume there is no structural change to the industry. The key organisations, their accountabilities and the overall industry architecture (regulatory, operational etc.) remain as they are today.	All aspects of the plan
4	Operational Model	Whilst aware of, and contributing to, the Williams Review and Andrew Haines' internal review, as of January 2019 for the purposes of this plan we assume that the operational model, accountabilities and organisation of the System Operator and its interfaces with Route Businesses do not materially change, and the number of Routes remains as at January 2019. We also assume that the number of other Infrastructure Managers emerges as expected, and that existing industry processes such as those set out in the Network Code remain the same.	Opex
5	Activity Level	Our organisation design and size and proposed expenditure is sufficient to deliver our expected commitments to DfT and Transport Scotland. We have assumed to recruit adequate resources to populate the organisation design and that any vacancy gap will not be material enough to undermine the delivery of these commitments.	Opex
6	Performance	Performance forecasts will be heavily influenced by the effectiveness of the Industry Timetable Assurance PMO at controlling and de-risking timetable change levels, and by the complexity of timetables in 2018/19 and 2019/20 (principally around Thameslink, Crossrail, Northern Hub and on the London Orbital Routes). A range in forecasts has been developed to reflect this, of which the middle of the range is indicated in our Strategic Plan. The high end range (an entry point of 26,401 incidents p/a) may inform our forecasts as we develop our plans in respect of timetable performance.	Train performance
7	Activity Level	Enhancement activity will be of a level commensurate with the funding set out in the Statements of Funds Available provided by the DfT and TS, and with the delivery of HS2 in line with current plans; continuing development of Crossrail 2 and NPR; and development of the “pipeline” for CP7.	Opex and Capex

Reference	Topic	Assumption	Areas of spend impacted
8	Funding framework	Major Projects will continue to be separately funded in CP6 (e.g. Northern Powerhouse Rail, East Midlands Hub, East West Rail Central Section, Crossrail 2), and the Investment Decision Framework (or equivalent) will be used to govern associated enhancement spend.	Opex and Capex
9	Funding framework	The funding of enhancements will follow the framework described in the MoU between DfT and Network Rail, and the TS Capital Investment Strategy.	Capex
10	Activity Level	Our operational expenditure includes £10m to develop the DfT/ TS enhancement portfolio to SOBC/SBC in addition to any other development activity that maybe separately funded by the DfT/ TS or other third parties	Opex
11	Development funding	There will be capex development funding provided to the System Operator to develop the pipeline priorities beyond SOBC/SBC.	Opex and Capex
12	Activity Level	We have not included additional resource for third party funded proposals. If additional resources are required we will require additional funding to secure these resources and we are assuming the third party promoter will fund this.	Opex
13	Activity Level	The forecast calendar of events is, and known timetable activities are, as stated in this appendix. Future changes to the calendar of events may result in the need for additional funds to be made available for System Operator costs	Opex
14	Activity Level	The capacity of our timetabling capability is finite, and nor is it always as simple as adding more planning resource to increase levels of timetable change. Our plan assumes delivery of timetable activity commensurate with the Calendar of Events, the submission of an appropriate Bid Quality from Operators and accommodation of a reasonable level of change once the timetable is established. Should levels of change be greater than we have assumed, we may require further funding to expand the capacity of our timetabling capability	Opex
15	Franchising	Our Plan for CP6 is informed by the most recent version of the DfT's Rail Franchise Schedule (July 2017 version) and by Transport Scotland's plans for the next ScotRail and Caledonian Express franchises. We know there are some changes to the DfT's Schedule, and we have adjusted our planned activities to take into account those changes which are in the public domain.	Opex
16	Funding framework	The buying in of services to support early stage project development (pre SOBC/SBC) will be funded through core opex. Our operational expenditure includes £10m to develop the DfT/ TS enhancement portfolio to SOBC/SBC in addition to any other development activity that maybe separately funded by the DfT/ TS or other third parties	Opex

Reference	Topic	Assumption	Areas of spend impacted
17	Deliverability	The Offering Rail Better Information Services (ORBIS) programme will deliver a credible infrastructure capability model for re-use by other Network Rail functions, enabling integration with the System Operator portfolio of capital investments.	Capex
18	Funding framework	The resources in the System Operator to support HS2 strategic planning works (including HS2 phase 2), funded via the HS2 ring-fenced fund in CP5, will be funded through core opex in CP6.	Opex
19	Deliverability	There is sufficient resource in the supply chain to support the level of anticipated development activity indicated by the Statements of Funds Available provided by DfT and TS, and the requirements of the Sub National Transport Bodies.	Opex and Capex
20	Deliverability	There will be sufficient procurement resource available within Network Rail to support our procurement needs.	Opex
21	Performance	CP6 incident and minute calculation methods (for example, delay per incident ratios and delay thresholds prior to creation of a delay incident) don't change and affect delay incident forecasts.	Train performance
22	HS2	HS2, and other new lines, progress according to current publicly planned timescales and assumptions, with no fundamental change to funding model.	Opex
23	Funding framework	Enhancements development activity undertaken in support of non-DfT/TS funded programmes will be fully recoverable.	Opex
24	Activity Level	The MOU frameworks (or similar) can be implemented with no further resource increases.	Opex
25	Activity Level	The resources required to support CMSP is the same as that required to support the existing approach to the industry LTPP.	Opex
26	Misc.	Print / publication costs remain the same (quantity of print) owing to the reluctance or inability of the industry to invest in hand held technologies.	Opex
27	Deliverability	The opex funded improvement programmes are deliverable within the existing headcount.	Opex
28	Charging assumption	Parties within Network Rail will charge at standard Oracle Time & Labour hourly rates. External rates as set out by the ORR will apply to external parties.	Opex
29	Charging assumption	There will be no 'cross-charging' between System Operator teams unless for a third party funded project.	Opex

Reference	Topic	Assumption	Areas of spend impacted
30	Charging assumption	Capacity planning Opex budget is set at a level sufficient to deliver outputs in line with the Calendar of Events that is known about at the time of authoring the Strategic Plan. Material changes to the enhancement and renewals programmes which may require re-work of capacity studies or timetable development activity, may be required to fund this incremental work.	Opex
31	Corporate assumption	10% of all headcount will require a new laptop in CP6.	Opex
32	Corporate assumption	50% of all headcount will require a new mobile phone.	Opex
33	Corporate assumption	30% of all headcount will require subscriptions.	Opex
34	Development Funding	25% of analysis and forecasting working days can be recovered through delivery of non System Operator commissioned activity	Opex
35	Reporting	Network Rail will not be reporting Network Availability by the Possession Disruption Index metrics in CP6. The Network Availability Reporting System (NARS) will be redundant by the start of CP6. Any requirement to report Network Availability (other than through the mechanisms proposed in our Scorecard supporting document) will require additional investment as outlined in Appendix D.	Capex and Opex
36	Funding framework	Capacity studies in support of engineering access are recoverable against projects requiring studies.	Opex
37	Deliverability	Short form strategy activities are aligned and deliverable.	Opex
38	Stakeholder Engagement	Where requirements for stakeholders and other parties to provide data exists, this will be available to us when required.	Capex and Opex
39	Cost assumption	In developing an early stage cost estimate for the migration to an industry planning platform, we have assumed that this constitutes wider industry use of TPS, including adaptation of hardware, servers and support costs for wider industry use.	Capex

The following Calendar of Events (and associated register of timetable changes which have not been assessed as Events) underpins assumption 13 within the assumptions log. It should be noted that the presence of a service change in the Calendar of Events does not constitute a commitment to process or deliver a timetable offer reflecting that change.

The Calendar is shared as a resource planning assumption. In some cases, changes or events in the list will not yet have access rights or for example will not have been through performance impact assessment or operational assessment at TCRAG (Timetable Change Risk Assessment Group). Based on the events and changes currently contained within the COE we will have resource to undertake no more than 5 ESG's in parallel .

Calendar of Events				
Expected Timetable Implementation Date	Event	Type of Event	ESG	ESG No.
December 2019	Great Western Route Modernisation Configuration State C: Crossrail Full Service West - including services to Reading	Enhanced Infrastructure	Western & South Wales	2
	North of England - TransPennine Express and Northern franchise commitments. New rolling stock and TransPennine Express services on the East Coast Main Line also introduction of Northern Connect services	Timetable / Infrastructure Change	North of England	3
	Thameslink Programme Key Output 2 - up to 24 trains per hour between Blackfriars & St Pancras International and reconstructed London Bridge and Redhill capacity enhancement	Enhanced Infrastructure	Thameslink	4
	Southampton - West Midlands Freight train lengthening	Enhanced Infrastructure	Southampton - West Midlands	6
	Full Crossrail Service East, including services to Shenfield, Liverpool Street & Abbey Wood. Greater Anglia timetable recast and the introduction of new rolling stock - phase 1	Enhanced Infrastructure, Timetable & Rolling stock	Anglia	7
May 2020	Greater Anglia timetable recast and the introduction of new rolling stock - phase 2	Timetable & Rolling stock	Anglia	7
December 2020	Introduction of a 6th hourly East Midlands franchise train service on the Midland Main Line to/from London. Capacity improvements between Bedford and Kettering/ Corby	Timetable / Infrastructure Change	East Midlands	8
	Greater Anglia timetable recast and the introduction of new rolling stock - phase 3	Timetable	Anglia	7
May 2021	New East Coast Main Line timetable	Timetable / Infrastructure Change	East Coast	9

Changes from Draft December 2019 version are shown in red

Changes which are not Events				
Expected Timetable Implementation Date	Change	Type of Change	End Date	Reason for Change not being an Event
December 2019	A21, Aberdeen to Inverurie ½ hourly service introduced	Enhanced service from infrastructure introduced Sept '19	Dec-19	Timetable changes expected - insufficient to qualify as an Event
	New Dunbar down platform	Enhanced infrastructure	Dec-19	Timetable changes expected - insufficient to qualify as an Event
	EGIP Key Output 4 - Completion of Glasgow Queen Street work to enable 8 car trains	Enhanced infrastructure	Dec-19	Timetable changes expected - insufficient to qualify as an Event
	Cross Country franchise	New franchise	Dec-19	Extent and timing of timetable change(s) not currently known
	Felixstowe Branch enhancement	Enhanced Infrastructure	Dec-19	Timetable changes expected - insufficient to qualify as an Event
	East London Line enhanced frequency, 2 additional trains per hour via New Cross Gate to Crystal Palace	Timetable, Enhanced infrastructure & Rolling stock	Dec-21	Extent and timing of timetable change(s) not currently known
	Earlier first trains and more frequent services on Sundays across Wales & Borders	New franchise	Dec-19	Timetable change expected - insufficient to qualify as an Event
	Cardiff Central - Bridgend via South Wales Main Line (all Operator services) - consistent 4tph.	New franchise	Dec-19	Timetable change expected - insufficient to qualify as an Event
	Cardiff Central - Holyhead - quicker journey times and re-timings.- likely to also impact South Wales - Manchester services as stopping patterns amended.	New franchise and new rolling stock	Dec-19	Timetable change expected - insufficient to qualify as an Event
	Aberystwyth - Shrewsbury - new station at Bow Street opens March 2020.	New franchise	Dec-19	Timetable change expected - insufficient to qualify as an Event
	Kings Cross area re-modelling	Enhanced Infrastructure	May-20	Not expected to drive significant timetable change
May 2020	South Western Railway new rolling stock and timetable change	Timetable & Rolling stock	May-20	Timetable changes expected - insufficient to qualify as an Event
	Gatwick Airport Station Upgrade - Platform 7 and Down Platform Loop out of use	Restricted Infrastructure	Mar-22	Timetable change expected - insufficient to qualify as an Event
December 2020	Extension of Gospel Oak - Barking services to Barking Riverside	Enhanced infrastructure	Dec-20	Extent and timing of timetable change(s) not currently known
	Watford Junction-Croxley Link. Improved connectivity between LU Metropolitan line and main line services	New Line	Dec-20	Timetable changes expected - insufficient to qualify as an Event
	Brighton Main Line Upgrade - Commencement of Disruptive Access	Restricted infrastructure	Dec-28	Extent and timing of timetable change(s) not currently known
	Intercity East Coast Partnership	New franchise	Dec-20	Extent and timing of timetable change(s) not currently known
	Great Western Franchise	Franchise extension	Apr-20	Extent and timing of timetable change(s) not currently known
	Leeds Station Capacity Improvements (Phase 1-3) - Platform 0	Enhanced Infrastructure	Dec-20	Timetable changes expected - insufficient to qualify as an Event
	Gatwick Airport Station Upgrade - Platforms 5 & 6, Down Fast and Reversible Loop out of use for 12 months	Restricted Infrastructure	Dec-21	Timetable change expected - insufficient to qualify as an Event
	c2c timetable recast and Beam Park station opening	Timetable	Dec-20	Extent and timing of timetable change(s) not currently known
	South Western Railway new rolling stock	Timetable & Rolling stock	Dec-20	Extent and timing of timetable change(s) not currently known
	The introduction of 1tph between Avonmouth and Bristol TM and 1tph between Severn Beach and Bath Spa as part of MetroWest	Enhanced infrastructure	Dec-20	Extent and timing of timetable change(s) not currently known
	East Midlands Franchise Train Service Requirement 1	Timetable	Dec-20	Extent and timing of timetable change(s) not currently known

Changes which are not Events				
Expected Timetable Implementation Date	Change	Type of Change	End Date	Reason for Change not being an Event
May 2021	Thameslink, Southern & Great Northern Franchise	New franchise	Sep-21	Extent and timing of timetable change(s) not currently known
	West Midlands franchise increased service level including Sundays	Timetable	May-21	Extent and timing of timetable change(s) not currently known
	Old Oak Common Station new station	Enhanced infrastructure	May-21	Extent and timing of timetable change(s) not currently known
	Bristol East Junction enhancement	Enhanced infrastructure	May-21	Extent and timing of timetable change(s) not currently known
	The introduction of 1tph between Portishead and Bristol TM, 1tph Yate to Bristol TM and 1tph Henbury to Weston-Super-Mare (this replaces the current Weston-Super-Mare to Bristol Parkway service) as part of MetroWest	Enhanced infrastructure, New Line, rolling stock and & TT changes	May-21	Extent and timing of timetable change(s) not currently known
	Cardiff Central/Newport - Ebbw Vale	New franchise and enhanced infrastructure.	May-21	Extent and timing of timetable change(s) not currently known
December 2021	Chiltern Franchise	New franchise	Dec-21	Extent and timing of timetable change(s) not currently known
	East Midlands Franchise Train Service Requirement 2	Timetable	Dec-21	Extent and timing of timetable change(s) not currently known
	Wrexham - Bidston frequency enhancement (2 trains per hour)	New franchise	Dec-21	Extent and timing of timetable change(s) not currently known
May 2022	None			
December 2022	East London Line enhanced frequency to Clapham Junction	Timetable, Enhanced infrastructure & Rolling stock	Dec-22	Extent and timing of timetable change(s) not currently known
	East West Rail, Bicester Village – Bedford operation	New and enhanced infrastructure	Dec-22	Extent and timing of timetable change(s) not currently known
	South Eastern Franchise - new timetable	Timetable	Dec-22	Extent and timing of timetable change(s) not currently known
	Nexus Tyne & Wear Metro: new train fleet and timetable change	Timetable & Rolling stock	Dec-22	Extent and timing of timetable change(s) not currently known
May 2023	Transpennine Express Franchise	New franchise	Apr-23	Extent and timing of timetable change(s) not currently known
May 2025	Northern Franchise	New franchise	Apr-25	Extent and timing of timetable change(s) not currently known
December 2026	Transpennine Route Upgrade	Enhanced infrastructure and Rolling Stock Changes	Dec-26	Likely to become an Event when details confirmed
December 2027	Western Rail Link to Heathrow	New infrastructure	Dec-27	Extent and timing of timetable change(s) not currently known

Changes from Draft December 2019 version are shown in red

Appendix C – 2019/20 Scorecards

Tier 1 – System Operator Functional Scorecard

Delivering an improved timetable service	PRP %	WORSE	TARGET	BETTER
WTT production milestones	3.5%		4	
TW-12 compliance	3.5%	80%	90%	100%
Bid to offer cycle (4 weeks)	3.5%	90%	95%	100%
Event Steering Group Outputs	3.5%	80%	90%	100%
Whole System Modelling programme (milestones achieved)	3.5%	80%	90%	100%
Train Planning System programme (renewal & enhancement) (milestones achieved)	35%	3.5%	80%	90%
Progress of technology feasibility plans (feasibility plan progress)	3.5%	80%	90%	100%
Network Code Part D review (milestones achieved)	3.5%	80%	90%	100%
Operational planner vacancy gap	3.5%	8%	6%	4%
Capacity Planning capability	3.5%	280	310	340
Safety	PRP %	WORSE	TARGET	BETTER
Trains planned through possessions	10%	5.0%	310	295
Close calls (% close calls closed within 90 days)	5.0%	80	85	90
Timetable performance	PRP %	WORSE	TARGET	BETTER
Impact on train performance (incidents)	10%	10.0%	24,105	22,957
Impact on train performance (delay minutes)			340,000	323,838
Strategic Planning	PRP %	WORSE	TARGET	BETTER
Strategic planning milestones (annual plan - milestone delivery)	10%	80%	90%	100%
Managing output changes to the network	PRP %	WORSE	TARGET	BETTER
Transport Scotland (funded project development milestones achieved)	1.67%	90%	95%	100%
Subnational Transport Body Priorities (funded project development milestones achieved)	1.67%	90%	95%	100%
Welsh Government/ Transport for Wales (funded project development milestones achieved)	1.67%	90%	95%	100%
DfT Project Development Milestones (funded project development milestones achieved)	10%	1.67%	90%	95%
Franchising Milestones	1.67%	90%	95%	100%
HS2 milestones	1.67%	90%	95%	100%
Customer advocacy	PRP %	WORSE	TARGET	BETTER
Routes	2.50%	TBC	TBC	TBC
Operators	2.50%	TBC	TBC	TBC
Funders and franchising authorities	10%	2.50%	TBC	TBC
Other infrastructure managers	2.50%	TBC	TBC	TBC
Improvement programmes	PRP %	WORSE	TARGET	BETTER
Improvement initiative milestones; End to End, SOAR, CI, ESPD, Business Planning (key milestones achieved)	5%	5.0%	80%	90%
Finance	PRP %	WORSE	TARGET	BETTER
Financial performance measure – opex (£m) (variance)	10%	5.0%	0.80	0.00
Financial performance measure – capex (£m) (variance)	5.0%	0.49	0.00	-0.49

Tier 2 – Capacity Planning Director

Delivering an improved timetable service	WORSE	TARGET	BETTER
WTT production milestones (D26 & D40)		4	
TW-12 compliance	80%	90%	100%
Bid to offer cycle (4 weeks) (NR variations)		95%	
Whole System Modelling programme (<i>milestones achieved</i>)	80%	90%	100%
Investing in Timetable Planning Technology (<i>milestones achieved</i>)	80%	90%	100%
NWTT Development Progress	80%	100%	
Timetable Performance 502a Incidents	24,105	22,957	21,809
Timetable Performance 502a Minutes	340,000	323,838	307,646
Safety	WORSE	TARGET	BETTER
Work related absence		0.69	
Sustainability - supporting our communities (0.5 volunteer days per employee per year)		10	
Trains planned foul of possessions (all trains)		295	
Close calls closed within 90 days		85%	
Passenger Trains overlength platforms		104	
ENF code compliance	80%	90%	100%
People	WORSE	TARGET	BETTER
Staff turnover		10%	
Operational Planner vacancy gap	8%	6%	4%
Percentage of the team competent against role profile		85%	
Planner Resource Capability	280	310	340
Your Voice Action Planning	60%	80%	100%
Finance	WORSE	TARGET	BETTER
Financial performance measure – opex (£k)	0.36	0.00	-0.36
Financial performance measure – capex (£k)	0.42	0.00	-0.42

Tier 2 – Policy & Programmes Director

Safety & Sustainability	WORSE	TARGET	BETTER
Everyone home safe every day <i>(work related absence incidents - total)</i>	5.09	4.85	4.61
Sustainability - supporting our communities <i>(0.5 volunteer days per employee per year)</i>	46.08	48.5	50.93
Finance	WORSE	TARGET	BETTER
Financial performance measure – opex (£m)	0.1	0	-0.1
Financial performance measure – capex (£m)	0.04	0	-0.04
People	WORSE	TARGET	BETTER
Policy & Programmes People Plan <i>(milestones achieved)</i>	60%	80%	100%
Policy & Programmes key workstreams	WORSE	TARGET	BETTER
SO Business Planning <i>(milestones achieved)</i>	80%	90%	100%
End-to-end Programme <i>(milestones achieved)</i>	80%	90%	100%
Continuous Improvement Plan <i>(milestones achieved)</i>	80%	90%	100%
Sale of Access Rights Programme <i>(milestones achieved)</i>	80%	90%	100%
Policy & communications	WORSE	TARGET	BETTER
Policy Delivery Plan <i>(milestones achieved)</i>	80%	90%	100%
Network Code Part D Review <i>(milestones achieved)</i>	80%	90%	100%
Communications KPIs <i>(average on track per period)</i>		4	
Client portfolio	WORSE	TARGET	BETTER
Portfolio Board Operation <i>(Quality of service & information)</i>		TBC	
Network Services Portfolio Board Co-ordination <i>(materials developed)</i>		11	
Network Portfolio Definition Board Co-ordination <i>(materials developed)</i>		4	
Analysis and Economics	WORSE	TARGET	BETTER
Strategic Planning Milestones <i>(milestones achieved)</i>	80%	90%	100%
Managing Output Change Milestones <i>(milestones achieved)</i>	90%	95%	100%
Other Milestones <i>(milestones achieved)</i>	80%	90%	100%
Customer Satisfaction <i>(% customers satisfied or above)</i>	80%	90%	100%
External governance activities	WORSE	TARGET	BETTER
Standing Advisory Group meetings & outputs		6	

Tier 2 – HS2 Integration Director

HS2 integration planning	WORSE	TARGET	BETTER
HS2 Milestones - Delivery of Tier 1 scorecard milestones	90%	95%	100%
Euston - Delivery of RECS milestones	n-2	n-1	n
The Asset - Delivery of HS2 integration outputs	n-2	n-1	n
The Plan - Delivery of HS2 integration outputs	n-2	n-1	n
The Operation - Delivery of HS2 integration outputs	n-2	n-1	n
The Contract - Delivery of HS2 integration outputs	n-2	n-1	n
The Passenger - Delivery of HS2 integration outputs	n-2	n-1	n
Strategic Planning - Alignment of strategic planning outputs with HS2 integration	3.0	3.5	4.0
System Migration Path - Overall maturity of key integration points	TBC	TBC	TBC
Customer advocacy	WORSE	TARGET	BETTER
Team Advocacy (Routes) - Local advocacy of Route based stakeholders	3.5	4.0	4.5
Team Advocacy (DfT) - Local advocacy of DfT stakeholders	3.5	4.0	4.5
Team Advocacy (WCP) - Local advocacy of WCP stakeholders	3.5	4.0	4.5
Team Advocacy (HS2) - Local advocacy of HS2 Limited stakeholders	3.5	4.0	4.5
Finance	WORSE	TARGET	BETTER
Finance - Financial performance measure (HS2 Integration team opex)	0.02	0.00	-0.02
Safety, Sustainability and People	WORSE	TARGET	BETTER
Engagement - Completion of Your Voice action plans	60%	80%	100%
Sustainability - Supporting our communities (volunteer days per employee per year)	0.0	0.5	1.0
Leadership - Adherence to NR performance management process	80%	90%	100%
Feedback - Participation in the HS2 Integration team satisfaction survey	80%	90%	100%

Tier 2 –S&P Director North

Strategic Planning	WORSE	TARGET	BETTER
Strategic Planning Milestones LNE & EM <i>(annual plan)</i>	80%	90%	100%
Strategic Planning Milestones LNW <i>(annual plan)</i>	80%	90%	100%
Managing Output Changes to the network	WORSE	TARGET	BETTER
Midlands connect <i>(milestones achieved)</i>	90%	95%	100%
TfN <i>(milestones achieved)</i>	90%	95%	100%
England's Economic Heartland <i>(milestones achieved)</i>	90%	95%	100%
DfT project development <i>(milestones achieved)</i>	90%	95%	100%
LNE & EM project development <i>(milestones achieved)</i>	90%	95%	100%
LNW project development <i>(milestones achieved)</i>	90%	95%	100%
HS2 (both core and ONW) <i>(milestones achieved)</i>	90%	95%	100%
Customer advocacy	WORSE	TARGET	BETTER
Routes	TBC	TBC	TBC
Operators	TBC	TBC	TBC
Funders	TBC	TBC	TBC
Other infrastructure Managers	TBC	TBC	TBC
Finance	WORSE	TARGET	BETTER
Financial performance measure – opex (£k)	60.00	0.00	-60.00
Safety, Sustainability and People	WORSE	TARGET	BETTER
Close calls		85%	
Work related absence	2.84	2.70	2.57
Health, Safety and Wellbeing Plan milestones	80%	90%	100%
Sustainability - supporting our communities (0.5 volunteer days per employee per year)	25.65	27.00	28.35
Your Voice Action Planning	60%	80%	100%
Diversity & inclusion Plan milestones	80%	90%	100%

Tier 2 – S&P Director South

Strategic Planning	WORSE	TARGET	BETTER
Strategic Planning Milestones Anglia <i>(annual plan)</i>	80%	90%	100%
Strategic Planning Milestones South East <i>(annual plan)</i>	80%	90%	100%
Strategic Planning Milestones Wessex <i>(annual plan)</i>	80%	90%	100%
Strategic Planning Milestones FNPO <i>(annual plan)</i>	80%	90%	100%
Managing Output Changes to the network	WORSE	TARGET	BETTER
TfL development milestones <i>(milestones achieved)</i>	90%	95%	100%
DfT project development <i>(milestones achieved)</i>	90%	95%	100%
Crossrail 2 development <i>(milestones achieved)</i>	90%	95%	100%
Brighton Main Line development <i>(milestones achieved)</i>	90%	95%	100%
Cambridge South Project <i>(milestones achieved)</i>	90%	95%	100%
Southern Rail Heathrow Connection Output Spec <i>(milestones achieved)</i>	90%	95%	100%
Woking GRIP 3 development <i>(milestones achieved)</i>	90%	95%	100%
Network Change - Improving quality and readiness of proposals <i>(milestones)</i>		TBC	
Refranchising Milestones - Cross Country <i>(milestones)</i>	80%	90%	100%
Refranchising Milestones - Thameslink, Southern & Great Northern <i>(milestones)</i>	80%	90%	100%
Refranchising Milestones - South West <i>(milestones)</i>	80%	90%	100%
Refranchising Milestones - East Anglia <i>(milestones)</i>	80%	90%	100%
Benefits Realisation <i>(to be developed)</i>		TBC	
Customer advocacy	WORSE	TARGET	BETTER
Routes	TBC	TBC	TBC
Operators	TBC	TBC	TBC
Funders	TBC	TBC	TBC
Other infrastructure Managers	TBC	TBC	TBC
Finance	WORSE	TARGET	BETTER
Financial performance measure – opex (£k)	50	0.00	-50
Safety, Sustainability and People	WORSE	TARGET	BETTER
People Plan - incorporating Training & Development, Engagement, D&I and H&W pla	60%	80%	100%
Close calls		85%	
Work related absence	2.84	2.70	2.57
Sustainability - supporting our communities (0.5 volunteer days per employee per year)	25.65	27.00	28.35
Your Voice Action Planning	60%	80%	100%

Tier 2 – S&P Director Wales & Western

Delivering an improved timetable service	WORSE	TARGET	BETTER
Better Every Day - Timetable Improvement <i>(milestones achieved)</i>		TBC	
Engaging Route Businesses earlier in Timetable Planning <i>(milestones achieved)</i>		TBC	
Strategic Planning	WORSE	TARGET	BETTER
Strategic Planning Milestones Wales <i>(annual plan)</i>	80%	90%	100%
Strategic Planning Milestones Western <i>(annual plan)</i>	80%	90%	100%
Managing Output Changes to the network	WORSE	TARGET	BETTER
Welsh Government/ Transport for Wales <i>(funded project development milestones achieved)</i>	90%	95%	100%
DfT Project Development Milestones - Western <i>(funded project development milestones achieved)</i>	90%	95%	100%
DfT Project Development Milestones - Wales & Borders <i>(funded project development milestones achieved)</i>	90%	95%	100%
Other funder development milestones - Western <i>(funded project development milestones achieved)</i>	90%	95%	100%
Other funder development milestones - Wales & Borders <i>(funded project development milestones achieved)</i>	90%	95%	100%
Network Change - Improving quality and readiness of proposals <i>(milestones)</i>		TBC	
Refranchising & Franchise Change Milestones - Wales <i>(milestones)</i>	80%	90%	100%
Refranchising Milestones - Western <i>(milestones)</i>	80%	90%	100%
Customer advocacy	WORSE	TARGET	BETTER
Routes	TBC	TBC	TBC
Operators	TBC	TBC	TBC
Funders	TBC	TBC	TBC
Other infrastructure Managers	TBC	TBC	TBC
Finance	WORSE	TARGET	BETTER
Financial performance measure – opex (£k)	40.00	0.00	-40.00
Safety, Sustainability and People	WORSE	TARGET	BETTER
Close calls		85%	
Work related absence	1.16	1.10	1.05
Sustainability - supporting our communities (0.5 volunteer days per employee per year)	10.45	11.00	11.55
Your Voice Action Planning	60%	80%	100%
Better Every Day - # people trained in continuous improvement		TBC	

Tier 2/3 – S&P Director Scotland

Strategic Planning	WORSE	TARGET	BETTER
Strategic Planning Milestones <i>(annual plan)</i>	80%	90%	100%
Managing Output Changes to the network	WORSE	TARGET	BETTER
Growing the Lothians and Borders	90%	95%	100%
Scotland East to England Connectivity	90%	95%	100%
Seven Cities Connectivity (Glasgow - Perth)	90%	95%	100%
East Kilbride/Barrhead Corridor Enhancement	90%	95%	100%
Edinburgh Waverley Western Approach Enhancement	90%	95%	100%
Far North Line Enhancement	90%	95%	100%
Central Scotland Gauging Enhancement	90%	95%	100%
Customer priorities	WORSE	TARGET	BETTER
ScotRail Journey Time franchise requirements <i>SO reporting on progress and delivering its obligations from the industry plan.</i>		TBC	
Freight Average Speed requirements <i>SO reporting on progress and delivering its obligations from the industry plan.</i>		TBC	
Customer advocacy	WORSE	TARGET	BETTER
Routes		TBC	
Operators		TBC	
Funders		TBC	
Other infrastructure Managers		TBC	
Finance	WORSE	TARGET	BETTER
Financial performance measure – opex (£k)	30.00	0.00	-30.00
Safety, Sustainability and People	WORSE	TARGET	BETTER
Work related absence	0.74	0.70	0.67
Sustainability - supporting our communities <i>(0.5 volunteer days per employee per year)</i>	6.65	7.00	7.35
Your Voice Action Planning	60%	80%	100%

Tier 3 - Anglia Route

Safety & Sustainability	WORSE	TARGET	BETTER
Everyone home safe every day (work related absence incidents - total)		TBC	
Sustainability - supporting our communities (0.5 volunteer days per employee per year)		TBC	
Finance	WORSE	TARGET	BETTER
Financial performance measure – opex (£m)		TBC	
People	WORSE	TARGET	BETTER
Your Voice action planning (Anglia - milestone delivery)	80%	90%	100%
Train Performance	WORSE	TARGET	BETTER
Impact on train performance (delay minutes)		TBC	
Impact on train performance (incidents)		TBC	
Planning a better network	WORSE	TARGET	BETTER
Strategic planning milestones (annual plan - milestone delivery)	80%	90%	100%
Managing output changes to the network	WORSE	TARGET	BETTER
Department for Transport (funded project development milestones)	90%	95%	100%
Customer priorities	WORSE	TARGET	BETTER
Pulse Check results (linked to Route led survey which is inclusive of SO)	3.0	3.5	4.0
OMR and enhancement alignment	50%	75%	100%
Cambridge South GRIP 2 stage gate	90%	95%	100%
Customer advocacy	WORSE	TARGET	BETTER
Routes		TBC	
Operators		TBC	
Funders		TBC	
Other infrastructure managers		TBC	

Tier 3 - FNPO Route

Strategic Planning	WORSE	TARGET	BETTER
Strategic Planning Milestones FNPO <i>(annual plan)</i>	80%	90%	100%
Managing Output Changes to the Network	WORSE	TARGET	BETTER
FNPO project development <i>(milestones achieved)</i>	90%	95%	100%
Benefits realisation of SFN schemes		TBC	
Customer Priorities	WORSE	TARGET	BETTER
Colas: RSB Response time <i>(days)</i>	15	10	5
Colas: STP Response <i>(% on time)</i>	70%	80%	90%
Colas: Informed Traveller Incidents	26	13	0
Colas: Strategic priorities workshops	2	3	4
Colas: Strategic priorities actions <i>(actions from workshops)</i>	70%	80%	90%
CrossCountry: Derby-Newcastle journey time influence		TBC	
CrossCountry: Strategic planning workshops		TBC	
DB Cargo: TW-12 Compliance	80%	90%	100%
DB Cargo: RSB Response <i>(days)</i>	15	10	5
DB Cargo: Charter Response <i>(% on time)</i>	45%	55%	65%
DB Cargo: Late Notice Change <i>(approved late changes)</i>	55	50	45
DB Cargo: STP to WTT conversion	65	72	79
DB Cargo: VSTP Volumes <i>(# DBC VSTPs)</i>	45	35	25
DB Cargo: Capacity Planning for general use		TBC	
DCR: RSB Response <i>(days)</i>	15	10	5
DCR: STP Response <i>(% on time)</i>	70%	80%	90%
DRS STP Response <i>(% on time)</i>	70%	80%	90%
ROG: RSB Response <i>(days)</i>	15	10	5
ROG: STP Response <i>(% on time)</i>	70%	80%	90%
Freightliner: RSB Success rate	80%	90%	100%
Freightliner: STP Response <i>(% on time)</i>	70%	80%	90%
Freightliner: WTT Rollover	90%	95%	98%
Freightliner: WTT amendments @ PDNS	90%	95%	98%
Freightliner: PDNS Success rate	70%	75%	80%
Freightliner: TW-12 Compliance	90%	95%	98%
Freightliner: TW-12 Success rate	90%	95%	98%
GBRf: RSB Response <i>(days)</i>	7	5	4
GBRf: STP Response <i>(% on time)</i>	70%	80%	90%
Customer Advocacy	WORSE	TARGET	BETTER
Routes		TBC	
Operators		TBC	
Funders		TBC	
Other Infrastructure Managers		TBC	

Tier 3 - LNE & EM Route

Safety & Sustainability		19/20
Work Related Absence	WORSE THAN TARGET	
	TARGET	TBC
	BETTER THAN TARGET	
Sustainability - #volunteer days taken	WORSE THAN TARGET	
	TARGET	TBC
	BETTER THAN TARGET	
People		19/20
Your Voice actions (quarterly plan)	WORSE THAN TARGET	80%
	TARGET	90%
	BETTER THAN TARGET	100%
Strategic Planning		19/20
LNE & EM CMSP Milestones	WORSE THAN TARGET	80%
	TARGET	90%
	BETTER THAN TARGET	100%
Managing Output Change – Project Development Milestones		19/20
LNE & EM Development Milestones (quarterly)	WORSE THAN TARGET	90%
	TARGET	95%
	BETTER THAN TARGET	100%
Advance TT for ECML	WORSE THAN TARGET	
	TARGET	TBC
	BETTER THAN TARGET	
Advance TT for MML	WORSE THAN TARGET	
	TARGET	TBC
	BETTER THAN TARGET	
Advance TT for	WORSE THAN TARGET	
	TARGET	TBC
	BETTER THAN TARGET	
Customer Priorities		19/20
Enhanced Renewal opportunities	WORSE THAN TARGET	
	TARGET	TBC
	BETTER THAN TARGET	
502a	WORSE THAN TARGET	
	TARGET	TBC
	BETTER THAN TARGET	
T12 - compliance	WORSE THAN TARGET	
	TARGET	TBC
	BETTER THAN TARGET	
TPR changes planned	WORSE THAN TARGET	
	TARGET	TBC
	BETTER THAN TARGET	
TPR changes implemented	WORSE THAN TARGET	
	TARGET	TBC
	BETTER THAN TARGET	
Customer Driven Measures		19/20
Customer advocacy (Route)	WORSE THAN TARGET	
	TARGET	TBC
	BETTER THAN TARGET	
Customer advocacy (Operator)	WORSE THAN TARGET	
	TARGET	TBC
	BETTER THAN TARGET	
Customer advocacy (Funder)	WORSE THAN TARGET	
	TARGET	TBC
	BETTER THAN TARGET	

Tier 3 - LNW Route

Strategic Planning	WORSE	TARGET	BETTER
Strategic Planning Milestones LNW <i>(annual plan)</i>	80%	90%	100%
Managing Output Changes to the Network	WORSE	TARGET	BETTER
Midlands Connect Programmes <i>(milestones achieved)</i>	90%	95%	100%
England's Economic Heartland <i>(milestones achieved)</i>	90%	95%	100%
Enhancement Outputs - Early Stage Development <i>(milestones achieved)</i>	90%	95%	100%
LNW project development <i>(milestones achieved)</i>	90%	95%	100%
Franchise Milestones - West Coast Partnership <i>(milestones achieved)</i>	90%	95%	100%
Franchise Specific Network Rail Objectives Met		TBC	
Customer Priorities	WORSE	TARGET	BETTER
Trains Planned Foul of Possessions		TBC	
Trains Overlength for Platforms or Loops		TBC	
502a Performance Incidents		TBC	
502a Performance Minutes		TBC	
T12 Compliance - West Midlands Trains	80%	90%	100%
T12 Compliance - Virgin Trains	80%	90%	100%
CMSP Governance Meetings		TBC	
Sale of Access Rights Panel Inputs		TBC	
Customer Advocacy	WORSE	TARGET	BETTER
Routes		TBC	
Operators		TBC	
Funders		TBC	
Other Infrastructure Managers		TBC	
Finance	WORSE	TARGET	BETTER
Financial performance measure – opex (£k)		TBC	
Safety, Sustainability and People	WORSE	TARGET	BETTER
Sustainability - supporting our communities (0.5 volunteer days per employee per year)		TBC	
Your Voice Action Planning	60%	80%	100%

Tier 3 - Wales Route

Safety & Sustainability	Target
Everyone Home Safely Every Day (# actual work related absence incidents in the period - pre existing & new)	TBC
Workforce Safety # Close Calls closed in 90 days	85%
# Volunteer Days	6
Finance	
Financial Performance – Opex Forecast /Actual (£'000)	1067
People	
Engagement - Your Voice Milestones	17
Better Every Day # people trained in continuous improvement (50% target)	3
Train Performance	
Better Every Day - Timetable Improvement Milestones	TBC
Wales Route: Train Planning Errors - Delay Causing Incidents from Compliant Bids	TBC
Planning a Better Network	
Strategic Planning Milestones - Wales & Borders	0
Continuous Modular Strategic Planning Milestones -Wales & Borders	90%
Managing Output Changes to the Network	
Welsh Government & Transport for Wales enhancement milestones	95%
DfT enhancement milestones (Wales & Borders)	95%
Other funder enhancement milestones (Wales & Borders)	95%
ATW: Network Change - Improving quality and readiness of proposals (milestones)	13
Refranchising Support Activities - Wales & Borders	0
Welsh Govt: Update on relevant SOAR & Network Code items (Q update)	4
Alignment with Wales Route on Enhancement Opportunities (milestones)	TBC
Managing the Timetable	
Engaging the Route Businesses earlier in WTT planning (milestones)	2
# Trains foul of possession	TBC
ATW: Timetable Planning Meetings with Route & Customers	13
TPR completion for new schemes (milestones)	TBC
ATW: Informed Traveller Compliance at T12 (%) - Wales & Borders Franchisee	100%
Welsh Govt: Responsiveness to in-year changes that improve performance for compliant	TBC
Customer Advocacy	
Wales Route	TBC
Wales Route's Customers	TBC

Tier 3 - Western Route

Delivering an improved timetable service	Target
GWR: Adherence to bid timescales (T-18) in line with the Informed Traveller recovery plan (MAA) - %	80%
GWR: Adherence to bid timescales (T-14) in line with the Informed Traveller recovery plan (MAA) - %	80%
HEx: Delays caused by Timetable Planning (KPI 502A incidents)	TBC
Route: Delays caused by Timetable Planning (KPI 502A incidents)	TBC
Strategic Planning	
Strategic planning milestones (annual plan)	90%
Managing Output Changes to the Network	
DfT Project Development Milestones (funded project development milestones achieved)	95%
Other funder development milestones (funded project development milestones achieved)	95%
Network Change submissions meeting quality standards (%)	TBC
Ref franchising Milestones (milestones)	95%
Customer advocacy	
Route (weighted average satisfaction measure)	TBC
Operators (weighted average satisfaction measure)	TBC
Funders (weighted average satisfaction measure)	TBC
Other infrastructure managers (weighted average satisfaction measure)	TBC
Finance	
Financial Performance (Opex forecast / actual (£k))	1744
Safety, Sustainability and People	
Workforce Safety (Close calls closed in 90 days) - %	85%
Work-related absence (number of new absences, cause wholly or in part attributed to work)	5
Sustainability - supporting our communities (0.5 volunteer days per employee per year)	7
Your Voice Action Planning (milestones) - %	80%
Better Every Day (people trained in continuous improvement)	14

Tier 3 - Wessex Route

Safety & Sustainability	WORSE	TARGET	BETTER
Everyone home safe every day (work related absence incidents - total)		TBC	
Sustainability - supporting our communities (0.5 volunteer days per employee per year)		TBC	
Finance	WORSE	TARGET	BETTER
Financial performance measure – opex (£m)		TBC	
People	WORSE	TARGET	BETTER
Your Voice action planning (milestone delivery)	80%	90%	100%
Train Performance	WORSE	TARGET	BETTER
Impact on train performance (delay minutes)		TBC	
Impact on train performance (incidents)		TBC	
Planning a better network	WORSE	TARGET	BETTER
Strategic planning milestones (annual plan - milestone delivery)	80%	90%	100%
Managing output changes to the network	WORSE	TARGET	BETTER
Department for Transport (funded project development milestones)	90%	95%	100%
Customer priorities	WORSE	TARGET	BETTER
Working GRIP 3 Completion Report	90%	95%	100%
South London HV OBC	90%	95%	100%
Southern Rail Heathrow Connection Output Spec and CRD	90%	95%	100%
Customer advocacy	WORSE	TARGET	BETTER
Routes		TBC	
Operators		TBC	
Funders		TBC	
Other infrastructure managers		TBC	

Tier 3 - South East Route

Safety & Sustainability	WORSE	TARGET	BETTER
Everyone home safe every day (work related absence incidents - total)		TBC	
Sustainability - supporting our communities (0.5 volunteer days per employee per year)		TBC	
Finance	WORSE	TARGET	BETTER
Financial performance measure – opex (£m)		TBC	
People	WORSE	TARGET	BETTER
Your Voice action planning (roll up of all functional plans - milestone delivery)	80%	90%	100%
Train Performance	WORSE	TARGET	BETTER
Impact on train performance (delay minutes)		TBC	
Impact on train performance (incidents)		TBC	
Planning a better network	WORSE	TARGET	BETTER
Strategic planning milestones (annual plan - milestone delivery)	80%	90%	100%
Managing output changes to the network	WORSE	TARGET	BETTER
Department for Transport (funded project development milestones)	90%	95%	100%
Franchising milestones - TSGN (by competition)	90%	95%	100%
Customer priorities	WORSE	TARGET	BETTER
Pulse Check results (linked to Route led survey which is inclusive of SO)		TBC	
Stakeholder Strategic Alignment	50%	75%	100%
Customer advocacy	WORSE	TARGET	BETTER
Routes		TBC	
Operators		TBC	
Funders		TBC	
Other infrastructure managers		TBC	

Appendix D – Scenario planning

CP6 scenario planning: investment options

This section describes the benefits of additional investment in the function, over an appraisal period of 30 years.

Potential Investment	Cost	Summary
TPS enhancements	£6.1m	Further enhancements to TPS – above those included in the core plan - to improve the end to end industry train planning process. The improvements would include further functionality being exploited in an access planning module.
Capacity planning data improvements enhancements	£4m	Develop advanced and predictive analytics to ‘machine learn’ values for train planning rules. Applying predictive analytics to perpetually recalibrate train planning rule values to ensure the most accurate and granular values are used to build timetables.

Appendix E – Strategic Questions for CP6 Year 1

Anglia Route

What are the priorities for enhancement of the Essex Thameside route?

Why are we asking this question?

Significant housing growth is expected in this area, with the Local Authorities likely to see the largest % increase in population of any area in the country. The rail network in the Thameside area is already experiencing capacity issues, particularly between Barking and Central London.

This study seeks to assess the likely increase in rail passenger demand over the next generation (up to 25 years) and consider the most efficient way for such growth to met. The study is also expected to consider station capacity and interchange at four key station on the route.

Why are we asking it now?

Little attention has been given to this part of the Anglia route since publication of the Anglia Route study in 2016. Train lengthening opportunities are likely to be exhausted in the next few years. A sub-regional transport study by the south Essex Authorities which will review the long term transport needs of the area will be taken forward in 2019. Doing this study now enables a combined view of rail and road enhancements.

Anglia Route Investment Review Group and the Department for Transport have agreed, in principle, for this study to be undertaken as the next priority for the route.

What's the bigger picture?

The study is expected to be broader in scope than the current GEML study. Key links to other programmes include:

- Station capacity – options for key stations on the route
- Digital signalling technology – opportunities for capacity enhancement through an accelerated programme
- Cross-London passenger and freight strategy



What does the answer look like?

It is expected that the answer will be presented as a concise report, to a similar length as the recently finalised draft Cambridgeshire Corridor Study.

The study Project Board will be set up to initially consider a number of sub question for the study to address. Some of these sub questions may generate a separate connected report. Such questions could include:

- How can interchange capacity be improved at the four key stations on the route and when are they likely to be required?
- What is the most efficient way of increasing the frequency of services into London Fenchurch Street?
- What is the expected demand future for rail freight growth from Tilbury and Thames Gateway and how can it be accommodated?

When will the answer be ready for publication?

Draft report – January 2020

What are the priorities and timescales for rail infrastructure capability and capacity enhancements between London and Norwich?

Why are we asking this question?

Due to a franchising decision in 2016 to introduce new rolling stock across the Anglia Route from 2019 there has been a material change to the way in which growth will be accommodated on the Great Eastern Mainline. Furthermore, there is an opportunity to refresh our collective understanding of Market Growth within the region as Authorities develop their local growth plans.

Baseline

- Crossrail 9-car operation
- GA Rolling Stock changes
- 2x N190 per day each direction
- Brantham Depot
- Platform Extensions to facilitate longer trains

Current Feasibility Work

- Bow In (developed to GRIP3) – how to use?
- Liverpool Street pedflow modelling TBC
- Ilford Depot linespeed improvements GRIP2
- GA Timetable – including power supply, level crossings
- Sizewell 'C'
- Braintree branch improvements for 2tph
- Stratford Station
- Beaulieu Park Station GRIP 2

Why are we asking it now?

Following significant investment in rolling stock across the Anglia region, there is funder and political interest in refreshing the business case for investment in infrastructure on the Great Eastern Mainline to maximise the benefits of enhanced rolling stock capability. In order to understand the required infrastructure interventions, a refresh of market growth is key to understanding future rail patronage.

Choices for funders as per Route Study

- Trowse Swing Bridge
- DR Chelmsford to Stratford (and TM)
- Witham Loops
- Liverpool Street (platforms and station)
- Haughley Junction doubling
- Haughley Junction grade separation/4-tracking (future)

New Aspirations/additions

- GA Timetable changes alongside freight and Crossrail – needs further work
- Romford to Upminster Power for ARL
- Ipswich fuelling relocation
- Stratford Station and signalling
- Ipswich, Norwich and Colchester platforms

What's the bigger picture?

A number of infrastructure interventions were identified as part of the 2016 Route Study to meet growth expectations on the Great Eastern Mainline with associated feasibility studies undertaken. This will work support work currently underway to review the impact of high density rolling stock on passenger flows at Liverpool Street Station.

What does the answer look like?

A report will be published, endorsed by stakeholder groups which documents and prioritises the recommended infrastructure interventions required to support market growth. Outputs will be suitably developed to support individual strategic business cases for funding.



When will the answer be ready for publication?

Draft report – March 2019,
Final report – September 2019

FNPO Route

How can the benefits of Digital Railway be effectively realised for national operators?

Why are we asking this question?

Outputs - aligned DR delivery plans and identified opportunities to realise increased benefits for national operators.

Benefits - additional capacity and performance benefits for national operators. This is of immediate importance due to the development of DR implementation plans for CP6 across a number of routes that are not aligned for national operators. Also in the medium term to increase the advocacy of DR amongst the national operator community recognising their value and importance in realising the benefits of the overall DR philosophy.

Why are we asking it now?

DR implementation plans are being developed for CP6 and the longer term now, we must not lose the opportunity to influence these.

With regards to in-cab fitment and traffic management systems, the DR programme is at the stage where additional requirements or revisions to the programmes need to be made over the next year or so. It can inform the CrossCountry refranchise. DR is an NR and industry priority (and DfT?) and for the investment that is required to realise it, there is a need to maximise the benefits for all users of the network.

What's the bigger picture?

Digital Railway programme
Route renewals plans for CP6

What does the answer look like?

Policy paper, plus potentially revised CP6 route delivery plans.



When will the answer be ready for publication?

Draft report – April 2019

Final report – June 2019

For more details contact:- Peter Stanley (SSP FNPO) Peter.Stanley@networkrail.co.uk

Railway for Everyone

Why are we asking this question?

How can we maximise the social and economic benefits the railway can bring to UK plc by changing how we interact with groups who traditionally find using the railway difficult?

Why are we asking it now?

Government have indicated a willingness to invest in accessibility programmes over the course of CP6, this study will aim to give choices to DfT in this area as well as identifying other potential investors and mechanisms by which to bring about change.

What's the bigger picture?

The question assumes that the railway exists to service the society that surrounds it and that industry can identify ways in which to do this more effectively.

What does the answer look like?

A report / study identifying the different ways in which the railway and industry can change how it interacts with users, with benefits and costs associated with each of these changes. Not all will be expected to be NR delivered / funded.



When will the answer be ready for publication?

Draft report – July 2019

Final report – October 2019

For more details contact:- Peter Stanley (SSP FNPO) Peter.Stanley@networkrail.co.uk

What quantum of change in freight demand is forecast for the medium and long term?

Why are we asking this question?

An understanding of expected freight growth over the next 10 – 25 is required in order to identify the changes in operation and infrastructure that will be needed to support this.

All routes use the freight forecasts to support their CMSP and project development.

Why are we asking it now?

The freight forecasts to the end of CP6 have been updated to underpin the FNPO route strategic business plan. The longer term forecasts now need to be updated to align with this work given the change in market and base assumptions that underpinned the 2013 Freight Market Study.

The revised forecasts will enable industry to confirm its strategic freight priorities for delivery in the long term and that therefore the programmes of work in the enhancements pipeline are still the most appropriate.

What's the bigger picture?

This will also tie in with route continuous planning – in order to allow routes to understand the impact of freight on their asset.

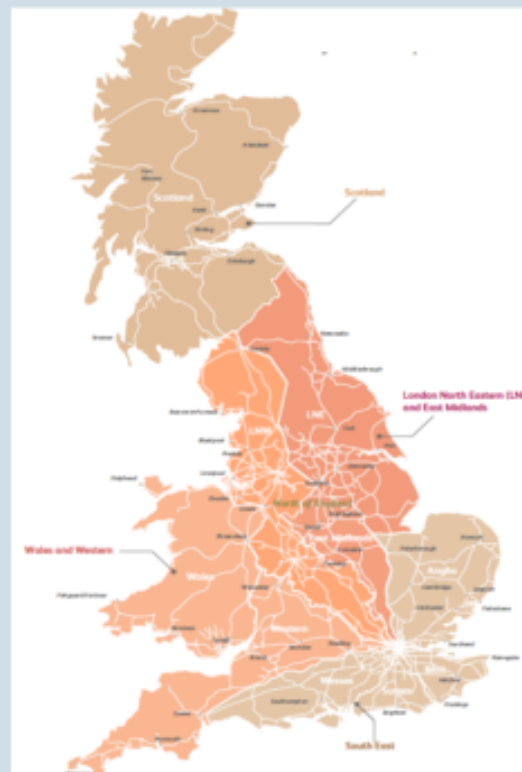
It will tie into the CMSP and programme development carried out by the other route SO teams.

It can be used to identify additional sources of funding from 3rd parties.

It can be used to support the IDF for discussions with DfT on the funding of enhancement programmes in CP6.

What does the answer look like?

A report detailing expected freight growth by sector for a range of economic scenarios.



When will the answer be ready for publication?

Draft report – April 2019

Final report – July 2019

For more details contact:- Connor Lempriere (SP FNPO) Connor.Lempriere@networkrail.co.uk

How can scarce capacity around and into London be optimised for both freight and passenger users?

Why are we asking this question?

Increasing passenger and freight demand, together with TfL and GLA ambitions to deliver substantially increased passenger services require a corresponding understanding of the most effective way to meet freight requirements in the London area.

Why are we asking it now?

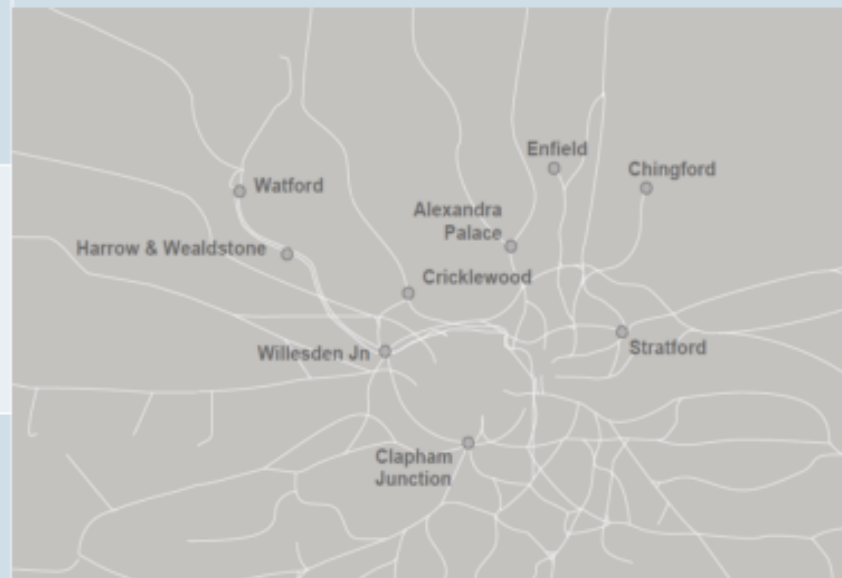
The London Action Plan specifies the requirement for a London freight strategy so that the use of scarce capacity can be optimised. TfL are looking to engage and support this piece of work.

What's the bigger picture?

There is an opportunity to provide funders with choices for interventions on London rail infrastructure to maximise the capacity output for both freight and passenger users, as well as prioritise the use of capacity in both the medium and long term

What does the answer look like?

A joint report with TfL, agreed by the stakeholder group containing and medium and long term strategy for co-existence of freight and passenger traffic in London. Choices for funders.



When will the answer be ready for publication?

Work to commence post completion Digital Rail CMSP (May 2019)

For more details contact:- Richard Moody (LSP PNPO) Richard.Moody@networkrail.co.uk

What are the capacity and capability requirements of routes outside of the major North/South axis of the network – Trans-Pennine

Why are we asking this question?

The railway infrastructure in the North of England is going to need to respond to the demands of growth particularly from the Intermodal Container and Construction Aggregates sectors. This is a priority strategic freight corridor as discussed in the Freight Network Study.

Why are we asking it now?

There will shortly be updated freight growth forecasts to 2043 following the completion of the freight forecasts work in Spring 2019. There is a current political focus on both existing Trans-Pennine upgrade works and future potential works. The North of England Freight Strategic Questions CMSP is now complete giving us an opportunity to draw on this work with its previous engagement. This study would inform the discussion and provide robust information to inform funders' choices.

What's the bigger picture?

There is an opportunity to engage with Highways England to identify and overall road/rail strategy to support investment choices.

What does the answer look like?

A report, agreed with the stakeholder group, setting out options for funders to provide additional capacity and capability to accommodate growth on the key Trans-Pennine corridors.



When will the answer be ready for publication?

Work to commence following completion of Railway for Everyone CMSP (June 2019)

For more details contact:- Richard Moody (LSP FNPO) – Richard.Moody@networkrail.co.uk

London and North Eastern and East Midlands Route

What is required to make the rail network between Church Fenton and Newcastle HS2/NPR ready by 2033?

Why are we asking this question?

The East Coast Main Line (ECML) is a vital economic artery for the North East, Tees Valley, North Yorkshire and York. This mixed-use section of the route is at or close to capacity, and suffers from poor reliability and resilience. Between now and the arrival of HS2 services via Phase 2b, several increases in train services are proposed on this part of the ECML and adjacent routes. These include franchise commitments, HS2 services, open access and proposals from Transport for the North (Northern Powerhouse Rail), NEXUS and Combined Authorities.

Why are we asking it now?

To be ready for the arrival of HS2, incremental changes to the railway network are needed over the next 20 years. We need to understand these now so that the development, funding and delivery of programmes can be properly implemented and coordinated with TfN's NPR project.

What's the bigger picture?

The introduction of HS2 will fundamentally change the way that the UK rail network operates. However on this stretch of the network, the ECML needs to be able to enable the same level of performance for HS2 services as for the rest of the bespoke infrastructure. There may also be a range of possible rail services to be specified across the North East. This work is all about planning for those futures in a joined-up way, across a unified network, for a range of different stakeholders.

What does the answer look like?

An incremental sequenced approach using focused analysis and short reports that can form the basis of strategic business cases to meet the future needs of local stakeholders, passengers and freight.



When will the answer be ready for publication?

Draft Report – January 2020

Final Report – April 2020

For more details contact:- richard.bates@networkrail.co.uk

What is required to accommodate medium and long-term growth in the Doncaster area?

Why are we asking this question?

Doncaster is a crucial railway hub; this has been underscored by the East Coast Main Line (ECML) Route Study and through Industry Planning for timetable changes in the 2020s. Such analysis shows that how train services operate at and through Doncaster has a big impact on how those services deliver benefits over the wider network.

This work seeks to understand how the rail network in the Doncaster area needs to adapt to meet the services planned to operate in coming years.

Why are we asking it now?

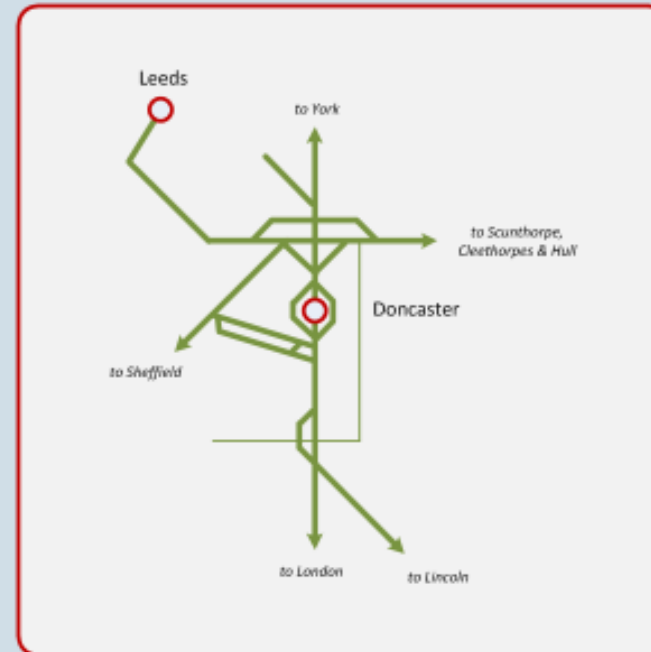
An increase in ECML services planned for introduction in the 2020s will emphasise the importance of Doncaster station and the network it influences. To make sure that future service aspirations can also be planned for, we need to refine the strategy for Doncaster now.

What's the bigger picture?

104 UK stations have a direct connection to Doncaster. The changes that we plan to make on this part of the Network will align to a range of transport strategies: HS2, Transport for the North, Midlands Connect, and those put forward by combined authorities across the UK.

What does the answer look like?

We will begin by consulting transport and infrastructure planning industry partners to refine the current issues and future aspirations. This will allow us to produce a series of reports that will shape the kinds of changes needed for the Doncaster rail network of the future. These can form the basis of strategic business cases for change.



When will the answer be ready for publication?

Draft report – January 2020

Final Report – March 2020

For more details contact:- edward.dunn@networkrail.co.uk

What is required to accommodate future train services in the Leeds area?

Why are we asking this question?

There are a number of projects interfacing in the immediate Leeds area in addition to forecast organic growth on the current rail network. A holistic view, taking into account interacting projects such as Transpennine Route Upgrade, High Speed 2 and Northern Powerhouse Rail, is required to provide choices for funders.

Why are we asking it now?

Major funding decisions are being considered as part of the Leeds Station Gateway project in addition to upcoming schemes which require decisions to be made, as a result a long term holistic view of Leeds is required:

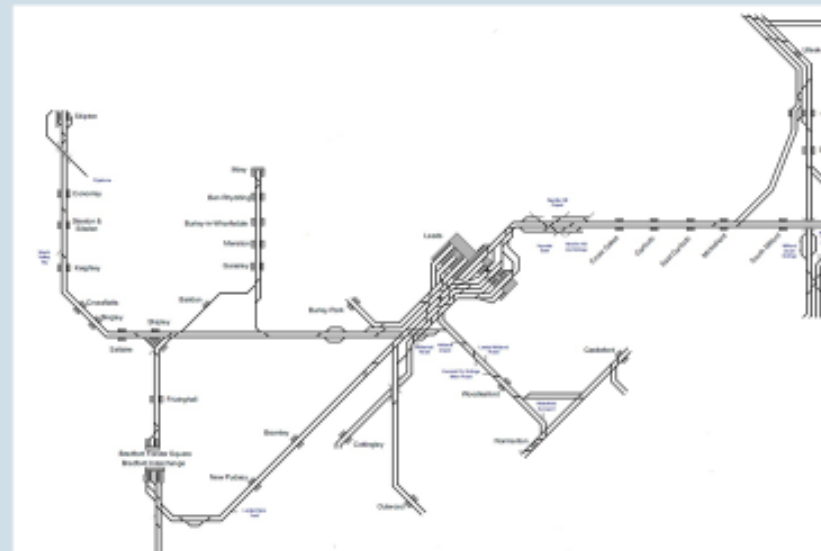
- TRU has submitted a number of options for enhancements in the Leeds area
- HS2/NPR need outputs to make decisions on the future shape of Leeds
- Increasing growth in passenger demand needs to be accommodated

What's the bigger picture?

Leeds will be impacted by one or all of the above major programmes which necessitates a holistic system operator view to consider the future requirements and take advantages of the synergies that exist between projects. Increasing demand for rail services in the Leeds City Region as a result of policy decisions in addition to organic growth.

What does the answer look like?

A report will be produced and endorsed by stakeholders which documents and prioritises the recommended interventions required to support market growth and stakeholder aspirations. This will cover all relevant geography to capture significant local and regional services – this will include locations such as Harrogate, Bradford, Skipton, Knottingley, Wakefield, Castleford, and Micklefield. Outputs will be suitably developed to support individual Strategic Outline Business Cases development by potential funders.



When will the answer be ready for publication?

Draft Report – September 2019

Final Report – November 2019

For more details contact:- claire.shelley@networkrail.co.uk

What is required to accommodate future train services in the Hull area to support economic growth to 2043 ?

Why are we asking this question?

Hull is one of the largest cities in the North of England with services connecting to North Yorkshire, South Yorkshire, West Yorkshire and Manchester. Increasing levels of growth coupled to stakeholder aspirations for more services, particularly across the Pennines to Manchester Airport presents an opportunity to examine the future needs of the Hull area.

Why are we asking it now?

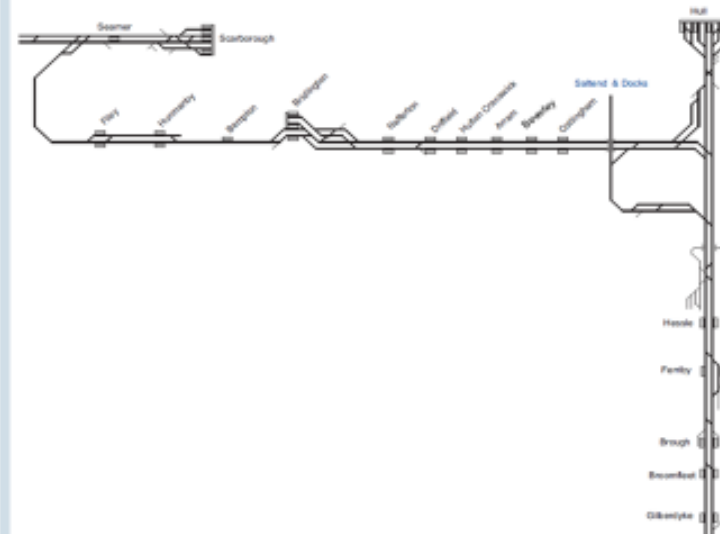
TfN are developing plans for Northern Powerhouse Rail (NPR) on the existing network which will improve connectivity and reduce journey times to Hull. However, increasing levels of demand and aspirations for an improved service offer before the arrival of NPR necessitate a need to look at the future growth forecast for the Hull area to ensure that this is sufficiently accommodated into any future NPR plans to create a safe, reliable and capable network.

What's the bigger picture?

NPR are developing plans to improve the journey times and connectivity between Hull and Leeds/Sheffield, this will transform services utilising the existing network making it crucial that long term planning growth on the conventional network is accommodated. Additionally, Hull and East Riding have ambitious plans for additional housing and employment as part of their Local Plans which will create further demand for rail services.

What does the answer look like?

A report will be produced and endorsed by stakeholders which documents and prioritises the recommended interventions required to support market growth and stakeholder aspirations. Outputs will be suitably developed to support individual Strategic Outline Business Cases development by potential funders.



When will the answer be ready for publication?

Draft Report – May 2019

Final Report – July 2019

For more details contact:- nick.forgham@networkrail.co.uk

How can forecast growth and partners' aspirations be accommodated in the Leicester area over the coming decades?

Why are we asking this question?

Demand for rail capacity in the Leicester area is growing, including for paths for freight trains. In 2015, enhancements were identified which were planned to enable this growth for the coming decades. Since then, there has been further interest in running new trains through or to Leicester. This means that the industry needs to reassess whether interventions identified in 2015 are still the most effective way to improve capacity in the Leicester area.

Why are we asking it now?

Continuing freight growth is resulting in demand for train paths exceeding supply. Midlands Connect also have been working with the wider rail industry to investigate the feasibility of an increased frequency of passenger trains into Leicester. Connectivity between Leicester and the HS2 network at East Midlands Hub may also require additional train services. It is important to integrate these aspirations now in order to plan the railway effectively.

What's the bigger picture?

Any intervention at Leicester is likely to be a major project creating benefits for customers across the East Midlands and beyond. The strategic question pulls together inputs from multiple organisations, and requires collaborative working.

What does the answer look like?

A report will be produced, endorsed by a stakeholder Working Group, which documents and prioritises the recommended infrastructure interventions required to support market growth and funders' aspirations. Outputs will be suitably developed to support individual Strategic Outline Business Cases for funding.



When will the answer be ready for publication?

Draft Report – September 2019

Final Report – December 2019

For more details contact:- drew.fuller@networkrail.co.uk

How can forecast growth and partners' aspirations be accommodated in the Trent Junctions area until 2043?

Why are we asking this question?

There are a wide number of aspirations around the Trent Junctions area and the junctions were identified by the East Midlands Route Study as a serious limitation to future improvements to services including:

- Journey times
- Connectivity
- Capacity

Why are we asking it now?

There are a number of aspirations from partner organisations which require overcoming the limitations of Trent Jns described above:

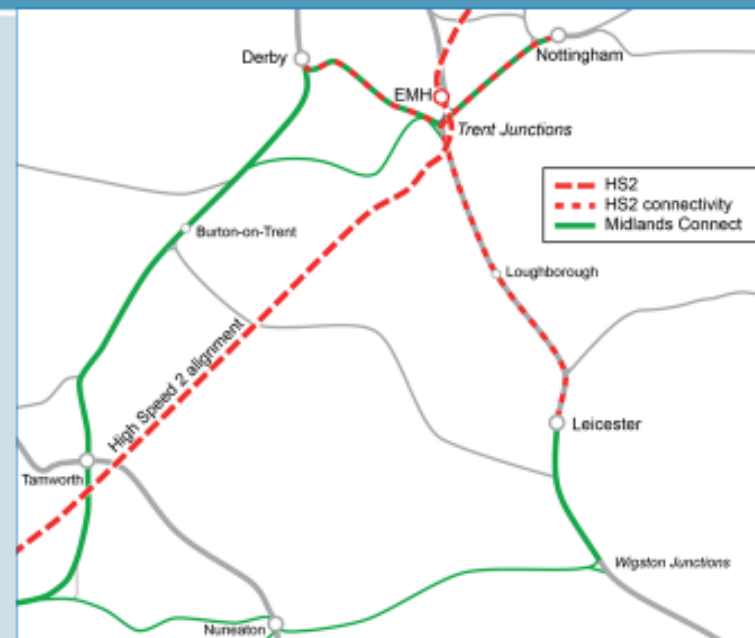
- Midlands Connect are working up options to deliver better connectivity between the East and West Midlands by improving journey times and service frequencies.
- HS2 is developing options to provide connectivity to the new East Midlands Hub station via the conventional network and Trent Junctions.

What's the bigger picture?

There is a unique opportunity to work with major partners to identify a solution for Trent Junctions and enable transformational change through improved connectivity in the area, higher capacity and reduced journey times.

What does the answer look like?

A report will be produced, endorsed by stakeholder groups, which documents what is currently required of the junctions area under the different configuration states. Outputs will enable the development of outline solutions to support individual Strategic Outline Business Cases for funding.



When will the answer be ready for publication?

Final Report – April 2019

For more details contact:- vincent.waddelove@networkrail.co.uk

What is the Depot and Stabling strategy for LNE&EM in the North* ?

Why are we asking this question?

Funders require a summary baseline of the depot and stabling requirements for 2024 and intermediate years to 2043. This is to understand whether depot and stabling locations are in the right places and meet industry best practice to serve the future passenger rolling stock fleet and anticipated growth. A strategy will inform future decisions for HS2, Northern Powerhouse Rail and land strategy

Why are we asking it now?

Funders and Network Rail Route have prioritised this question to inform decisions due to be made on HS2, Northern Powerhouse Rail and land strategy. It also synergises with the LNW (North) depot and stabling strategic question, which commenced in early 2018. The LNE&EM study will start in late 2018

What's the bigger picture?

Requirements to inform future plans for Northern Powerhouse Rail, HS2 and land sales strategy

What does the answer look like?

A report will be produced, endorsed by stakeholder groups, which documents and prioritises the recommended depot and stabling locations required to support market growth and funders' aspirations for 2024 and 2043



When will the answer be ready for publication?

Tbc

*note that this is likely to become an entire LNE&EM geography question

For more details contact:- tbc

London and North Western Route

What are the future depot & stabling requirements in LNW

Why are we asking this question?

Need to understand whether depot and stabling locations are in the right place and meet industry best practice to service the future passenger rolling stock fleet and anticipated growth.

• Why are we asking it now?

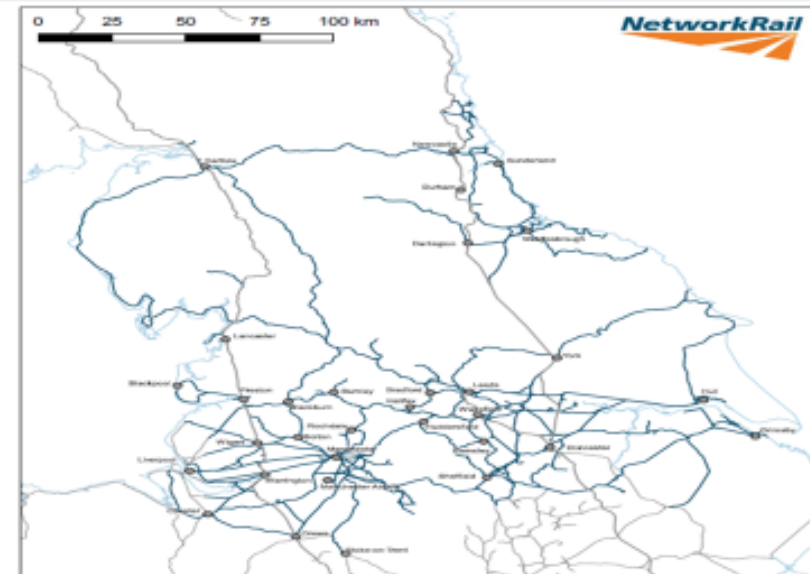
Options should be set out that explain how the expected changes in forecast passenger demand in the years to 2043 will impact upon the existing quantum of Depot & Stabling facilities in the North of England, where facilities should be located and what facilities they should have. Finally the broad impact of future changes in train service provision, such as HS2/Northern Powerhouse Rail services will also be considered as well as identifying potential cross boundary issues for further analysis.

What's the bigger picture?

The findings would help to inform future franchise changes and commitments that best allow the franchise to serve the future passenger demands.

What does the answer look like?

- *Identifying geographical locations as options for funders to develop potential depot and stabling facilities.*
- *If capacity is required what additional capacity will be required through future years to 2043 to meet the forecast demand and what are the optimum facilities best likely locations for future additional Depot & Stabling capacity in the North of England?*



Legend

- North of England Route Study
- West and East Coast Main Lines
- Not Covered in this Route Study
- Major Towns and Cities
- Coastline

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TBC

For more details contact:- simon.taylor@networkrail.co.uk

How do you accommodate forecasted growth on the CLC corridor in 2024,33,43?

Why are we asking this question?

- The output is required for capacity to meet future passenger and freight growth demand.
- Existing reports/evidence show one or more of these corridors are broken today.
- How can these outputs be used to help inform HS2 & NPR conditional outputs.

Why are we asking it now?

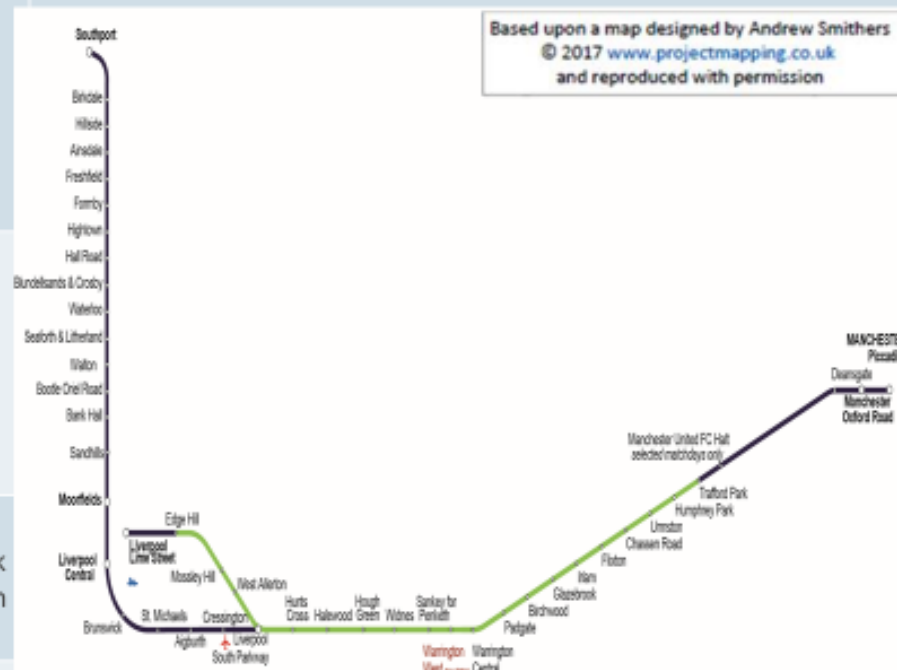
- These corridors were identified as a potential funder priority and have key interest from more than one stakeholder
- To support HS2/NPR conditional outputs
- The outputs support and feed into wider strategic transport plans across the industry.
- Outputs to help inform future franchises from 2024 and beyond.

What's the bigger picture?

- These Strategic questions will help inform Castlefield corridor work stream and were identified through the CMSP programme as a high priority.

What does the answer look like?

- Advice and options for funders
- Strategic interventions will be identified to show what is needed to meet forecasted growth demand on each corridor.



When will the answer be ready for publication?

Draft report - April 2019

For more details contact:- Byron.Kerr-Dando@networkrail.co.uk

How do you accommodate forecasted growth on the South East corridor in 2024,33,43?

Why are we asking this question?

- The output is required for capacity to meet future passenger and freight growth demand.
- Existing reports/evidence show one or more of these corridors are broken today.
- How can these outputs be used to help inform HS2 & NPR conditional outputs.

Why are we asking it now?

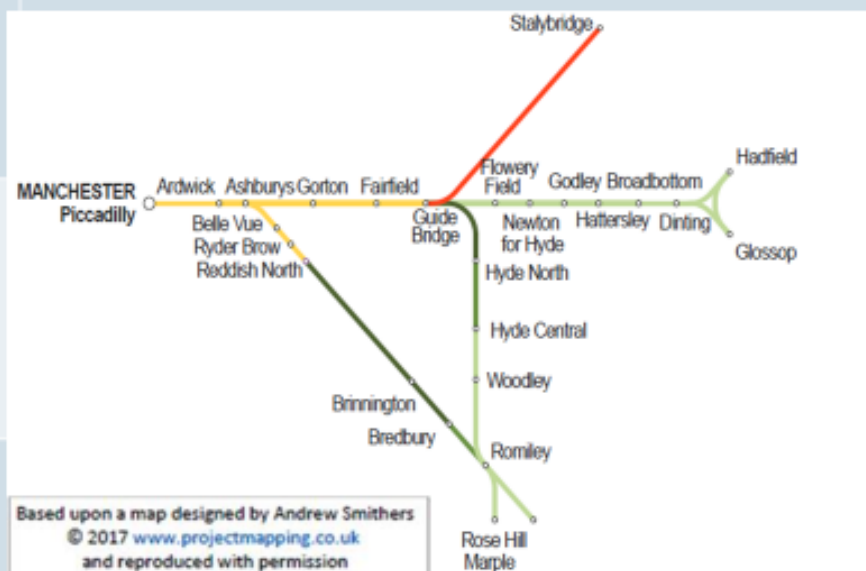
- These corridors were identified as a potential funder priority and have key interest from more than one stakeholder
- To support HS2/NPR conditional outputs
- The outputs support and feed into wider strategic transport plans across the industry.
- Outputs to help inform future franchises from 2024 and beyond.

What's the bigger picture?

- These Strategic questions well help inform Castlefield corridor work stream and were identified through the CMSP programme as a high priority.

What does the answer look like?

- Advice and options for funders
- Strategic interventions will be identified to show what is needed to meet forecasted growth demand on each corridor.



When will the answer be published?

Draft report – May 2019

For more details contact:- Byron.Kerr-Dando@networkrail.co.uk

How do you accommodate forecasted growth on the Bolton corridor in 2024,33,43?

Why are we asking this question?

- The output is required for capacity to meet future passenger and freight growth demand.
- Existing reports/evidence show one or more of these corridors are broken today.
- How can these outputs be used to help inform HS2 & NPR conditional outputs.

Why are we asking it now?

- These corridors were identified as a potential funder priority and have key interest from more than one stakeholder
- To support HS2/NPR conditional outputs
- The outputs support and feed into wider strategic transport plans across the industry.
- Outputs to help inform future franchises from 2024 and beyond.

What's the bigger picture?

- These Strategic questions will help inform CMSP programme as a high priority.

What does the answer look like?

- Advice and options for funders
- Strategic interventions will be identified to show what is needed to meet forecasted growth demand on each corridor.



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When will the answer be ready for publication?

Draft report – April 2020

For more details contact:- Byron.Kerr-Dando@networkrail.co.uk

How do you accommodate forecasted growth on the Stockport corridor in 2024,33,43?

Why are we asking this question?

- The output is required for capacity to meet future passenger and freight growth demand.
- Existing reports/evidence show one or more of these corridors are broken today.
- How can these outputs be used to help inform HS2 & NPR conditional outputs.

Why are we asking it now?

- These corridors were identified as a potential funder priority and have key interest from more than one stakeholder
- To support HS2/NPR conditional outputs
- The outputs support and feed into wider strategic transport plans across the industry.
- Outputs to help inform future franchises from 2024 and beyond.

What's the bigger picture?

- These Strategic questions well help inform decisions and choices with capacity post HS2 in 2033 were identified through the CMSP programme as a high priority.

What does the answer look like?

- Advice and options for funders
- Strategic interventions will be identified to show what is needed to meet forecasted growth demand on each corridor.

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When w

Draft report – July 2020 TBC as this is going to be taken on with TfGM as the lead for the question, more detail will be available once the remit has been finalised.

For more details contact:- Byron.Kerr-Dando@networkrail.co.uk

What is the best use for released capacity on the south end of the WCML post-HS2?

Why are we asking this question?

- Improve the current industry position on released Capacity on the southern section of the West Coast
- Inform the development of relevant schemes (e.g. East West Rail)
- Inform Funding decisions on the south end of the West Coast Main line by funders including 3rd parties

Why are we asking it now?

- Informing the industry's position on released capacity, feeding into ongoing workstreams
- Inform East West Rail Concept Train Plan Development
- Inform Franchising options post HS2

What's the bigger picture?

- These findings will inform franchising options and the service types of the West Coast South for a Post HS2 world

What does the answer look like?

- Guidance to DfT on Train service structure and on policy
- Potential Infrastructure options for 3rd Party Investment



When will the answer be ready for publication?

Draft report – December 2019

Final report – Undetermined

For more details contact: Phill Brown (Phillip.Brown4@networkrail.co.uk)

What is the best use for released capacity from HS2 Phase 2b on the West Coast?

Why are we asking this question?

- Improve the current industry position on released Capacity on the Central (Colwich to Preston) section of the West Coast
- Inform the redevelopment of relevant schemes (e.g. Crewe Hub)
- Inform Funding decisions by funders including 3rd parties

Why are we asking it now?

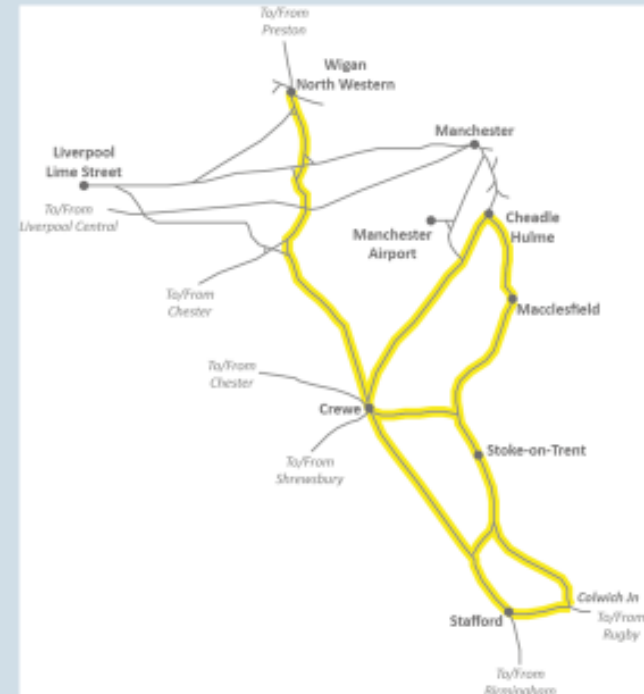
- Informing the industry's position on released capacity, feeding into ongoing workstreams
- Inform Franchising options post HS2

What's the bigger picture?

- These findings will inform franchising options for a Post HS2 world

What does the answer look like?

- Guidance to DfT on Train service structure and on policy
- Potential Infrastructure options for 3rd Party Investment



When will the answer be ready for publication?

Draft report – December 2020

Final report – Undetermined

For more details contact: Phill Brown (Phillip.Brown4@networkrail.co.uk)

Scotland Route

Scottish Depots and Stabling Strategy

Why are we asking this question?

"The Scottish Ministers require that Network Rail will cooperate with the wider rail industry to develop sufficient strategic depot and stabling capability plans for at least the next 15 years, supporting the growth in passenger services predicted and the rolling stock strategies set out in Franchise Agreements and any planned variations. As part of this process, consideration should be given to current and expected gaps in servicing and stabling capability, identifying value for money options to support more efficient rolling stock operations. This strategy should be based around the appropriate exploitation of existing railway assets; using/adapting stations where possible and then the consideration of new depots."

Why are we asking it now?

Scottish Ministers' CP6 High Level Output Specification requirement.

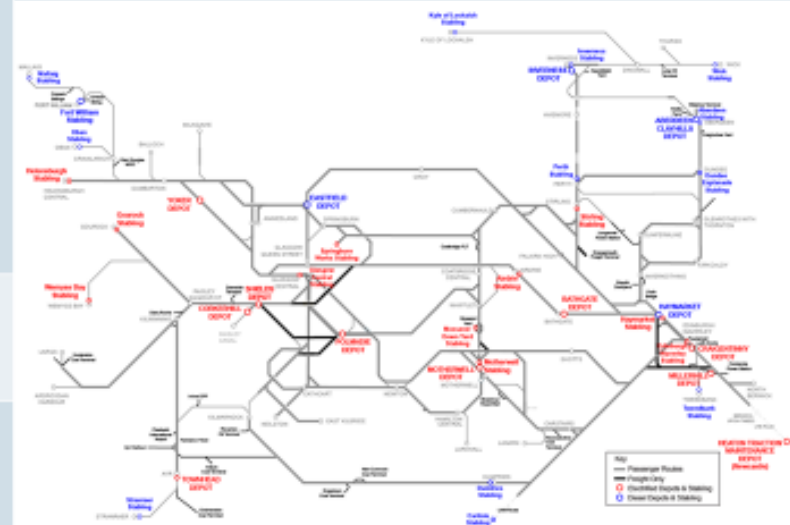
What's the bigger picture?

- Significant changes to multiple operator rolling stock across CP5 and into CP6
- HS2 requirements in Scotland
- Refranchising for West Coast Partnership, CrossCountry and ScotRail
- Capital Investment Strategy will provide decision points for future electrification

What does the answer look like?

A strategic report that sets out, at a Pre-GRIP level, the proposed strategy for depots and stabling in Scotland.

Depots & Stabling – Scotland Map 2019



When will the answer be ready for publication?

In accordance with Scottish HLOS Tracker – draft report will be submitted to ORR by 31st July 2019.

For more details contact:- Audrey Laidlaw, Lead Strategic Planner Scotland Route Audrey.Laidlaw@networkrail.co.uk

HLOS Journey Time Requirements

Why are we asking this question?

"Scottish Ministers require that the outputs of the network will be maintained in such a manner as to enable the operators of the ScotRail Franchise to achieve improved journey times based on decreasing average minutes per train mile as specified in Schedule 7.2 of the ScotRail Franchise Agreement (and any subsequent variations) where Minutes per Mile targets measured across all ScotRail Sectors within CP6 are set at 1.587 (December 2019) to 1.576 (December 2024).

In addition, the Scottish Ministers require Network Rail to develop a freight journey time metric based on average speed (mph) to be introduced at the start of CP6 to increase the average speed of freight trains by not less than 10% through good operational practices, including timetabling exercises and programmes, and through collaboration with freight operators and customers. In delivering this outcome, Network Rail should ensure that achievement is attained by acceleration of existing and new freight services. Progress against this outcome will be reviewed during CP6 on an on-going basis in order to assess its deliverability."

Why are we asking it now?

Scottish Ministers' CP6 High Level Output Specification requirement.

What's the bigger picture?

- Linked to ScotRail franchise journey time metric
- ScotRail's "Revolution in Rail" will change journey times across the east of Scotland
- Linked to Scottish Ministers CP6 HLOS requirement for 7.5% freight growth in Scotland.

What does the answer look like?

Industry plan will be delivered over CP6 via a number of workstreams consisting of new processes which will be embedded as business as usual and rolling programme of infrastructure enhancements (subject to funding in line with Capital Investment Strategy).



When will the answer be ready for publication?

As per ORR Final Determination, SO developed draft plan with industry and submitted for Review on 30th November 2018. Following review by Transport Scotland and ORR, final plan will be developed and submitted to ORR by 31st March 2019.

For more details contact:- Audrey Laidlaw, Lead Strategic Planner Scotland Route, Audrey.Laidlaw@networkrail.co.uk

South East Route

How do we alleviate on train and station overcrowding on the South & East London Lines and cater for continued growth/demand in the area?

Why are we asking this question?

reopening as part of London Overground, the South & East London Line services have seen huge growth, and are now crowded at peak times. Additionally, within the railway system, the stations of Denmark Hill and Peckham Rye face considerable passenger congestion and safety risks. System Operator is working with TfL and interfacing Train Operators to engage plans for service and station enhancement.

Why are we asking it now?

The passenger experience is currently limited by significant overcrowding on ARL Overground 5-car services, some overcrowding on Southeastern 8 car services, and some overcrowding on Southern services.

Additionally, passengers face significant crowding, poor asset quality, inaccessibility, and safety risk at Peckham Rye and Denmark Hill stations; these are noted as top priorities by the NR Station Capacity team.

TfL have purchased some additional rolling stock, and are looking to deploy by increasing the frequency of some operations.

The Southeastern franchise is incoming and will require engagement on potential new rolling stock and service aspirations.

What's the bigger picture?

L project continued growth on their ELL and SLL Overground services, and aspire for medium to long-term service changes through 'Metroisation' of London rail frequencies.

There are potential signalling renewals on part of the Route in CP7 to potentially align to

There are stakeholder aspirations for new interchange stations at Loughborough Jn, Brixton and Brockley.

There are stakeholder aspirations for increasing services at Clapham High Street and Wandsworth Road.

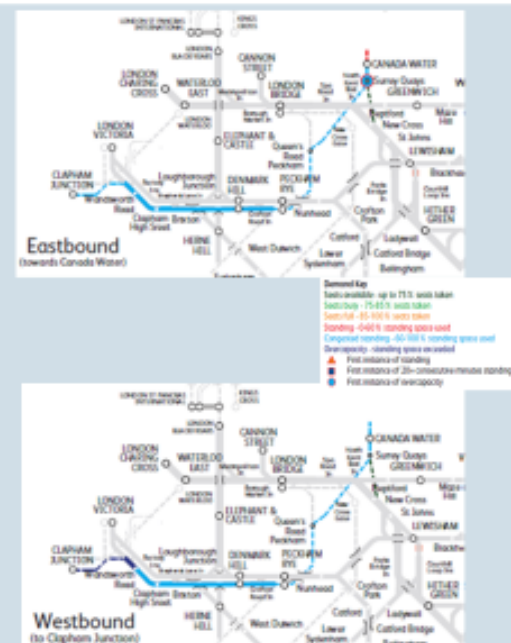
There is a need to inform the ITT for the upcoming TSGN refranchising process.

opportunities to lengthen Overground services are constrained by ELL tunnel operations.

What does the answer look like?

the strategic question is dependent upon planning and development work by TFL, and currently unknown franchise changes, a formal report may not be appropriate. Instead, an agreed and monitored strategic programme of activities between stakeholders may emerge:

- Mutually understood view of timetable constraints and opportunities.
- Mutually endorsed SOBCs for investment in Peckham Rye and Denmark Hill.
- A potential 'Strategic Fit' report of TfL's service aspirations, should trade-offs emerge with other Operator's aspirations.



When will the answer be ready for publication? Engagement with incoming SE franchise on new service aspirations – February 19
Station SOBC workstreams complete – June 19
Train service delivery schedule agreed – TBC/ongoing

For more details contact:- Alex Hellier, Lead Strategic Planner South East Route Alex.Hellier@networkrail.co.uk

What is the case for investment in London Victoria Station?

Why are we asking this question?

London Victoria is the UK's second busiest station, providing a gateway between London, its southern suburbs, Kent via the Chatham Mainline, and Sussex and Gatwick Airport via the Brighton Mainline. The Route Business Development team are working in partnership with System Operator, NR Property to establish a comprehensive plan of investment to regenerate the terminus.

Why are we asking it now?

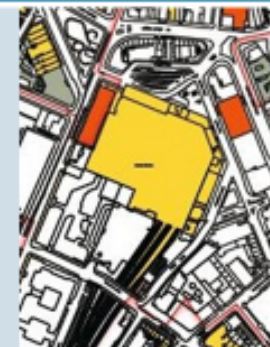
- London Victoria is the UK's second busiest station, and passenger experience is currently limited by considerable congestion, poor asset condition and appearance, confusing layout and wayfinding, and inefficient interchange and integration with London's transport system and Urban Realm.
- Asset quality is especially poor in the life-expired Sussex Concourse roof; intervention could be capitalised upon with minimised disruption if integrated with enhancement.
- A previous capacity relief scheme was deferred from CP5 as part of the Hendy Review, and requires updating and integration.
- The station sits within a designated Opportunity Area, with considerable value placed on potential development of air-rights and adjacent estate.

What's the bigger picture?

- Delivery of the South East Route vision for our stations to be "safe, welcoming, accessible and part of their local communities"
- Exploring and enabling market engagement for third party funding and investment, meeting Government and Industry objectives
- The Local Authority and Business Improvement District indicate intervention in their long-term development aspirations, with improved public realm integration.
- Long-term requirements in the Route Studies indicate a need to plan for additional terminus platform and pedestrian capacity in South London.
- Existing short platforms at Victoria will constrain long-term franchise ability to grow and serve South London and the South-East Route Region.
- Investment in the Station's assets, capacity, and the throat layout could leverage further value from the BML Upgrade CARS proposal.
- Integration with Crossrail 2 Programme could provide an efficient interchange for passengers into the new infrastructure.

What does the answer look like?

- An attractive and clear Strategic Outline Business Case seeking development funding to progress, including a developed plan of a funding proposal with programme to OBC.



When will the answer be ready for publication?

Pre-SOBC issue

- Initial SOBC case narratives – November 2018
- Integrated TfL passenger counts collection – November 2018
- Platforms & structures pre-GRIP concept complete – January 2019
- Initial DfT SOBC engagement – January 2019
- OBC funding proposal complete – March 2019
- Formal submission of SOBC – April 2019

For more details contact:- Joseph Chroston-Bell, Senior Strategic Planner, 07734 649927, joseph.chroston-bell@networkrail.co.uk

What opportunities are there to improve connectivity in the North Kent area?

Why are we asking this question?

Crossrail will lead to major change in journey patterns with new service opportunities. There could be options to improve the frequency / timing of services connecting with Crossrail at Abbey Wood and future extension of the Crossrail service. There are Local Authority aspirations to reintroduce passenger services on the Grain Branch in conjunction with a HIF bid.

Why are we asking it now?

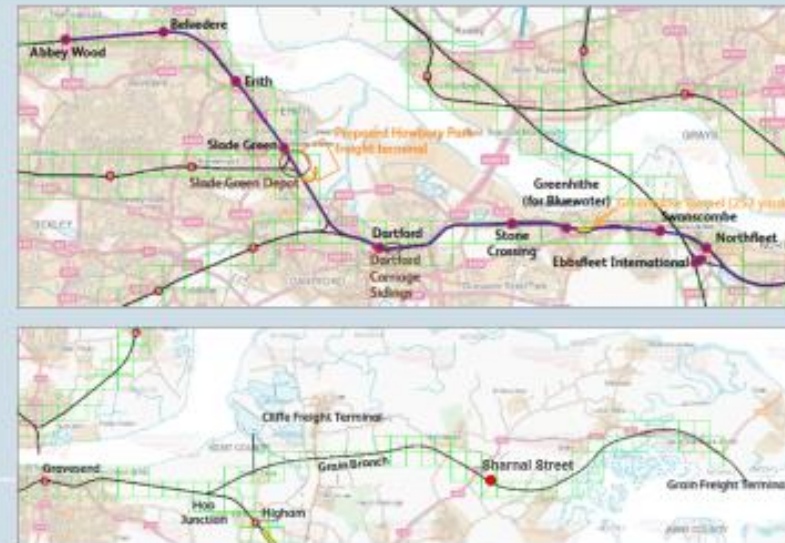
- Crossrail services to Abbey Wood (Interchange with Southeastern services to/from Dartford & Ebbsfleet to London Bridge) are due to commence in 2019 providing an option of journey time saving to central London compared to travelling via London Bridge.
- TfL are leading development work on behalf of local authorities to look at an extension to the route & have submitted an SOBC to DfT.
- It could be possible for dual voltage Crossrail services to travel onward from Abbey Wood to Dartford/Ebbsfleet and Gravesend if the timetable is altered to accommodate.
- The new South Eastern franchise timetable is expected to commence in Dec 22.
- Medway Council are bidding for Housing Infrastructure Fund money to support reintroduction of passenger services on the Grain Branch.

What's the bigger picture?

- There is significant stakeholder support for an extension of Crossrail services to the Ebbsfleet area providing a direct services from the Ebbsfleet Garden City development to central London.
- A Crossrail extension would facilitate higher housing growth in LB Bexley
- HS1 domestic services to/from Ebbsfleet are already severely congested.

What does the answer look like?

The output is likely to be based on a number of separate workstreams led by different organisations, including TfL's SOBC, Medway's HIF bid and as yet unknown SE franchise information. An options report based on different outcomes is expected to emerge including timetable, rolling stock and infrastructure options with a recommendation.



When will the answer be ready for publication?

- Grain Branch Timetable Study – December 2018
- Wider north Kent timetable study – October 2019
- Options report – April 2020

For more details contact:- Alex Hellier, Lead Strategic Planner South East Route, Alex.Hellier@networkrail.co.uk

What opportunities are there to improve services and connectivity in West Sussex?

Why are we asking this question?

The West Sussex Coastway and Arun Valley lines between Brighton/Three Bridges and Havant is an important link for communities along the line. There are 36 stations, 113 level crossings, seven junctions with a mix of fast and stopping services. Is the current service meeting current and projected demand? If not, what opportunities are there to enhance it?

Why are we asking it now?

- TSGN Franchise is due to be re-let within the next 3 years – opportunity to influence the timetable specification and rolling stock.
- The area has been highlighted by Transport for the South East (TfSE) as area of housing growth
- Opportunity to influence future signalling renewals
- There are proposals for the redevelopment of the area around Chichester station and three new stations between Three Bridges and Arundel
- There are known overcrowding issues on some peak services arriving into Brighton
- Wessex Route System Operator are developing a Solent area CMSP, which adjoins to this area.

What's the bigger picture?

- Thameslink has started operating peak services to Littlehampton via Hove
- There is strong stakeholder support for service improvements from West Sussex County Council and TfSE
- Services are operated by GTR and Great Western Railway



What does the answer look like?

An option report including timetable, rolling stock and infrastructure options with a recommended option

When will the answer be ready for publication?

Draft report – December 2019
Final report – March 2020

For more details contact:- Paul Best, Senior Strategic Planner South East Route, Paul.Best@networkrail.co.uk

Wales Route

How does long term resilience need to be addressed, taking into account the Coastal Management policy on Shoreline Management Plans and what does this mean for the resilience of the railway?

Why are we asking this question?

The Coastal Management Shoreline Management Plans set out how natural erosion should be managed and identified specific parts of the Wales railway network where natural erosion will have an impact in the next 50 years. This study will review how this will impact on rail strategic policy and planning, asset management policy, and wider integrated transport planning. It will involve working closely with Natural Resources Wales (NRW) and will build on the Memorandum of Understanding between NRW and Network Rail.

Why are we asking it now?

Although the impact may be in the longer term, it is important to consider renewal plans at an early stage due to the typical life span of a renewal. Discussions are currently ongoing between NRW and Welsh Government around future policy decisions on Shoreline Management Plans and how these will be addressed in the future which will heavily involve Network Rail asset management plans.

What's the bigger picture?

There are differences in the policies of NRW and the Environment Agency due to the funding arrangements for each organisation. This is a key consideration as there are coastline across the route in both Wales and England. NRW are publishing an environmental impact assessment by the end of 2018 which will provide further clarity.

What does the answer look like?

High level study to clarify future requirements and planning assumptions assessing constraints and system optimisation opportunities to inform policy and future planning requirements.



When will the answer be ready for publication?

Draft report – March 2020

For more details contact:- Sarah Reardon, Senior Strategic Planner, System Operator – Wales.

Wessex Route

What service and/or infrastructure changes might be required to provide an improvement of rail service provision along the West of England line, west of Basingstoke?

Why are we asking this question?

- Significant growth on the route is placing significant pressure to the existing rail service
- Growing congestion on the local strategic road network is causing other modes to be considered to provide alternative connectivity
- New housing has been identified for sites along the route, some of which can make good use of existing rail
- Existing services constrained by single-line route sections and short trains

Why are we asking it now?

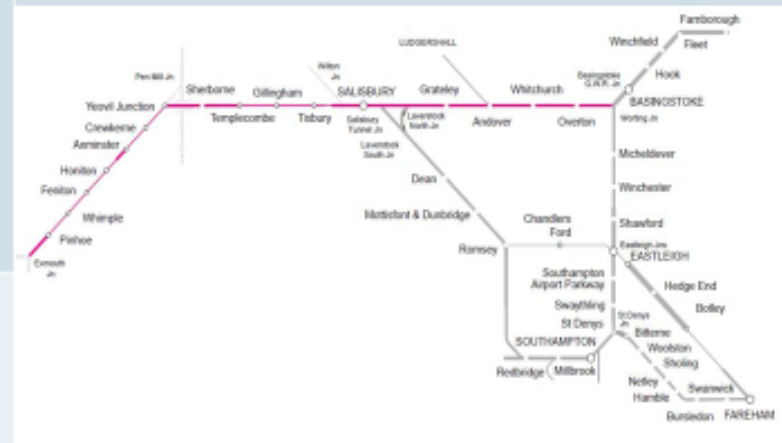
- This has been identified as a stakeholder priority
- The West of England Line users' group and local MPs have indicated that services are under considerable strain
- Transport 'solutions' are required to unlock housing approvals for next 10-25 years

What's the bigger picture?

- Growth and further new housing are forecast for the area. The railway has not been considered in depth for some time and action is likely to be required to improve the service offer in some way.
- An improved diversionary route from Devon to London is also key to a connected South West and future economic growth.

What does the answer look like?

- Station improvements (to track passing loops and/or signalling) at select locations
- Service changes, potentially with improved rolling stock



When will the answer be ready for publication?

Draft report – October 2019
Full report – December 2019

For more details contact:- James Waight

What service and/or infrastructure changes might be required to provide an improvement of rail service provision across the Solent area?

Why are we asking this question?

- Significant growth in population and employment within the two city area has added significant pressure to the existing rail service
- Growing pressure on the local strategic road network is causing other modes to be considered to provide alternative connectivity
- New housing has been identified for sites across the area, some of which can make good use of existing rail

Why are we asking it now?

- This has been identified as a stakeholder priority
- The LEP and Solent Transport Partnership have indicated that funds could be available to deliver some or part of the recommendations
- Transport 'solutions' are required to unlock housing approvals for next 10-25 years

What's the bigger picture?

- Growth and a change in type of freight traffic on this and nearby routes mean that these changes need to be considered together

What does the answer look like?

- Station improvements at select locations
- Service changes (eg potentially fewer station calls)
- Track layout at certain locations to allow new journey opportunities



When will the answer be ready for publication?

Draft report – February 2020

Final report – April 2020

For more details contact:- James Waight

How can resilience of the Wessex route be improved?

Why are we asking this question?

- PPM MAA is at 84% and unlikely to change significantly this financial year.
- Route and TOC stakeholders have identified a need for a route-wide study into certain assets that could be enhanced or altered to allow performance to improve
- Capacity enhancements planned for CP5 and CP6 will assist in certain areas, but require additional improvements elsewhere to improve route performance.

Why are we asking it now?

- New franchisee is in place, and has made specific commitments. Many of these are reliant on infrastructure upgrades that have neither been remitted nor are funded by NR is CP6.
- A new timetable has also been 'bought' by DfT that requires some form of enhancement to be in place
- Signalling improvements and renewals can be delivered together as combined projects

What's the bigger picture?

- The route is operating at capacity. During perturbation, service recovery can take all day after an incident.
- Dwell times exacerbate these problems at certain times.
- Power supply limitations constrain the quantum of service, which could otherwise be increased.

What does the answer look like?

- Small-scale infrastructure enhancements and signalling changes (on the back of renewals) might allow improved services.
- A package of relatively small-scale enhancements (some as suggested above) could significantly improve route resilience and 'recoverability' after incidents.



When will the answer be ready for publication?

Draft report – July 2019

Final report – September 2019

For more details contact:- James Waight

Western Route

How can the rail system best support economic growth in Oxfordshire?

Why are we asking this question?

- Oxfordshire is a key UK economic hub and has agreed a challenging growth plan with government in order to capitalise on its productivity
- The agreed growth plan requires a range of strategic plans in recognition of the system wide development required to support growth
- One of these required strategic plans is a rail strategy. This also responds to NIC recommendations on maximising the value of EWR development
- This CMSP study is required to understand options for development of the Oxfordshire rail system to best meets the county's strategic needs as well as the wider rail system strategic needs
- The study will explore Oxfordshire rail markets and consider options for new services, stations, & routes

The study comprises four specific Strategic Questions:

1. What is required from the rail system in Oxfordshire order to deliver planned growth to 2031?
2. How can the rail system in Oxfordshire influence the location & scale of additional growth sites?
3. What does the rail freight industry require of the rail system in Oxfordshire?
4. How can new technologies improve the operation and attractiveness of the rail system in Oxfordshire?

Why are we asking it now?

- The NIC recommended undertaking an Oxfordshire Corridor Study in 2017 as a first step to introducing passenger services on the Cowley Branch Line. HMT committed funding for development of Oxfordshire rail interventions in the Autumn 2017 budget, dependent on matched funding from local stakeholders
- A strategy for rail in Oxfordshire is required to guide the use of this funding (i.e. which interventions align best with stakeholders' objectives). DfT asked SO Western to lead this study following the CMSP process

What's the bigger picture?

- NR is leading a significant Oxford corridor investment programme culminating in Oxford Phase 2
- East West Rail Company is leading a major programme to deliver EWR services to Oxford
- Oxfordshire authorities have agreed a Housing & Growth Deal and are producing strategies including a Local Industrial Strategy, Oxfordshire 2050 plan, and refreshed Local Transport Plan
- NR has identified a longer term need to further enhance capacity in the Oxford station area and south of Oxford, and stakeholders maintain aspirations for a station area masterplan
- This study will align with these to create a strategy for rail in Oxfordshire

What does the answer look like?

- Outputs will include a set of Conditional Outputs for rail in Oxfordshire; a suite of ITSS for rail in Oxfordshire; a prioritised list of interventions linked to growth benefits enabled; a short, medium, and long term Oxfordshire rail investment portfolio; and a summary strategic report describing the strategy.
- The prioritised list of interventions can be used to guide and support cases for further development



When will the answer be published?

- Oxfordshire rail Conditional Outputs – April 2019
- Oxfordshire ITSS and prioritised list of interventions – July 2019
- Oxfordshire rail strategy – March 2020

For more details contact: David Tunley, Head of Strategic Planning, SO Western

What is the forecast future demand for rail services in the Thames Valley?

Why are we asking this question?

The Western Route Study (2015) identified a number of interventions for implementation in the mid 2020s, based on meeting the future indicative train service specifications informed by growth projections within the market studies. This question is seeking to understand whether those growth assumptions, and therefore the timeline for the interventions, remains the same as in 2015.

Why are we asking it now?

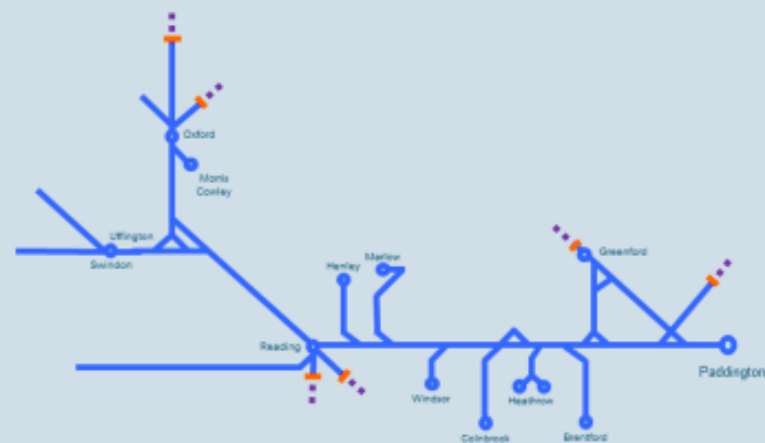
If the interventions are required in the mid 2020s, development work needs to commence within the next 12-18 months, and therefore validation of the growth assumptions is required.

What's the bigger picture?

Following the significant amount of investment in the Thames Valley in the current enhancement programme, the Western Route Study identified a number of longer term requirements in order to keep meeting the growth forecast. The Thames Valley continues to grow and this study will revisit and refresh elements of the Route Study to continue to make the case for investment in this key corridor.

What does the answer look like?

We will produce a report consisting of a series of sensitivity tests on the 2013 growth assumptions which will inform stakeholders of the need and expected timeline for interventions.



When will the answer be ready for publication?

Draft report: May 2019

Final report: September 2019

For more details contact:- David Tunley, Head of Strategic Planning, Western

Appendix F – Capital expenditure controls improvements

System Operator Response to Nichols Recommendations						Network Rail	
Source: Review of the Network Rail System Operator CP6 Processes and controls for investment decisions relating to capex spend							
Objective	Themes	Recommendations	NR Response	Where this will be captured	Progress	Timescale	
To ensure that the SO is well equipped to deliver its capital expenditure programme in CP6	Industry wide engagement	R6: Define the roles of Industry representatives through relevant engagement with the Industry and ensure appropriate representation at the various governance levels within the CP6 SO capex programmes.	A6a: We will define and agree with OPSG the role of the industry representatives on the Programme Boards and their relationship with OPSG.	Paper submission and minutes of approval at OPSG	Complete	30/09/2018	
			A6b: Industry representatives on the Programme Boards will approve and sign off acceptance of their role .	Commitment letters Issued and accepted by individual members	Complete	28/08/2018 WSM (*)	
		R7: Have a clear process for gaining buy-in from the industry representatives to the aims and objectives of the programmes.	A7: We will ensure that each CAPEX Programme will have aims and objectives endorsed at OPSG in the form of programme brief / vision statement or blueprint.	OPSG minutes confirming approval of documented aims and objectives	Complete	30/09/2018 WSM (*)	
		R8: Continue to ensure that single source data is used for consistency of reporting to all meetings that have Industry wide representation, including information supplied to the planned SO Advisory Board.	A8: We will maintain a consistent source of reporting to external bodies, including SO Advisory Board. A note of the proceedings at the SO Advisory Board will be published for transparency.	Examples of programme reports to external bodies	On track	31/03/2019	
		R9: Clarify the appropriate route for escalation of issues for the agreed industry representatives.	A9: We will produce an escalation process map demonstrating the relationship between existing industry fora, and the SO governance framework and include this within the role brief of the industry representative.	Approved escalation process map incorporated into role brief of the industry representative	On track	31/03/2019	
	Internal Network Rail Processes and Controls	R1: Define the critical success factors and metrics that will help demonstrate the effectiveness of the processes and controls and review regularly throughout CP6	A1: We will define and report on critical factors and metrics which measure success of our key processes and controls, such as the attendance of Industry representatives at CAPEX Programme Boards. The report will be collated and analysed by the SO PMO.	Controls Success Metrics reporting	On track	31/03/2019	
		R3: Ensure stage gate reviews are supported by appropriate Network Rail assurance by those outside the SO direct management team.	A3: We will agree the principles of robust stage gate reviews at the Delivery Board. These will be implemented across the SO and will include an appropriate level of NR assurance.	Paper to Delivery Board and evidenced in programme stage gate minutes	On track	31/03/2019	
		R4: Consider whether and how the SO's investment authority would benefit from relevant expertise and capability to consider whole industry benefits, in order to provide more effective challenge. Options could include the creation of a new SO Investment panel.	A4: We will develop an options paper for the SO Managing Director, working with NR Group Investment and subject matter experts, to support selection and implementation of the investment authority solution.	Options paper & meetings scheduled	On track	31/03/2019	
		R5: Ensure the roles of those attending the programme board are clearly defined and documented.	A5a: We will ensure all industry representatives who attend CAPEX Programme Boards will approve and sign off the remit of their role as a board member.	Signed commitment letters	Complete	28/08/2018 WSM (*)	
			A5b: We will include within the Terms of Reference for each programme board clarity of the roles of programme board members	Terms of Reference for Programme Boards	Complete	24/10/2018 WSM (*)	
		R10: Provide greater definition of the roles of key personnel associated with the delivery of the programmes, including the sponsor, client, business change manager and end user practitioner representative.	A10: We will ensure that each programme brief will be approved at Programme Boards and will include Identification and accountabilities of key roles through the use of a Responsible, Accountable, Consulted and Informed (RACI) Matrix.	Programme briefs as approved at MSP4NR Stage 1	On track	31/03/2019 WSM (*)	
	Programme and portfolio management capability development	R2: Investigate the practicality of developing a strategy that gives consideration to allocating some contingency at overall portfolio level as well as at an individual programme level.	A2: We will ensure that our reporting to the Delivery Board will include allocation and spend at a programme and project level so the Delivery Board can manage contingency across the portfolio.	Example reporting to Delivery Board	Complete	31/12/2018	
		R11: Assess how programme resource and training needs change throughout the various lifecycles of the programme during CP6.	A11: We will refresh all resource plans to forecast the programme and business resource requirements at each stage gate and ensure this is reflected in the CP6 Delivery Plan.	Example portfolio resource reports and aligned to the Delivery Plan	Amber	31/03/2019	
		R12: The two PMO's should ensure that resources are managed at an overall portfolio level to ensure their most efficient utilisation across the individual capex programmes.	A12: We will ensure that that our reporting to the Delivery Board will include programme resource information to enable Delivery Board to review and manage portfolio resources on a periodic basis.	Example reporting to Delivery Board	Complete	31/12/2018	
A number of opportunities for further improvement were identified by the review. The majority of these opportunities are incorporated within the outcomes of the SO's proposed response. We will further assess the remaining opportunities as we progress in the delivery of the response and at appropriate points in the development of our CP6 Delivery Plan					Note: (*) as programmes come online	Note: (*) as programmes come online	
System Operator Planning a better network for you							

System Operator Planning a better network for you

Appendix G – CP6 income and expenditure

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

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. Total costs net to zero because we also show the SO 'charge' to routes for SO services.

Table 12.1: CP6 expenditure forecast

£m in cash prices	19/20	20/21	21/22	22/23	23/24	Total	Other*	CP6
Support	53	55	58	60	62	289	48	337
Operations	0	0	0	0	0	0	2	2
Maintenance	0	0	0	0	0	0	(1)	(1)
Renewals	8	18	23	28	30	107	13	119
Schedule 4 & 8	0	0	0	0	0	0	0	0
EC4T, industry costs and rates	0	0	0	0	0	0	12	12
System Operator						0	(478)	(478)
GPF: route	0	1	1	1	1	4	0	4
GPF: contingent asset management	0	0	0	0	0	0	0	0
GPF: centrally-held						0	5	5
Total costs	61	74	82	90	92	400	(400)	0

*Other represents the SO allocation of national function costs.

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

Table 12.2: Business Plan vs. Final Determination expenditure assumptions

£m in cash prices	CP6 Business Plan			Final Determination			Variance		
	Route	Other*	CP6	Route	Other*	CP6	Route	Other*	CP6
Support	289	48	337	243	37	279	(46)	(11)	(57)
Operations	0	2	2	0	1	1	0	(1)	(1)
Maintenance	0	(1)	(1)	0	5	5	0	6	6
Renewals	107	13	119	65	16	81	(41)	3	(38)
Schedule 4 & 8	0	0	0	0	0	0	0	0	0
EC4T, industry costs and rates	0	12	12	0	16	16	0	4	4
System Operator	0	(478)	(478)	0	(391)	(391)	0	87	87
GPF: SO	4	0	4	4	0	4	(0)	0	(0)
GPF: contingent asset management	0	0	0	0	0	0	0	0	0
GPF: centrally-held	0	5	5	0	5	5	0	0	0
Total costs	400	(400)	0	312	(312)	0	(88)	88	(0)

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

Variances to expenditure compared to ORR's final determination is set out in Section 9 of this Strategic Plan, outlining changes to operating and capital expenditure to strengthen the System Operator and invest in timetabling capability.

CP6 income forecast

SO costs are 'charged' to the routes. Table 12.3, below, sets out our latest view of the allocation of SO costs to routes.

Table 12.3: CP6 income forecast

<i>£m in cash prices</i>	19/20	20/21	21/22	22/23	23/24	CP6
Anglia	6	8	8	9	9	40
LNEEM	14	17	19	21	22	92
LNW	15	18	20	21	22	96
South East	9	11	12	13	14	60
Wales	5	5	6	6	6	27
Wessex	5	6	7	7	8	33
Western	7	8	8	9	9	41
Scotland	8	9	10	11	11	49
FNPO	7	8	8	8	8	40
Total	76	90	97	106	109	478

In calculating the funding settlement for CP6, ORR made assumptions about the amount of SO cost allocated to each route. Table 12.4, below, compares our CP6 business plan allocations with ORR's PR18 final determination assumptions.

Table 12.4: Business Plan vs. Final Determination income assumptions

<i>£m in cash prices</i>	CP6 Business Plan	Final Determination	Variance
Anglia	40	30	10
LNEEM	92	70	23
LNW	96	73	23
South East	60	51	8
Wales	27	23	4
Wessex	33	26	7
Western	41	29	12
Scotland	49	43	6
FNPO	40	47	(7)
Total	478	391	87

Appendix H – Glossary of terms

Term	Meaning	Term	Meaning
A&F	Analysis and Forecasting	F2N	Felixstowe to Nuneaton
APM 3PM	Association of Project Management; Portfolio, Project and Programme management model	FNPO	Freight and National Passenger Operator Route
ARS	Automatic Route Setting	FOC	Freight Operating Company
ATOC	Association of Train Operating Companies	GOB	Gospel Oak to Barking
ATTune	ATTune tool is developed to support identification of conflicts in the timetable	GRIP	Governance for Railway Investment Projects
BAME	black, Asian, and minority ethnic	HLOS	High Level Output Specifications
BAU	Business As Usual	HS1	High Speed One
BTQEZ	Bristol Temple Quarter Enterprise Zone	HS2	High Speed Two
CAPEX	Capital Expenditure	HSR	High Speed Rail
CDM	Construction Design and Management	IIA	Initial Industry Advice
CMSP	Continuous Modular Strategic Planning	IM	Infrastructure Manager
CoP	Code of Practice	ITT	Invitation to Tender
CP5	Control Period 5 (2014-2019)	Legion	Dynamic pedestrian simulation software used to carry out our station capacity analysis
CP6	Control Period 6 (2019-2024)	LEP	Local Enterprise Partnership
CP7	Control Period 7 (2024-2029)	LNE&EM	London North Eastern and East Midlands route
D&I	Diversity and Inclusion	LNW	London North Western route
DfT	Department for Transport	LTTP	Long Term Planning Process
DR	Digital Railway	MD	Managing Director
ECML	East Coast Main Line	MML	Midland Main Line
ESG	Event Steering Group	MOIRA	A passenger demand forecasting system supporting our economic analysis and forecasting
ETCS	European Train Control System	MoU	Memorandum of Understanding
EWR	East West Rail	MSP4NR	Managing Successful Programmes for Network Rail - standardised project management methodology for Network Rail

NLL	North London Line	SO	System Operator
NR	Network Rail	SoAR	Sale of Access Rights
NPR	Northern Powerhouse Rail	SOBC	Strategic Outline Business Case
S&P	Strategy and Planning	SoFA	Statement of Funds Available
NTF	National Task Force	SOFF	System Operator Fit for the Future
ONW	On Network Works	SRIPAG	Scottish Rail Industry Planning Advisory Group
OPA	Operational Planning Assistant	SSPG	Scottish Strategic Planning Group
OPEX	Operating Expenditure	SRTs	Sectional Running Times
OPSG	The Operational Planning Strategy Group	STP	Short Term Planning
ORR	Office of Rail and Road	TF	Transport Focus
POG	Planning Oversight Group	TfL	Transport for London
PPS	Possession Planning System	TfN	Transport for the North
PR18	Periodic Review 2018	TOC	Train Operating Company
PSP	Principal Strategic Planner	TPRs	Timetable Planning Rules
PTEs	Passenger Transport Executives	TPS	Train Planning System
R&D	Research and Development	TRIP	Timetable Rules Improvement Programme
RACI	A responsibility assignment matrix (also known as RAM Matrix)	TS	Transport Scotland
RailSys	Capacity & Capability modelling software used to support analysis on rail capacity	TT	Timetable
RDG	Rail Delivery Group	TW-{x}	The number of weeks prior to a timetable week commencing.
RFG	Rail Freight Group	UKIM	UK Infrastructure Managers
RFOA	Rail Freight Operators' Association	W&W	Wales and Western
RIA	Railway Industry Association	WACC	Weighted average cost of capital
RIPG	Rail Industry Planning Group	WCML	West Coast Main Line
RMD	Route Managing Director	WebTAG	Transport Analysis Guidance
ROSCOs	Rolling Stock Owning Companies	WBPF	Whole Business Performance Framework
RSIT	Route Services Information Technology	WTT	Working Timetable
RSSB	Rail Safety and Standards Board		
SBP	Strategic Business Plan		
SNTB	Sub National Transport Body		