

Infrastructure Projects Strategic Plan

March 2019

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1. Foreword and Summary

1.1. Introduction

Infrastructure Projects (IP) is the national infrastructure delivery arm of Network Rail and is responsible for the delivery of all major infrastructure on the Routes. This includes works to increase the capacity of the network (enhancements) for passengers and renewal works which is the replacement of life expired infrastructure with modern equivalent. Most enhancements are multi-disciplinary in nature and renewals are asset specific.

Last year, IP delivered £5.7bn (2017/8) of work nationally, supported the delivery of works undertaken by the Routes' and is on course to deliver £28bn of works for this control period (2015 – 2019).

On behalf of Network Rail, IP manages:

- Delivery of integrated railway system solutions
- The complete project lifecycle
- Engineering and design
- Supply chain
- Internal client
- Support services and assurance

With train performance in the spotlight, IP's key priority is to deliver works safely and within possession, enabling the railway to be handed back to the Routes on time with no or minimal impact on passengers.

In addition, IP as an integrated part of Network Rail minimises the transaction costs between it and its internal clients. This is particularly important regarding the management of risk on large and complex enhancements and renewals. IP is structured to manage the portfolio on a matrix basis with regional and major programme leads working closely with functions. This enables the portfolio to be delivered efficiently, effectively and safely with appropriate levels of governance. It also facilitates continuous improvement and IP's ability to challenge itself. As a service organisation, IP supports the devolved Route businesses by enabling continued maturity of Routes' interfaces, working collaboratively with route sponsors who own the client relationships.

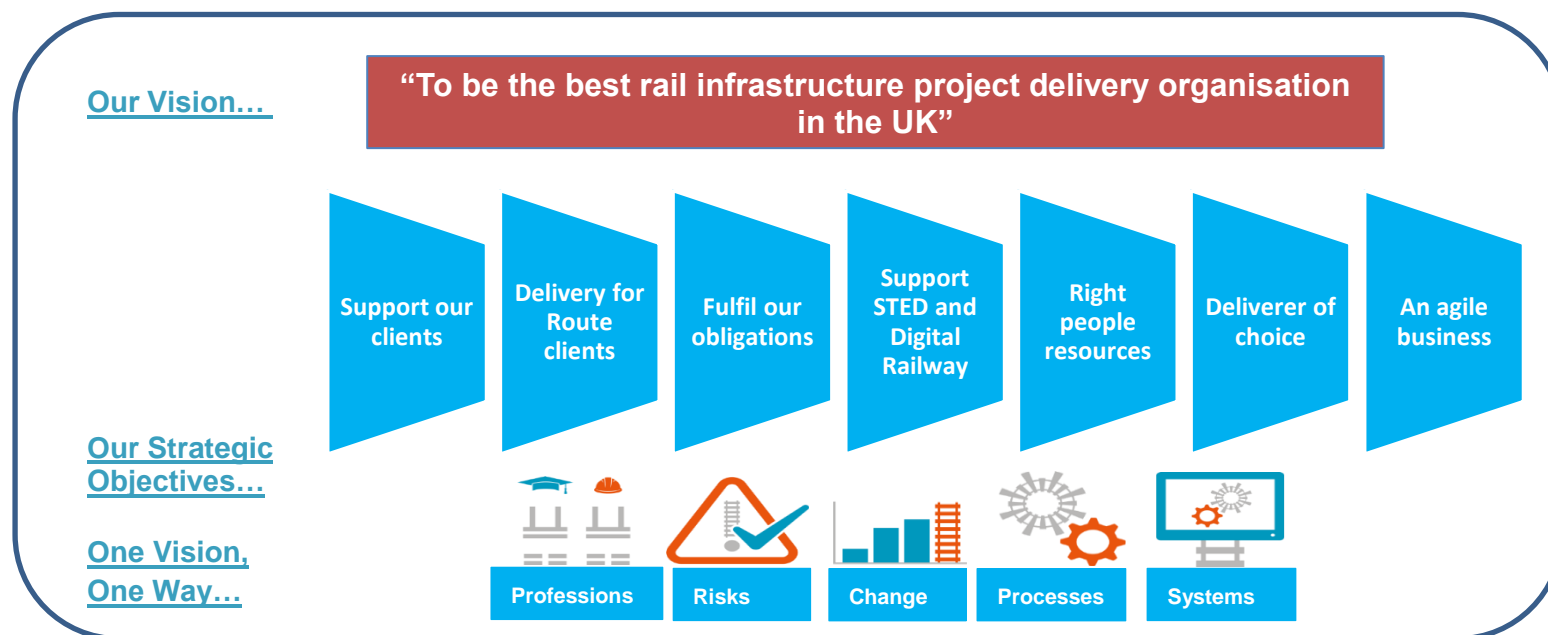
Network Rail was awarded "Client of the Year" in both 2016 and 2017 by the New Civil Engineer, reflecting significant improvements in its collaborative working, supplier relationships and delivery performance. In 2017, IP became one of the first six organisations globally to secure certification to ISO 44001, the new international standard for collaborative working.

In addition, IP uses the P3M3 (Portfolio, Programme and Project Management Maturity Model) methodology as a management maturity model to assess how it delivers its projects, programmes and portfolio across the organisation. A recent independent review found that IP had demonstrated an exceptional level of improvement since the start of the Control Period in 2014, achieving P3M3 maturity level 3 in all its regional and national portfolios. IP Signalling recently achieved maturity level 4 and has been recognised as the highest performing project management organisation in the database of global organisations (Source:

Aspire Europe Ltd, September 2018). This places Network Rail in the top 10% of project delivery organisations globally and a world leader in the global transport sector. IP will build on these achievements in CP6 to enable it to lead and influence the industry as a client of choice through the deployment of best practices and efficient and cost-effective delivery of projects.

1.2. Vision & Strategic Objectives

Since the Hendy Review and a re-baselining of the CP5 Enhancement Delivery Plan 18 months into the control period, substantial changes have been made to how IP develops, manages and delivers major programmes. The Enhancement Improvement Programme agreed with the ORR was implemented to address concerns raised on project development and delivery; this includes strengthening the functions in the centre and introducing the professions to support the operations of a matrix organisation. In response to these recommendations, IP has developed a change programme designed to ensure we have the right capabilities and processes with a coordinated and prioritised approach to risk management and business change. The **One Vision One Way (1V1W)** programme is aimed at developing a consistent approach to strengthening our internal processes and structure to be able to deliver the wider Network Rail Strategy and help to achieve our vision of **being the best rail infrastructure project delivery organisation in the UK**.



IP's leadership team has developed seven strategic objectives to support the achievement of IP's vision. These set out to unify the business operating model across IP's regions, programmes and functions, ensuring that Route customers can expect services which match their needs and expectations to achieve their plans. IP's seven strategic objectives are:

1. *Support NR clients in developing their propositions for increasing network capacity.*
2. *Safely deliver infrastructure projects 'on time', 'on spec', 'on cost' for our Route clients.*
3. *Fulfil our obligations for NR and externally (DfT, Regional government, Operators & ORR.)*
4. *Support and develop (a) STED and (b) Digital Railway.*
5. *Provide the right level, quality and volume of people resource.*
6. *Lead and influence the UK rail industry and are a client of choice.*
7. *Develop an agile business*

The vision and strategic objectives for IP are under review in terms of how our level 1 risks, controls and change programmes map to these. In addition, these will be updated as necessary to reflect any changes required as part of the Network Rail internal 100-day review by our new CEO and the Williams review.

1.3. Role of IP in Network Rail

IP is the main infrastructure project delivery arm of Network Rail. Its role includes:

- To manage the balance of risk control, project complexity and cost effectiveness by allowing internal resources and systems to be used in the most productive and efficient manner.
- To be the technical authority for NR on cost planning, commercial strategy and delivery; setting policy and providing assurance and governance on capital delivery to the Board and Executive Committee.
- To enable closer collaboration with internal NR functions and Route clients.
- Provides adherence of world class standards and processes to support efficient delivery of programmes.
- Delivers economies of scale in project delivery with increased and large output leading to decrease in construction costs. Also, lower real costs of internal resources with no third-party margins.
- Control over its design and development capabilities for whole life project efficiencies and ability to grow internal key infrastructure resource.
- Focus on delivery of an assured and integrated railway system solution resulting in a safe, secure, performing, reliable, operable and maintainable railway.
- To assess the deliverability of renewals and committed enhancements as set out in the Route Strategic Business Plans

Currently the GRIP governance process is used to allocate enhancements, using a level of control (LoC) process which provides a risk-based assessment and guidance on the effort and detail required for planning, reporting and controlling projects and ultimately dictates the delivery organisation. The assessment takes account of five project considerations (regarding novelty, technology & design, complexity, pace and operational impact), and four Levels, which ultimately derive an overall project assessment score from LoC 1 (high) to LoC 4 (low). The Sponsors' Handbook (version 3.0 dated January 2016) then states how the financial threshold and LoC are applied at various GRIP stages:

- If the project is Level of Control (LoC) 1 or 2 IP will be the Deliverer
- If LoC 3 or 4 and the project value is >£250k the Deliverer can be IP or another internal Deliverer

- If LOC 3 or 4 and <£250k the Deliverer can be IP, another internal Deliverer, or an external Deliverer
- Projects >£250k limit can be delivered by an external Deliverer by agreement between Route and IP

The process of allocating renewals works is less defined but there is ongoing engagement to standardise this approach across all capital delivery. This will enable internal resources to be optimised to achieve the best outcomes on capital infrastructure delivery.

There are several potential delivery model options available across the renewals, enhancements and third-party funding categories. The table below shows how work has been allocated in the current control period between the various delivery organisations:

ALLOCATION OF CP5 WORKS BY DELIVERER

	<u>Funding Programme</u>	<u>Clients</u>	<u>Deliverer</u>	<u>% of CP5 Allocated Works</u>	
1	Renewals	Route MD	Internal -Infrastructure Projects	63%	100%
2	Renewals	Route MD	Internal - Works Delivery (Inc Maintenance)	25%	
3	Renewals	Route MD	Internal – Others NR	12%	
4	Enhancements	System Operator/ Route MD	Internal -Infrastructure Projects	95%	100%
5	Enhancements	System Operator/ Route MD	Internal - Works Delivery (Inc Maintenance)	2%	
6	Enhancements	System Operator/ Route MD	Internal - Others NR	3%	
7	Enhancements	System Operator/ Route MD	External - PMO Outside NR	0%	
8	Third Parties (ASPRO)	N/A	External – Third parties	<1%	

1.4. The Role of IP in Project Delivery

IP, as the delivery expert of Network Rail, plays a pivotal role in the delivery of infrastructure projects. It is supported by various parts of the organisation to enable successful and effective project delivery performance. This includes:

System Operator: The SO team provide effective timetable management for access and possessions to enable infrastructure construction on the network

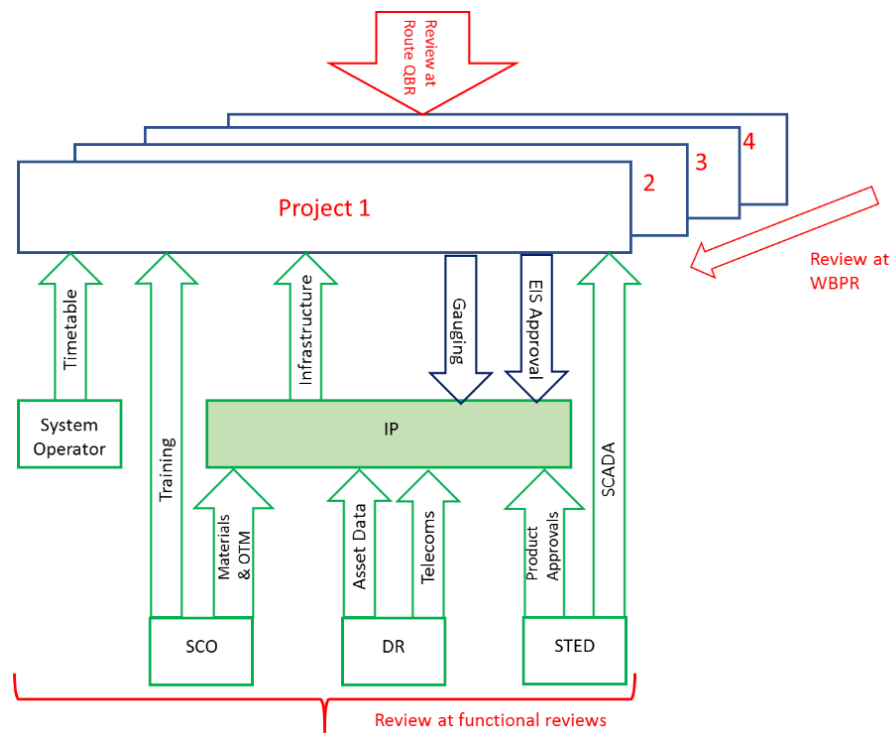
while maintaining operations and customer satisfaction levels.

Supply Chain Operations: The SCO team provide training, procurement and materials management services to support project delivery teams and enable efficient lead times in the procurement and provision of materials and other critical resources.

Digital Railway: DR provide Asset Information Services to project teams by collecting, analysing and communicating information about Network Rail's infrastructure assets to enable accurate, informed decisions to be made that balance cost, risk and performance on project delivery. They also provide Telecoms services and capability that enable efficient project delivery operations.

Safety, Technical & Engineering: STED provide and set guidance on workforce safety, health & wellbeing and environment & sustainable development within the project teams. They provide the technical authority and define industry accepted engineering standards.

These are underpinned by executive reviews to provide programme oversight, challenge performance and drive efficiencies at the Routes, Whole Business and the functional levels. The diagram below shows the integrated overview of all NR operations to support efficient project delivery.



1.5. Contestability in CP6

The operating landscape for CP6 is expected to change significantly. With limited funds available to the government to invest in the railway, enhancement funding will be more difficult to obtain. There is a real aspiration to increase third party investment in the railway infrastructure and make it less bureaucratic for other project delivery organisations to work on the network thereby increasing contestability which will drive innovation and reduce costs.

As previously stated, Infrastructure Projects has delivered most of renewals (63% of CP5 works) and enhancements (95% of CP5 works) on the network. However, with the introduction of greater contestability in both the delivery and financing of infrastructure works, IP will be required to operate more dynamically. As more infrastructure works will not always be financed or funded by Government, alternative sources of capital will consider at alternative delivery model for works. There will be far greater emphasis on demonstrating value for money in terms of cost and schedule certainty. In addition, the Routes will also have greater discretion as to whether they make use of internal delivery mechanisms (including IP) when procuring infrastructure renewals and enhancements.

IP welcomes this increased competition as this will provide the right environment to benchmark its services, costs and processes against other delivery organisations. This will help IP gain independent perspective about how well it is performing, identify best practices and identify improvement opportunities. IP is positioning itself to maximise the benefits of a more competitive operating environment; this includes the development of an agile workforce with the right professional capabilities and competencies.

1.6. Innovation in CP6

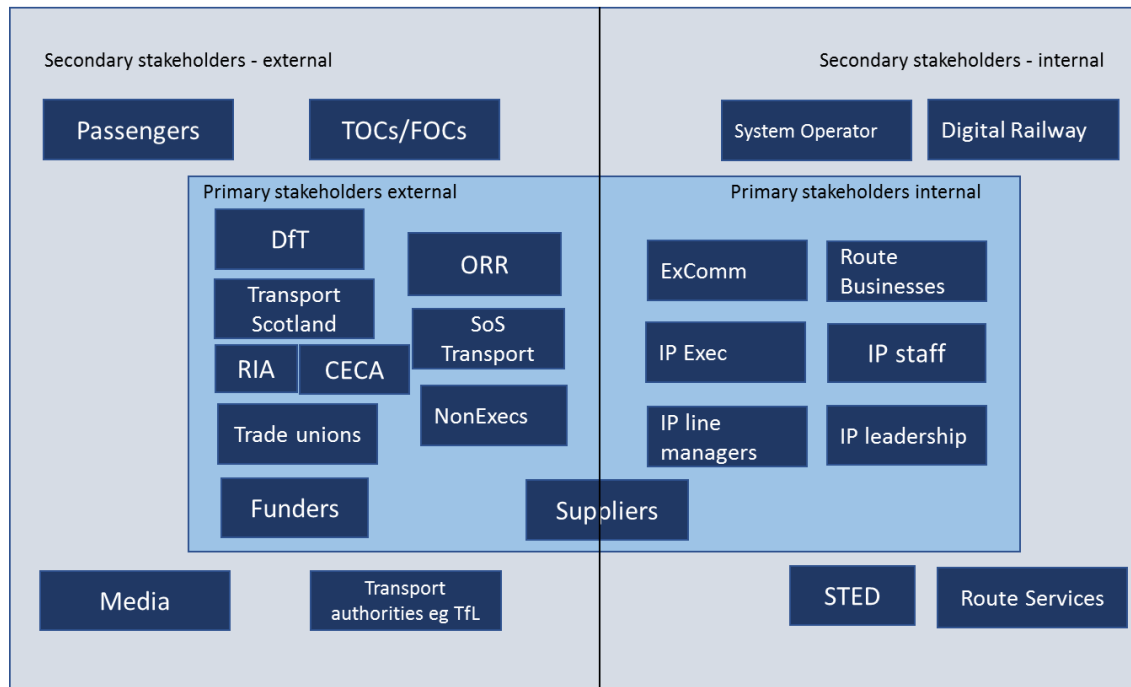
In CP5, IP created programme-specific innovation initiatives for the improvement of safety, delivery, performance and efficiency. Our approach is now being developed to feed into the product approval process, and to help to soft-land new R&D at Rail Industry Readiness Level 6 into live projects in a safe and efficient way. In CP6, IP will continue to build the already strong relationship that IP has with the innovation and R&D teams in STE.

IP will take a more strategic approach to innovation by co-ordinating effort in accordance with IP-specific challenge statements that we will share with the market, engaging more strongly with the supply chain via joint events with RIA and other industry forums.

2. Objectives & Stakeholder priorities

2.1. Who are our Stakeholders?

IP's internal and external stakeholders can be categorised into primary and secondary groups as follows:



2.2. Stakeholders & Priorities

In developing the strategic plan and the 1V1W change programme, IP has engaged with a wide range of stakeholders and their influence and interests have been considered. There will continue to be stakeholder engagement throughout the remainder of CP5 and into the next control period ensuring our stakeholder needs underpin the development of our core objectives.

IP's main primary stakeholders are the Route Clients who own the plans and IP works collaboratively with route sponsors who own the client relationships. Other stakeholders include internal NR functions such as System Operator, Planning and Regulations etc. while external stakeholders include our suppliers and alliance partners. Other stakeholder groups include government bodies (DfT, ORR local authorities etc.), transport companies, industry groups, local business groups and passengers.

Satisfying its customer needs and delivering for its clients underpin IP's strategic objectives and measures that demonstrate its performance in this area are included in the scorecard objectives. There are stakeholders' engagement frameworks for both internal and external stakeholders that support the delivery of this ambition. Examples of these include:

Key Account Management

(IP) is committed to delivering for its customers and this is underpinned by its key account management (KAM) programme of activities. Central to KAM is listening to internal customers and using their feedback to create performance improvement plans (KAM Plans) to deliver a better service to them. A consistent, structured approach is used to gather, and report and act upon, customer feedback. Every year face-to-face interviews are held with key Route and Route-aligned System Operator customers to obtain feedback about their levels of satisfaction with IP's performance across seven categories; namely, customer focus, communication, people, value, safety & sustainability, time, and development & delivery. The feedback gathered is both a rating (converted to a score for reporting purposes) and narrative.

This feedback is carefully reviewed and then used to inform improvement action plans (KAM Plans). These plans are shared with, modified by, and agreed with key customer groups (e.g. the Route businesses for the 2018/19 Route KAM Plans).

The KAM action planning process is used to drive IP forward, improve our relationship with the Route businesses and support a better overall service to NR's customers.

Progress updates for each Route KAM Plan are reported and reviewed at IP executive team meetings, regional / major programme executive team meetings and periodic/quarterly business review meetings.

A single integrated specific plan has been developed for each Route which includes track and signalling for the first time, in addition to actions relating to our northern programmes for the LNE and LNW plans.

Whilst these plans are very Route-specific and address the feedback we have received, they include improvement actions that relate to the five key feedback themes. These actions include:

- Identifying points of contact and reviewing how we communicate to improve customer focus
- Reviewing how project progress is communicated and improved

- Undertaking work to demonstrate the value that IP brings to Routes and identify opportunities for efficiencies through the business planning process and by working together
- Understanding where and how best to support Routes in achieving their safety vision
- Reviewing our project close-out process to deliver improvements in quality and timeliness

The following key activities are planned for the next six months:

- Continued focus on delivering the improvements identified in the Route KAM Plans, driving IP forward, improving the relationship with the Route businesses and supporting a better overall service to NR's customers
- Extension of KAM activities to enable KAM Plans to be developed for other key customer groups (e.g. the wider System Operator customer groups)
- Preparation for, and completion of, the 2019 KAM survey

Going forward, there are plans to introduce KAM scores for STED and the System Operator.

Supplier Satisfaction

As part of the effort to improve stakeholder engagements with its suppliers, a Strategic Supplier Interface Group with the Managing Directors of the 12 largest infrastructure and systems suppliers has now been formed. This will enable Network Rail Infrastructure Projects to keep suppliers informed on the Supply Chain Strategy development and enable them to provide direct feedback. This is supplemented by regular one-to-one relationships. The Commercial Directors' Forums which run bi-annually, Supplier Account Management (SAM) meetings which run every quarter and the Engineering Director's Forums which run tri-annually will continue to support this activity.

Encouraging SMEs is an important component of the CP6 strategy. Industry bodies such as the Rail Industry Association (RIA) and Civil Engineering Contractors Association (CECA) have therefore been engaged to facilitate meetings with SMEs to gain feedback on how best to ensure that Network Rail contracting strategy allows for appropriate relationships with SMEs and encourages Tier 1 suppliers to engage with cost effective local SMEs as part of their supply chain activity.

Our design delivery contracting strategy has specifically targeted smaller suppliers by the introduction of a second tier set of frameworks to provide NR with direct access to smaller suppliers without having to buy these services through the tier 1s. This facilitates direct access to specialists and innovation, with associated agility, to complement our internal capability.

2.3. How the stakeholders have been engaged with: This engagement plan is the BAU for CP5 and will continue to be used in CP6.

Topic	Engagement Approach	IP Lead	Relevant Stakeholders
Key Account Management	One-to-one conversational meetings, formal meetings, annual KAM (Key Account Management) surveys	Regional Directors, Programme / Project Directors, Route Delivery Directors	NR Routes - Anglia, South East, LNW, LNE&EM, Wessex, Western, Wales & Scotland Future development to include other NR functions such as SO and STED etc.
Sponsorship	Weekly communications, a yammer feed, SharePoint site, quarterly events, annual conference and regular visits to their routes and programmes.	Head of Sponsorship, IP	Around 300 sponsors in various parts of Network Rail. They are mainly in the System Operator and Route Businesses.
Safety	Workshops, Safety Stand down days, Dialogues, formal meetings etc.	Head of Safety, Safety Managers, Advisers, RDs, Programme Directors etc.	Rail Safety & Standard Board (RSSB), Safety Technical & Engineering Dept. (STED), Contractors, other delivery teams, alliance partners etc.
Technical	Formal Meetings, reports & other communications Engineering Director's Forum Design Framework Management processes	IP Engineering NRDD	STED ORR Supply Chain RIA RSSB

2.4. Prioritised Needs Linked to Objectives Development

Stakeholder	Stakeholder Needs	Impact on Objectives Development	Relevant Scorecard Objectives
NR Routes - Anglia, South East, LNW, LNE&EM, Wessex, Western, Wales & Scotland	<ul style="list-style-type: none"> Effective delivery of projects leading to reduced delivery costs, project duration and optimised benefits Effective operation of the railway system, resulting from optimal delivery of the IP scope requirements, minimising operational costs, improving railway 	Key Account Management (KAM) metric was introduced as a scorecard performance measure for IP programmes & regions to demonstrate IP's commitment to satisfying the Route customers' needs.	Locally Driven Measures – KAM (client survey measure) Financial Performance; Asset Management; Investment Measures

	<p>performance and maximising benefits</p> <ul style="list-style-type: none"> ▪ Identification and delivery of optimal delivery solutions that fully address client needs ▪ An ability to effectively and efficiently demonstrate railway system safety, security, performance, reliability, operational and maintenance readiness ▪ Provide expertise on project delivery, commercial strategy and cost planning. 		
DfT, ORR, NR Routes, Passengers, Local authorities	Effective delivery of projects leading to reduced delivery costs, project duration and optimised benefits.	Financial Performance Measure (FPM) - one of our performances metrics was introduced in CP5 as a good indicator of value for money. Other metrics to measure programme performance include schedule adherence, regulatory milestones, post-implementation asset failures etc. In addition, ensure projects are delivered to high world class levels in safety and sustainability standards.	Financial Performance; Investment Measures – Regulatory milestones & Schedule adherence. Asset Management – 7 key volumes. Safety & Sustainable Development
Suppliers, Alliance Partners etc.	Increase in engagement, feasibility and commitment to the workbank, collaborative working to deliver required efficiencies and deliver projects to standard and safely.	Supplier Satisfaction survey results continue to be part of IP wide performance measure which demonstrates IP's commitment to ensure we have a fully engaged supply chain in the delivery of the CP6 plans. IP is also committed to provide clarity and feasibility of future workbank by publishing the national contracting strategy for the next control period.	Locally Driven Measures – Supplier Satisfaction; Safety & Sustainable Development
NR Routes, TOCs, Passengers, local business groups, local authorities	Scheduled works are completed on time to minimise disruptions to passengers' journeys and experience. Facilitate smooth running trains to support local businesses.	IP's performance on handback from possession for scheduled works has improved by about 50% from the start of the control period following improvements in standards and processes. Delayed minutes from possession overrun now stands at all-time low and account for only 0.5% of the total for Network Rail.	Investment Measures – Regulatory milestones & Schedule adherence. Train Performance – Possession Overruns & Post implementation asset failures

2.5. Specific objectives for Infrastructure Projects

This plan is predicated on the key assumptions laid out in Appendix B and will be impacted as these assumptions change

Long-term scorecard

Safety & Sustainable Development		19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	Achievability
Lost Time Injury Frequency Rate (LTIFR)	WORSE THAN TARGET									
	TARGET	Target to be set based on a glide path to achieve 0.13 by the end of CP6					TBC			
	BETTER THAN TARGET									
Close calls raised (normalised/100000hrs)	WORSE THAN TARGET	125	125	125	125	125	125	125	125	
	TARGET	150	150	150	150	150	150	150	150	
	BETTER THAN TARGET	175	175	175	175	175	175	175	175	
No. of projects using the Rail Carbon Tool	WORSE THAN TARGET									TBC
	TARGET	TBC								
	BETTER THAN TARGET									
Risk Management Maturity Model (RM3) - Safety	WORSE THAN TARGET									TBC
	TARGET	TBC								
	BETTER THAN TARGET									
Risk Management Maturity Model (RM3) - Sustainability	WORSE THAN TARGET									TBC
	TARGET	TBC								
	BETTER THAN TARGET									
Financial Performance		19/20	20/21	21/22	22/23	23/24	24/25	24/25	24/25	Achievability
FPM – Renewals (£m)	WORSE THAN TARGET	-6% of Renewals Budget								
	TARGET	0	0	0	0	0	0	0	0	
	BETTER THAN TARGET	+6% of Renewals Budget								
FPM - Enhancements (£m)	WORSE THAN TARGET	-8% of Enhancement Budget								
	TARGET	0	0	0	0	0	0	0	0	
	BETTER THAN TARGET	+8% of Enhancement Budget								
Lost Funding - Enhancement	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%	

Investment		19/20	20/21	21/22	22/23	23/24	24/25	24/25	24/25	Achievability
AIP and EDP milestones	WORSE THAN TARGET									TBC
	TARGET	TBC								
	BETTER THAN TARGET									
Schedule adherence	WORSE THAN TARGET	70%	70%	70%	70%	70%	70%	70%	70%	
	TARGET	80%	80%	80%	80%	80%	80%	80%	80%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%	100%	
Asset Management		19/20	20/21	21/22	22/23	23/24	24/25	24/25	24/25	Achievability
7 Key volumes	WORSE THAN TARGET	3 out of 7	3 out of 7	3 out of 7	3 out of 7	3 out of 7	3 out of 7	3 out of 7	3 out of 7	
	TARGET	5 out of 7	5 out of 7	5 out of 7	5 out of 7	5 out of 7	5 out of 7	5 out of 7	5 out of 7	
	BETTER THAN TARGET	7 out of 7	7 out of 7	7 out of 7	7 out of 7	7 out of 7	7 out of 7	7 out of 7	7 out of 7	
Train Performance		19/20	20/21	21/22	22/23	23/24	24/25	24/25	24/25	Achievability
Possession overruns (mins)	WORSE THAN TARGET									
	TARGET	Year on year improvement by 5%								
	BETTER THAN TARGET									
Post implementation asset failures (mins)	WORSE THAN TARGET									
	TARGET	Year on year improvement by 5%								
	BETTER THAN TARGET									
People Management		19/20	20/21	21/22	22/23	23/24	24/25	24/25	24/25	Achievability
Mandatory Training	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%	
Satisfaction		19/20	20/21	21/22	22/23	23/24	24/25	24/25	24/25	Achievability
KAM – client survey measure	WORSE THAN TARGET									
	TARGET	Year on year improvement								
	BETTER THAN TARGET									
Supplier satisfaction	WORSE THAN TARGET									
	TARGET	Year on year improvement								
	BETTER THAN TARGET									
P3M3		19/20	20/21	21/22	22/23	23/24	24/25	24/25	24/25	Achievability
P3M3	WORSE THAN TARGET	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	
	TARGET	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4	
	BETTER THAN TARGET	Level 5	Level 5	Level 5	Level 5	Level 5	Level 5	Level 5	Level 5	

Achievability definitions (applies to “target” value)	
RED	Very challenging, likely to require substantial organisational and cultural change to achieve and/or highly dependent on third party involvement
AMBER	Challenging, likely to require moderate organisational and cultural change to achieve and/or dependent on third party involvement
GREEN	Achievable, builds on existing organisational and cultural capabilities and little or no dependency on third parties for delivery

2.6. Alignment to Corporate Strategies

IP as a national function aligns itself effectively to NR corporate strategies and incorporates inputs from these into the development of its strategic and scorecard objectives for CP6. Below are a few of examples to demonstrate IP's alignment:

2.6.1. Capacity and Timetabling strategy

There is continued development and implementation of the Resource and Access Intelligent Visualisation System to provide management and de-confliction of Network Rail's key resources and provide assurance that the planned national portfolio of works is deliverable. This underlines IP's ability to determine that sufficient business and / or supply chain capability is available in a timely manner to support successful delivery, and provide insight into capacity issues. There is continued development, assurance and compliance of the DWWP standard on all IP projects.

In a bid to address some of the issues encountered earlier this year in timetabling, IP, with an agreed remit, carries out assurance to identify and monitor assumptions and dependencies between the Working Timetable and delivery of infrastructure changes. IP inputs into the Industry Timetable Assurance PMO team every two weeks, formally meeting once a period to discuss project updates/impacts/ contingency and mitigation measures, which is then fed into the periodic Steering Group meeting.

2.6.2. Planning a Better Network strategy

IP supports the System Operator's vision to be the trusted decision maker to plan the GB railway, its long-term objective to be delivering outputs while balancing competing customer needs and its process improvements in early stage project development to progress enhancements proposals to Decision to Develop in the Investment Decision Framework. This aligns with IP's own strategic objectives.

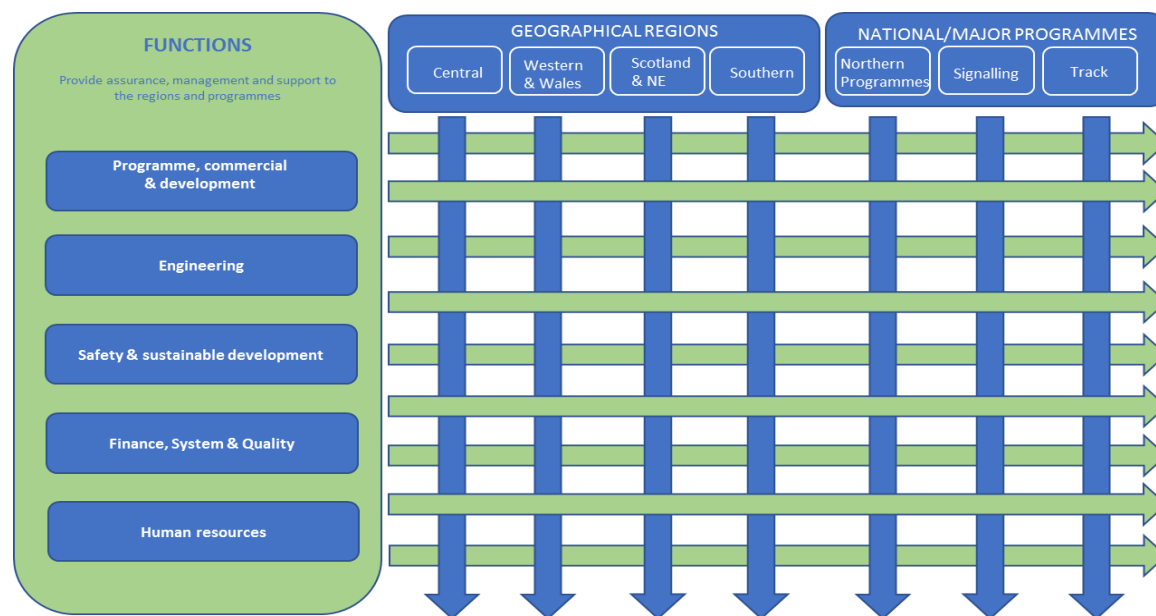
IP has developed a capability through 1V1W and the Enhancements Improvement Programme to support System Operator, with the creation of the Programme Development capability within IP regions and major programmes.

All other supporting strategies including the CP6 Contracting Strategy are discussed in Appendix A.

3. Structure & Operating Model

3.1. Structure

Infrastructure Projects' organisational structure is designed to support the goal to become more client orientated and aligns with Network Rail's devolved route structure. This places decision making closer to our customers and retains the benefits of support functions in HQ which sets policy and provides assurance and governance. This structure enables programmes and project teams to focus on delivering projects efficiently in a consistent manner within a well-established and defined governance framework.



More strategically, Ernst and Young and KPMG have recently completed reviews on the effectiveness of IP and how NR could best client capital delivery. They made recommendations on the framework of how capital delivery could be organised within NR. These recommendations led to further reviews within NR with IP working collaboratively with the Routes to propose a new structure to the delivery of capital projects.

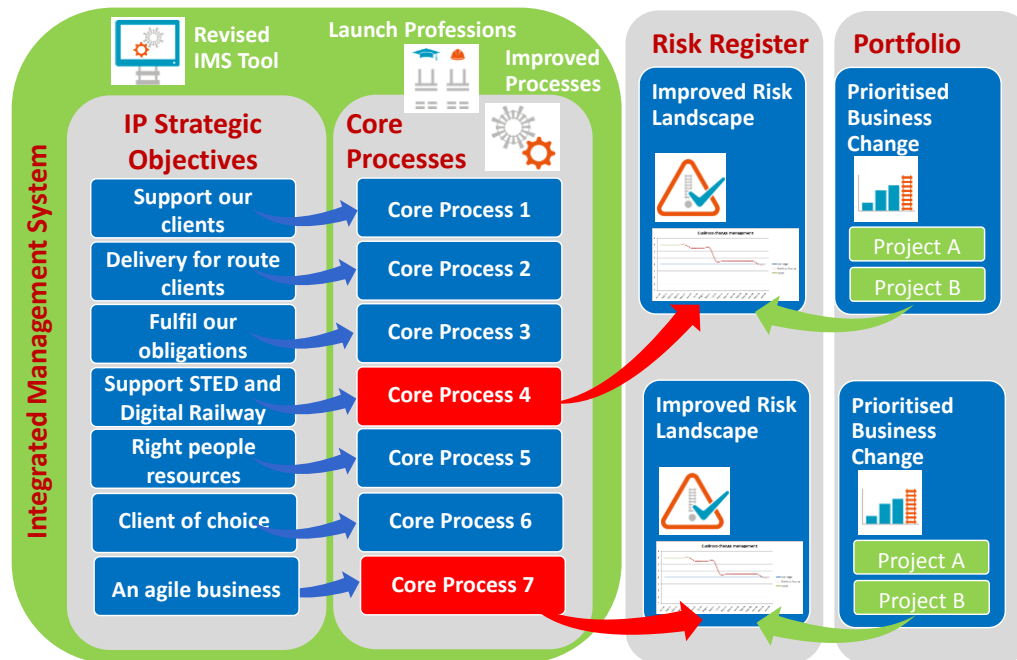
A new Capital Delivery Directorate (CDD) is being developed to replace the current IP structure. The creation of the CDD is underpinned by a wider organisation change and review of the Government and NR's operating model for enhancements planning, development and delivery.

3.2. Operating Model

One of the aims of the *One Vision One Way* change programme is to sharpen up the operating model and make sure it is fully aligned to the revised Network Rail model to continually improve our performance. The programme concentrates on achieving a single, consistent approach to the processes which underline how IP delivers its vision and making sure it harnesses the best practice within the business to do this. To deliver these objectives, there are currently 5 work streams running as follows:

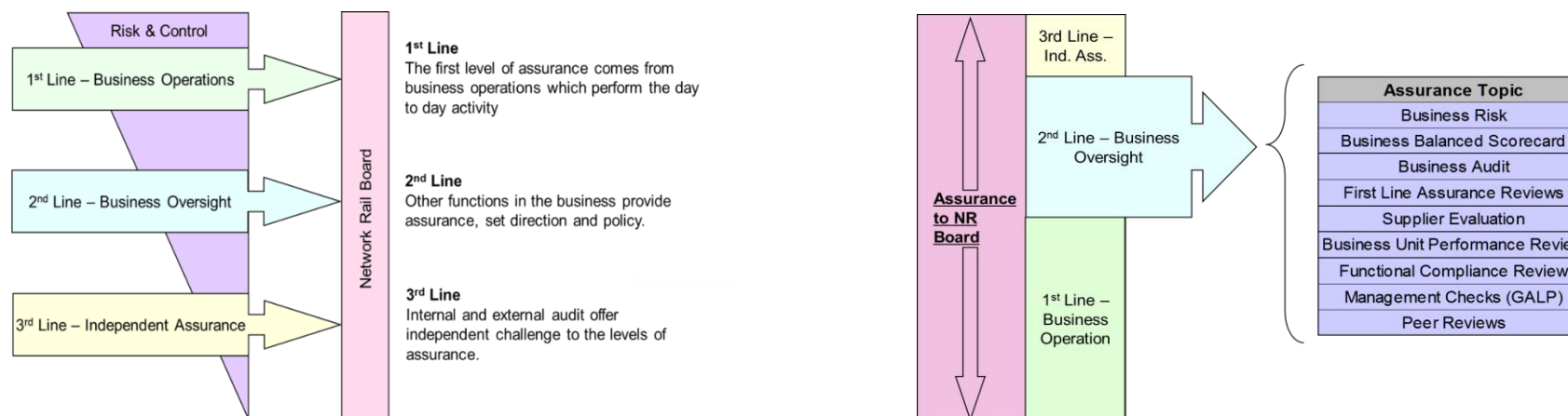
1. **Professions** – aligns everyone to a profession which will support their personal development and help the business understand what our capability and capacity is.
2. **Managing Risks** – delivers a revised risk landscape, enabling the prioritisation of business change.
3. **Prioritised Business Change** – enable any business change and improvement activities undertaken to focus on addressing risks to achieving its objectives.
4. **Improves Processes** – agrees the processes which IP will use for delivery of its vision.
5. **Integrated Management System (IMS)** – develops a user-friendly and interactive (IMS) which will host our processes and procedures.

It is expected that when these work streams are completed, they will be combined to form a new operating model as shown below:



3.3. IP Assurance Models

The IP risk and control framework, known as the IP Integrated Management System, is compliant with Network Rail Policy and is certified to ISO 9001 (Quality Management), ISO 14001 (Environment), OHSAS 18001 (Occupational Health & Safety) and ISO 44001 (Collaborative Business Relationships). In accordance with the Network Rail Board Resolution 24, IP operates the ‘three lines of defence’ approach across its business as shown below:



The first line of defence is provided by the Regional and major Programme Directors and their teams through compliance to the governance defined by the Functional Directors within the IP Integrated Management System. This compliance is assured in several ways but primarily through a Hierarchy of Management Reviews and an audit schedule, effectiveness is reviewed quarterly through the Business Assurance Committee chaired by the Finance Director of each region or programme. This is also supported by an annual Group Assurance Letter Process (GALP) whereby each Regional and major Programme Director makes a declaration of compliance against the key policies set down by Network Rail. The second line of defence is provided by the Functional Directors. There are several facets to the second line, and the diagram below defines the breadth of these. The activities are divided between ‘pan-IP’ activity and specific functional activity. The effectiveness of the second line activities is evaluated through the Business Assurance Committee, chaired by the IP Finance Director. This is also supported by an annual Group Assurance Letter Process (GALP) through which the IP Managing Director makes a declaration of compliance against the key policies set down by Network Rail across the span of the business group.

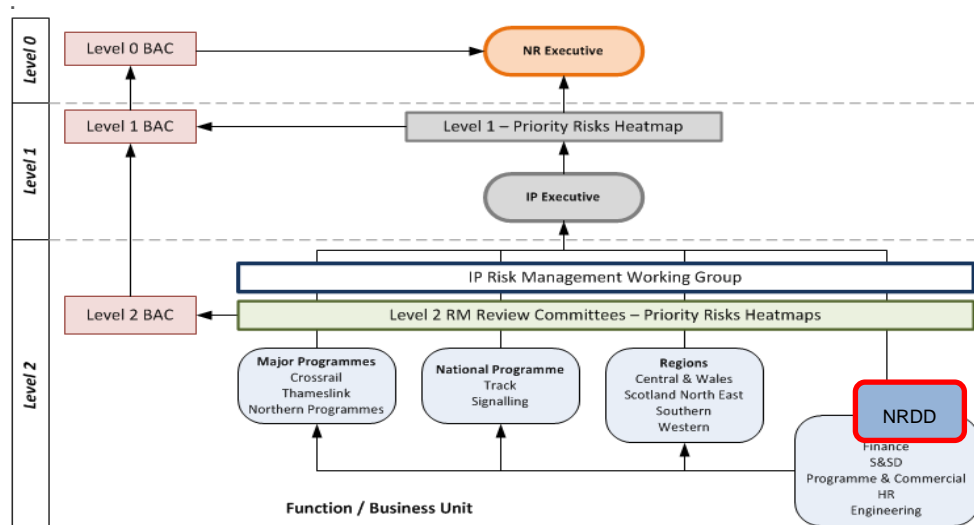
The third line of defence is provided independently and is aimed at providing reasonable assurance to the Network Rail Audit and Risk Committee regarding the adequacy of the risk management and internal control framework in operation, and to identify weaknesses and opportunities to strengthen risk management and internal control. This role is conducted through the Group Risk & Assurance Director.

4. Risks, Opportunities and Constraints

4.1. IP Enterprise Risk Model

As part of a change to the business operating model, through the 1V1W Programme, business risks have been aligned to IP's strategic objectives and associated core business process (Figure ref. above). This represents a significant step forward, as validated through external assessment and benchmarking via P3M3, which places NR IP as amongst the best in class level for risk management, with IP Signalling recently being measured as best in class. Consequently, risk management is a key item on the agenda of the Managing Director's monthly leadership meeting, where the effectiveness of actions to mitigate risks are reviewed and endorsed by the leadership team. All 'Level 1' risks are owned by a member of the leadership team who is accountable for effective mitigation. Accordingly, all business improvement initiatives are prioritised by their ability to contribute to the delivery of strategic objectives and / or mitigate 'Level 1' risks.

Given the size and scale of the infrastructure portfolio the key strategic risk is directly linked to its ability to deliver projects on time and to budget; essentially this is the strategic objective entitled 'Deliver for Route Clients' and is covered by a 'Level 0' risk. The management of 'Level 0' risks is overseen by the CEO and assured by the Audit & Risk Committee (ARC) of the NR Board who, like the passengers we ultimately serve, want assurance that everything possible is being done to deliver expectations in terms of cost, time and value for money. The latest review by the ARC took place in September 2018, with in-depth discussion and challenge around IP's role in timetable change readiness together with supply chain resilience as evidenced in response to the collapse of Carillion Plc. The Audit & Risk Committee were satisfied that the 'Level 0' risk was being controlled appropriately.



Every quarter, as part of the Business Assurance Committee (BAC) chaired by the MD, IP strategic risks (Level 1) are reviewed and decisions taken regarding escalation, delegation and retirement of risks, this is informed by a working level group which is chaired by the Head of Risk & Value Management who is at

liberty to table Level 2 risks, emerging trends and themes at the MD's monthly leadership meeting for executive action, with the implications around a 'No Deal' Brexit under consideration within government being the most recent topic. Level 2 BACs, led by Regional and major Programme Directors who report to the MD, also take place quarterly. These inform the Level 1 and Level 0 reviews. This joint approach informs the group's escalation process which in turn provides the Audit and Risk Committee of the Network Rail Board with transparency over current and emerging risks.

As part of the improvements being implemented through the operating model and governance processes, mentioned above, risk mitigation plans are established and targets developed for risk exposure; current exposure being compared to planned. These are now being plotted along a timeline (or trajectory) with reviews of the progress on mitigations being built into the agenda of the MD's monthly leadership meeting, to embed risk management.

4.2. Improvements made in CP5 and plans for CP6

Recent external reviews have provided some positive commentary about the improvements already implemented in CP5 with recommendations for further improvement being developed from both internal and external reviews. This will move IP closer to best practice, recognising that in certain areas risk management is approaching best practice. More specifically, the ORR's independent reporter observed in June 2017, that at the IP Risk Management Working Group, risks were being considered and challenged constructively to identify the key risks for escalation and aggregation at portfolio level. Furthermore, the independent assessment of P3M3 also concluded in June 2017, that risk management at portfolio level reflected best in class status when considered in relation benchmarked firms who undergo the government endorsed assessment.

As part of the plans for CP6 IP will be working to further improve its approach to risk management, particularly for major programmes where Thameslink represents the internal source of best practice, having attracted positive attention for risk management and the implementation of leading edge techniques to manage risk and contingency at programme and portfolio level. IP will continue to welcome insights from customers, independent reporters, benchmark companies as part of the commitment to demonstrate best in class risk and value management on infrastructure projects for public and private clients.

4.3. Technical Capability in IP

A new engineering and construction management function was created early in CP5 in response to ORR feedback, and following reviews of product safety and assurance. The engineering function has been shaped to respond to the three-train performance Level 1 risks owned by the Engineering Director, as described in the tables in section 4.4 below. This has resulted in the introduction and development of the following key organisational capabilities:

- Engineering assurance
- Engineering capability
- Systems integration
- Design delivery

The engineering function and associated capabilities are now approaching full maturity, and efforts will continue to enable that benefits in safety, efficiency and quality are realised in CP6. Hence, focus is being applied in developing the following areas:

- Engineering assurance
- Construction management

- Systems Integration
- Digitally enabled design (BIM)
- Technical capability management and strategic workforce planning
- Innovation
- Design delivery

4.4. Key Risks, Opportunities and Constraints

The following tables show the current level 1 risks and some of the level 2 (as of Nov 2018), opportunities and constraints of our specific scorecard objectives.

Safety & Sustainable Development		This covers Safety measures such as close calls raised and closed out and Lost Time Injury Frequency Rates (LTIFR). Safety and sustainable development in Infrastructure Projects (IP) forms an integral part of our strategic agenda which is set to support change within the entire supply chain as part of our increasingly collaborative approach to safety, sustainability and reliability.		
No.	Key constraints, risks and opportunities	What we plan to do	Owner	Timescale (start/finish)
1	[R] IP Fails to Safely Plan and Deliver its work activities leading to an increase in accidents.	Continual improvement of SHELTS, the SSD Profession and competencies are ongoing following roll-out.	Head of Corporate Workforce Safety	30/04/2018
2	[R] Fatigue Management is inadequate resulting in a safety critical incident.	Maintain emphasis on wellbeing and fatigue management particularly when planning works through blockades, given the risks associated with prolonged working without rest days.	Head of Corporate Workforce Safety	CP5 / CP6
3	[R] Driving Safety lapses result in accidents on public and private roads.	Continue to embed Management of Road Risk policy across IP and maintain a focus on Fatigue Awareness and maintain Automatic Vehicle tracking controls across the vehicle fleet.	Head of Corporate Workforce Safety	CP5 / CP6
4	[O] Safety Behaviours result in improved safety performance.	Constant focus on safety and emphasis on Safety Leadership across the organisation and reinforcement of the lifesaving rules.	Head of Corporate Workforce Safety	CP5 / CP6
5	[R] Sustainability data continues to be difficult gather and obtain baselines e.g. carbon making performance measurement challenging.	Include relevant sustainability accounting measures (e.g. carbon) into contract requirements and improve internal assurance and understanding around these.	Head of Environment & Sustainable Development	CP5 / CP6
6	[R] Full breadth of sustainability agenda not captured giving rise to challenges from stakeholders.	Create Sustainable Development Framework and associated measure integrated into GRIP stage gates to capture the holistic view of sustainability at a regional level	Head of Environment & Sustainable Development	31/03/2019
7	[O] Financial savings through improvement in waste and resource management and reduction in capital carbon	Continue to work towards enabling contractors to deliver sustainability improvements to deliver better value for money. Embed sustainability into the existing Contractors balanced scorecard.	Head of Environment & Sustainable Development	CP5 / CP6
8	[O] Sustainability culture gives rise to improvements in performance	Constant focus on sustainability and emphasis on Sustainability Leadership across the organisation.	Head of Environment & Sustainable Development	CP5 / CP6

Investments & Asset Management		This covers performance objectives on capital delivery of both renewals and enhancements including schedule adherence, regulatory milestones and key renewals volumes delivery. The objective is to support NR clients in developing their propositions for increasing network capacity and safely deliver infrastructure projects on time, on spec and on cost for Route clients.			
No.	Key constraints, risks and opportunities	What we plan to do	Owner	Customers impacted	Timescale (start/ finish)
1	[R] Failure Continue to deliver projects on time and to budget reduces stakeholder confidence.	For CP6 projects this will be addressed through continued management of the risk relating to on time / budget delivery.	P&CD, IP	Routes, Regions & Programmes	CP5 / CP6
2	[R] CP5 to CP6 work bank stability causes uncertainty in the supply chain resulting in less choice and competition.	Lead industry dialogue and address through the SBP.	P&CD, IP	Routes, Regions & Programmes	PR18 timeline
3	[R] Inadequate planning/ development and change management against baselines results in poor delivery performance.	Continue implementing improvements in planning and controls following on from the EIP.	P&CD, IP	Routes, Regions & Programmes	PR18 timeline
4	[R] Insufficient clarity and visibility of the enhancements pipeline for CP6 creates uncertainty in the supply chain leading to a reduction in delivery capability and capacity. If there is a material reduction or delay in the work that is being planned for, there is a significant risk that there will be unfunded costs.	Currently sizing Infrastructure Projects to deliver around £24 billion of renewals and enhancements in CP6. Additionally, IP is working with DfT and the supply chain to provide visibility of the enhancements pipeline to facilitate the efficient delivery of the work bank.	P&CD, IP	Routes, Regions & Programmes	CP5 / CP6

Train Performance		This covers the performance of two main specific objectives: 1) Delayed minutes from possession overruns 2) Post implementation Asset Failures			
No.	Key constraints, risks and opportunities	What we plan to do	Owner	Customers impacted	Timescale (start/ finish)
1	[R] IP fails to design and construct projects appropriately leading to failure in infrastructure	The Engineering Change initiatives include and improved design delivery capability, improved level 1 and 2 assurances (e.g. an integrated engineering lifecycle and design excellence reviews), systems integration, BIM, a new construction management discipline and engineering capability management.	Engineering Director, IP	Routes	April 2017 – Dec 2020
2	[R] IP could fail to effectively or efficiently deliver its engineering solutions, resulting in cost increases and schedule delays.	In addition to Engineering Change Portfolio, enhancement efficiency initiatives have been carried out across the Regions and Programmes to realise efficiencies in CP5. Changes to processes and standards are regularised so that efficiencies are realised in the future. Several efficiencies workstreams remain in progress.	Engineering Director, IP	Routes	April 2017 – March 2019
3	[R] Possession Overruns causes significant disruption to passengers and freight users.	Continue to operate using Delivering Work Within Possessions framework which has proven effective, particularly around bank holidays. Recent bank holiday performance has demonstrated adequate control in this area.	Managing Director, IP	Routes	CP5 / CP6

4	[O] Reduction of Post Implementation Asset Failure (PIAF) gives rise to improved network performance.	Implementation of a PIAF improvement workstream has resulted in a significant reduction in post-implementation failures. Arrangements have been put in place to analyse the causes of failures on an ongoing basis and use this information to continuously improve.	Engineering Director, IP	Routes	CP5 / CP6
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Locally Driven Measures		These are locally driven measures identified by IP to support the delivery of its strategic objectives. They include the development of IP people, Supplier satisfaction and Key account management for Route and Function customers.			
No.	Key constraints, risks and opportunities	What we plan to do	Owner	Customers impacted	Timescale (start/ finish)
1	[R] Insufficient Capacity of People to deliver IP objectives affects ability to deliver the business plan.	One Vision, One Way Tranche 3 Professions outputs and deliverables and retention during CP5 / CP6 transition.	HR Director	All	June 2018
2	[R] Insufficient Capability of People to deliver IP objectives impacts of the quality of the business plan delivery.	One Vision, One Way Tranche 3 Professions outputs and deliverables and retention during CP5 / CP6 transition.	HR Director	All	June 2018
3	[O] Client management and engagement practices improve customer satisfaction and performance.	Ongoing implementation of improvements to clienting and sponsorship in Network Rail.	P&CD, IP	Routes	March 2019
4	[R] Supply chain management and engagement deteriorates resulting in challenges to the delivery of the business plan.	Further industry dialogue based on existing practices, along with regular industry forums hosted by Network Rail	P&CD, IP	As above plus supply chain	PR18 timeline
5	[R] Failure of a key supplier causes disruption, impacting IPs ability to deliver programmes and projects.	Embedding learning from the collapse of Carillion Plc, continuing to monitor supplier performance and assessing financial health. Implementing contingency plans as required.	P&CD, IP	Routes and supply chain	CP5 / CP6

Financial Performance		This covers the efficient and cost-effective delivery of capital projects, providing value for money for the tax payers. The objective is to provide an effective financial environment that enables and demonstrates delivery of increased efficiencies and to continually drive the success of the business through insightful decision support and analysis; Governance, policy and assurance and Planning and reporting frameworks.			
No.	Key constraints, risks and opportunities	What we plan to do	Owner	Customers impacted	Timescale (start/ finish)
1	[R] Cash leakage results in reduced levels of financial performance.	Reinforce and improve internal financial controls and standardise processes through the delivery of one vision one way.	Finance Director	Routes/NR	CP5 / CP6
2	[R] Attraction and Retention of suitably qualified finance professionals affects ability to deliver the workbank.	Promote the benefits of working for Network Rail, given the associated investment of people through the professions framework.	Finance Director	Routes / NR	CP5 / CP6
3	[O] Continually improve Cost Conscious behaviour within the IP organisation, resulting in improved efficiency.	Continue to promote cost conscious behaviours across Infrastructure Projects given our public-sector status.	Finance Director	Routes / NR	CP5 / CP6

5. Expenditure & Efficiency

5.1 Work delivered (Base Case)

BASE CASE (Medium)

Renewals Capex = CP6 --> Remitted + Unremitted works; CP7 --> CP6 average ratio of Total workbank delivered (Remitted + Unremitted - c.56%) * CP7 Total Workbank

Enhancements Capex = CP6/7 as per scheme list

Renewals - 7 Key Volumes	Unit of measure	CP5						CP6						CP7		
		Actual	Actual	Actual	Actual	RF8	Act / RF8	RF8	RF8	RF8	RF8	RF8	RF8	RF8	RF8	RF8
		14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	CP7
Plain Line	meters	602,470	605,409	510,429	267,289	289,221	2,274,819	286,037	349,215	363,685	316,950	229,135	1,545,023	316,746	325,414	642,160
S&C	Pt ends	278	348	307	242	394	1,569	390	476	495	432	312	2,105	431	443	875
SEUs	No.	689	1,467	1,027	464	2,323	5,969	2,297	2,804	2,920	2,545	1,840	12,407	2,544	2,613	5157
Underbridge	m2	56,647	103,868	89,863	61,970	45,914	358,261	45,409	55,438	57,735	50,316	36,375	245,273	50,284	51,660	101,943
Earthworks	5CL	736	1,489	1,297	729	454	4,705	449	548	571	498	360	2,425	497	511	1008
Conductor Rail Renewal	Various	17	28	15	2	6	68	6	7	8	7	5	33	7	7	14
Wire Runs	No.	21	29	17	27	43	137	43	52	54	47	34	230	47	48	95

Renewals - Asset Category	Unit of measure	CP5 @ 18/19 prices						CP6 @ 18/19 prices						CP7 @ 18/19 prices		
		Actual	Actual	Actual	Actual	RF8	Act / RF8	Actual	Actual	Actual	Actual	RF8	Act / RF8	RF8	RF8	RF8
		14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	CP7
Track	£m	735	751	737	534	571	3,329	632	671	649	656	611	3,218	698	837	1,535
Signalling	£m	607	599	470	560	534	2,770	395	497	481	346	189	1,908	301	283	584
Civils	£m	447	491	447	262	247	1,895	228	205	190	160	108	892	201	195	395
Drainage	£m							37	47	34	38	35	191	48	48	96
Buildings	£m	83	105	69	31	43	331	113	153	186	148	94	694	180	152	332
Electrification & Fixed Plant	£m	95	110	167	111	214	697	139	179	198	175	103	795	207	185	392
Telecoms	£m	20	29	24	24	34	131	23	28	26	24	13	114	33	26	60
Other Renewals	£m	30	35	0	46	107	218	165	335	438	371	234	1,544	249	245	494
Total		2,017	2,121	1,915	1,568	1,751	9,371	1,732	2,114	2,202	1,919	1,387	9,354	1,918	1,970	3,888

Enhancements	Unit of measure	CP5 @ 18/19 prices						CP6 @ 18/19 prices						CP7 @ 18/19 prices		
		Actual	Actual	Actual	Actual	RF8	Act / RF8	Actual	Actual	Actual	Actual	RF8	Act / RF8	RF8	RF8	RF8
		14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	CP7
E&W								1,578	1,687	1,775	1,978	2,393	9,410	569	447	1,015
Scotland								219	205	253	275	237	1,189	319	349	668
3rd Party								535	353	311	336	364	1,899	158	160	318
Enhancements	£m	3,551	3,787	4,019	4,077	3,596	19,029	2,332	2,244	2,338	2,589	2,994	12,497	1,045	957	2,001

Notes:

1. CP5 Renewals per Hyperion at RF8 (Current RF) representing 18/19 prices
2. CP6 Renewals per Regional submissions and represents what has been Remitted and what has been told as potential Unremitted work
3. CP6 Renewals per % of the total workbank in each year based on the total CP6 exit % of work allocated to IP (c56% of workbank overall)
4. CP6 Enhancements based on Regions RF8 – Live schemes, Hendy Tail (remitted & unremitted) & Third party (remitted) - plus potential funding from DfT and Transport Scotland
5. CP6/7 Volumes are based on CP5 Yr5 Volumes/COWD * CP6/7 forecasted COWD year by year as detailed reliable information currently not available from the business. Assumes same unit rates.

5.2 Infrastructure Project costs

IP is faced with some uncertainties in CP6, including unconfirmed enhancements schemes and funding, the scope of renewals to be of delivered by IP and the right organisational size for an effective IP. Therefore, 3 scenarios have been developed for CP6 IP headcount and operating cost – worst, base and best cases. The **base case (i.e. Scenario 2)** has been assumed in setting the opex plan for CP6 as shown in the table below. All 3 scenarios are included in Appendices D& E.

Scenario 2 – Base Case

BASE CASE (Medium)

	Unit of measure	CP5						CP6						CP7		
		Actual 14/15	Actual 15/16	Actual 16/17	Actual 17/18	RF8 18/19	Act / RF8 CP5	RF8 19/20	RF8 20/21	RF8 21/22	RF8 22/23	RF8 23/24	RF8 CP6	RF8 24/25	RF8 25/26	RF8 CP7
Headcount																
Permanent	FTE	3,952	4,366	4,679	4,611	4,685	4,685	3,896	4,064	4,113	4,094	4,062	4,062	3,174	3,117	3,117
Agency	FTE	267	455	724	423	328	328	273	285	288	287	284	284	222	218	218
Total	FTE	4,218	4,820	5,403	5,034	5,013	5,013	4,168	4,349	4,401	4,380	4,347	4,347	3,396	3,335	3,335
INTERNAL COSTS																
Permanent staff	£m	232	246	289	309	312	1,387	260	271	274	273	271	1,348	211	208	419
Agency staff	£m	14	30	63	53	36	196	30	32	32	32	32	157	25	24	49
Corporate Costs	£m	28	27	32	23	34	144	28	29	30	29	29	145	23	22	45
Other costs	£m	64	58	111	121	60	414	72	75	76	75	75	371	58	57	115
Total Excl Corporate Charge	£m	309	333	462	483	409	1,996	361	377	382	380	377	1,876	294	289	584
Total Incl Corporate Charge	£m	337	361	494	506	442	2,140	389	406	411	409	406	2,022	317	312	629
<i>Overheads charged</i>	%	27%	24%	29%	29%	21%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%

Notes:

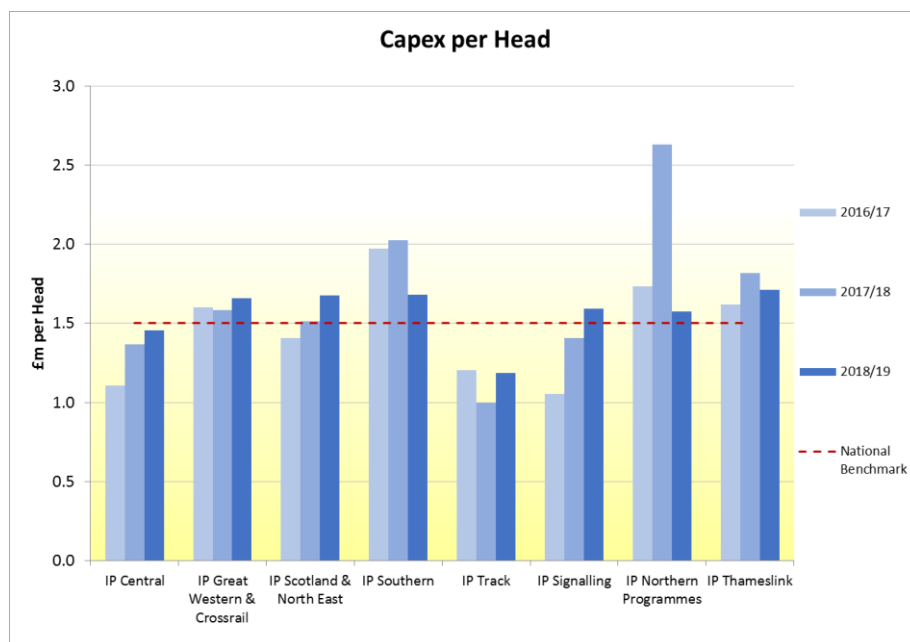
1. CP6/7 headcount calculated based on £1.5m Capex per head for Delivery Regional heads, £0.65m Capex per head for Development and HQ + IDG central functions & bespoke regional teams added onto this
2. Costs are based on RF8 exit ratios * the heads calculated as above

A few proactive initiatives were implemented as part of our transition strategy to support the management of headcount across IP. This has included a significant reduction in external appointments, scrutiny and approval for all external recruitment and a clear focus on redeployment of existing skills sets and talent. This activity commenced at an early stage, more than 18 months prior to the end of CP5 and has allowed IP to close the gap between the proposed CP5 exit headcount requirements and the exit position for the first year of CP6 headcount, with the current permanent headcount as of P8 at 4,467 people.

Regional Headcount Benchmarking Analysis

During CP5 IP has implemented an annual opex review cycle in addition to the existing business planning processes. The aim of this is to carry out internal benchmarking to assess organisational size and structure against a set of design principles. The principal metric used in sizing the regional and major programme organisations is 'capex per head'. This is a simple metric that allows like for like comparisons to be made about the sizing of regional and major programme delivery teams.

The benchmarking process involves collating regional headcount and capex data; for 2018/19, this was aligned to the RF04 planning process. There are a small number of situations where regions carry out bespoke activities unique to that delivery team – for example, IP Track has several frontline roles delivering High Output which are funded by opex. In these cases, the headcounts and associated capex are omitted. This enables IP to benchmark the delivery teams as seen in the chart below.



IP has now completed three rounds of this process which has led to re-organisations in both the signalling and track teams. In the former, this has meant the reduction of the organisational size leading to a cessation of recruitment, whilst in the latter the re-organisation has seen a reduction in the workforce size and the number of High Output systems that are employed. In total, this has had the impact of taking 210 heads out of the establishment. Over time we have seen the national average increase from £1.4m per head in 2016/17 to £1.5m per head in 2018/19. IP will continue to run this process through CP6 to check it is maintaining the right size of organisation for the business.

This benchmark of £1.5m per head has been used to calculate the headcount profile for IP through CP6 and CP7 for regional delivery heads (with the heads associated with bespoke activities mentioned above and central HQ functions overlaid). However, with changes to the way projects are specified and an increase in development activity over CP7, an alternative benchmark of £650k per head has been applied to capex associated with Development spend over this period.

Summary of Infrastructure Projects led efficiency initiatives [opex and overheads only]

Applicability	Efficiency name	Type of efficiency	Description	%	Owner
Opex	Sharing of support resources	Cost reduction	Sharing of support resources within the same building / locations	2%	Penny McIntyre
Opex	IT Systems	Cost reduction	Reducing number of and integrating more systems	5%	Murray Leach
Opex	Utilisation	Increased Productivity	Better utilisation of workforce and resources	TBC	RD's
Opex	Accommodation	Cost reduction	Better desk utilisation and increased commercial focus on lease renewals	5%	RD's
Opex	Consultant Costs & Managed Services	Increased Productivity	Reduce spend on managed services covering NR tasks through better pre-and post-contract management	TBC	Eoin O'Neill
Opex	Cost of Assurance	Increased Productivity	Reduce the cost of assurance whilst increasing standards through increased productivity and innovation	TBC	Eoin O'Neill

Notes: The opex efficiencies and headwinds that have been provided above relate to generic themes with initiatives that are expected to be explored. Specific details on opportunities to be implemented in CP6 will be developed upon the completion of the review on the way capital projects are delivered within NR and the impact of this on the right size and effectiveness of IP.

5.3 Route Business Scotland details

Note		CP6 Year					CP6 Total	CP7 Year	
		19/20	20/21	21/22	22/23	23/24		24/25	25/26
	National Cost (£m)								
1	Scotland Opex Costs (£m) (Gross Cost) *	28.8	26.8	26.5	24.6	21.9	128.7	21.9	21.9
*The net cost to Scotland is zero after recovery to projects.									
	Activity	<p>Enhancement Projects that rollover from CP5 to CP6 total expected spend is circa £124m. Enhancements funding spend in CP6 is expected to be capped at circa £1b which is £600m less than CP5.</p> <p>Aberdeen to Inverness</p> <p>Queen St Station Concourse & various small schemes.</p> <p><u>Enhancements - Flash ship programmes / projects for CP6 are:</u></p> <p>Dunblane to Perth Corridor Enhancement</p> <p>East Kilbride/Barrhead Enhancement</p> <p>Perth Muirton Yard</p> <p>Portobello Junction</p> <p>Millerhill Interventions</p> <p><u>Renewals</u></p> <p>Spend is consistent with CP5 levels with a forecast of £509m.</p> <p>Of which £258m is for structures, £102m is earthworks & £49m has been identified against buildings.</p>							

6. Sign-off

This document and accompanying templates are owned by the Managing Director, Infrastructure Projects.

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 Managing Director, Infrastructure Projects 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:

Sign: 

Sally Rose
Finance Director

Date: 08 February 2019

Sign: 

Eoin O'Neil
Commercial & Development Director

Date: 08 February 2019

Sign: 

Francis Paonessa
Managing Director, Infrastructure Projects

Date: 08 February 2019

Appendix A Supporting Strategies

(a) Safety Strategy

IP prioritises safety in infrastructure delivery as it considers that safety and performance go hand in hand in effective project delivery. IP constantly aligns to the NR corporate safety strategy.

To support the delivery of our strategic vision for IP and control our significant risks as a business, the table below highlights the core safety strategies we will adopt in CP6:

	Process and Systems	<ul style="list-style-type: none"> ■ Integrated Management System (EMS & HSMS) <ul style="list-style-type: none"> • Maintain & upgrade our ISO accreditation to 14001 and 45001 • Align our energy management practice with ISO 50001 (Energy Management Systems) to reduce our energy use by 25% • Implement One vision one way to drive improvement • Continue to drive stronger consistency through our processes and supply chain 	<p>Strategic Outcome: Our S&SD risk control systems are fit for purpose and robustly monitored for adequacy and compliance.</p> <p>Improving consistency</p>
		<ul style="list-style-type: none"> ■ Procuring to deliver excellent S&SD performance <ul style="list-style-type: none"> • Refine our process to enable this to occur • Improve consistency in our expectations of high HS&SD standards • Increase sustainability weighting in tenders 	
		<ul style="list-style-type: none"> ■ Safe & Sustainable by Design <ul style="list-style-type: none"> • How to be a good client • How to be a good designer • Sustainable development criteria, including climate change margins, are being used in all renewals and new build works 	
		<ul style="list-style-type: none"> ■ Risk based assurance & monitoring processes to include embedding learning 	
		<ul style="list-style-type: none"> ■ Key Performance Indicators <ul style="list-style-type: none"> • Hold contractors accountable on submitting their performance indicators • Develop consistent incentivisation for good HS&SD performance 	
		<ul style="list-style-type: none"> ■ Target Occupational Health improvements for Health surveillance 	
		<ul style="list-style-type: none"> ■ Integrate sustainability into the IP scorecard 	

	Supplier Engagement	<ul style="list-style-type: none"> ■ Incentivising high performers <ul style="list-style-type: none"> • Set out contract requirements 'HS&SD' • Embed the Balanced scorecard • Application to Contracts – when & how to intervene for contractual commitments • Consequences via Principal Contractor Licence and Principal Contractor Certificate • Accurate HS&SD benchmarking across the industry ■ Consistent approach to HS&SD to drive improvement utilising knowledge from our Supply Chain ■ Recognition Awards for high health, safety and sustainability Performance - Client awards and externally recognised awards. 	Strategic Outcome: High Performing Suppliers
	People and Engagement	<ul style="list-style-type: none"> ■ Embed our Capability Framework for S&SD <ul style="list-style-type: none"> • S&SD competence utilised across all professions • Staff held to account on application of S&SD competence • Develop a road map for professional S&SD competence. ■ Life Saving Rules – improve monitoring and application of consequences. ■ HS&SD Communications 	Strategic Outcome: Our staff and suppliers are fully competent, high performers. High quality consistent stakeholder management Strategic Outcome: Consistent improving safety and performance across all regions and programmes; moving beyond compliance to best in class.
	Sustainability	<ul style="list-style-type: none"> ■ Zero waste sent to landfill (non-hazardous), 90% by weight is recycled or beneficially reused ■ Major infrastructure projects (>£20m) have a net positive effect on GB biodiversity ■ Renewals activities (above £5000 or 150m in length) require a biodiversity risk assessment and evidence of opportunities taken to maximised biodiversity gain (following the mitigation hierarchy) ■ All projects (>£20m) suppliers and contractors have Social Performance Plans in place, with clear measures and evidence of benefits delivered ■ All projects (>£20m) can demonstrate savings in capital carbon ■ Procurement practice independently assured as being in line with BS8903 (Sustainable Procurement) 	Strategic Outcome: Delivering a railway fit for the future by creating a sustainable environmental legacy, protecting and enhancing our environment, caring for our people and the communities around us and improving the passenger experience through the delivery of sustainable projects.

(b) Contracting Strategy

Network Rail is the UK's largest infrastructure client and has generated over £28bn of work for the supply chain over the first four years of CP5, 99% of this work going to UK based companies. The average annual spends of £7.4bn (Route Services and Infrastructure Projects) is spent with some 3,600 suppliers, 2,500 of which are SMEs and supports over 117,000 full time jobs, providing access to employment, training and apprenticeship schemes for non-technical operatives.

In 2011, NR embarked on a strategy for effective collaboration with our supply chain and stakeholders, becoming the first UK Infrastructure Client to secure the British Standard for collaboration in 2012 and in March 2017, becoming one of the first six organisations globally to secure ISO44001, the international standard for collaboration.

Network Rail will continue to take a leading role in driving industry change, building on the successes of CP5 to further improve the engagement, collaboration, delivery and commercial stewardship of infrastructure investment in the railway. Our approach to CP6 incorporates the lessons learnt from CP5 and will support our Route & Regional Business Plan renewals activities whose requirements have been collated and analysed centrally to evaluate the national and regional workload for CP6

Key features of the approach to CP6 include;

Advocacy & Performance: To be a client of choice and, through effective supply chain engagement & collaboration, deliver demonstrable value for money, drive safety performance, efficiency and innovation whilst controlling costs for our customers & funders, rewarding safe & timely performance with fair return & opportunity.

A Coordinated Procurement Pipeline: Developing and publishing an integrated and coordinated procurement pipeline, that is supported by improved process consistency, will promote effective bidding and mobilisation from the supply market and efficient delivery of the CP6 portfolio.

Track: Procurement of new frameworks, bringing S&C and plain line together under combined alliances to balance resources and realise further efficiencies, whilst refining High Output volumes for improved efficiency. Taking an integrated approach between the digital and conventional signalling portfolios to promote a coordinated and efficient engagement with the signalling supply chain. Procuring new frameworks, to seek a refreshed engagement with the market, encouraging new entrants, setting higher commercial and delivery expectations, driving structured continuous improvement and better cost transparency through national performance metrics.

Renewals: Anticipating volumes of similar magnitude to CP5 undertaking renewals works via new regional framework arrangements that utilise of higher levels of market testing to ensure value for money within the frameworks. These works will be more closely aligned with the Routes to provide better visibility of access arrangements and ensure access planning assumptions are fully incorporated to support efficiencies.

Enhancements: Developing specific strategies, and terms and conditions for progressively funded enhancement schemes whilst drawing on established approaches to safety, delivery and commercial stewardship by employing corporate targets and National Performance Metrics to incentivise safe and timely delivery and improved cost control and efficiency. These will be competitively tendered and piloted via quarterly supply chain briefings to provide advanced notice of tendering opportunities.

Design: We are bringing stronger technical leadership to our early stage design approach by providing a managed service through our in-house design team, the Network Rail Design Delivery organisation. This is a route aligned, multi-disciplinary design capability, with the commercial and technical capability to achieve better overall project outcomes via stronger consistent and more strategic management of the supply chain. This is coupled with a focus of our in-house expertise at the early design stage where we can make the most difference. Transition to the detailed design and build contracts led by the regions and programmes will occur through closer collaboration and in line with the CP6 contracting strategy.

Internal design brings closer collaboration and more robust challenge to early project development, unencumbered by transactional and commercial constraints for best value overall project solutions.

Alliances: For complex, high risk and volume programmes with multiple stakeholders where early supplier and stakeholder engagement is a key success factor, Alliances have proved to be an effective alternative to ‘hub and spoke’ delivery. The team will make further use of this progressive approach during CP6.

Alignment of Commercial Values & Behaviours: Continuing to drive industry change through collaboration, cross-industry engagement and improved communication of our commercial and delivery expectations around behaviours and performance, as measured via national performance metrics. In addition, reinforcing standardised approaches to measurement to improve cost control, efficiency and benchmarking and support a culture of commercial accountability to better understand and influence what rail works ‘*should, will and did*’ cost.

The CP6 supply chain strategy underpins the various Route businesses renewals strategies and is summarised in the table below:

Route	IP Region	CP6 contract strategy	Forecast transition period
Anglia	Southern	New Anglia Route multi-discipline framework	Q1 2019/20
South East		New South-East Route multi-discipline framework	Q1 2019/20
Wessex		New Wessex Route multi-discipline	Q1 2019/20
Western	Western, Wales & Crossrail	New multi-disciplined frameworks with greater focus on Tier 2s and local supply base - subject to Excom approval	Staged from Q1 2019/20
Wales		New multi-disciplined frameworks with greater focus on Tier 2s and local supply base - subject to Excom approval	Staged from Q1 2019/20
Scotland	Scotland and North	New Scotland Route multi-discipline frameworks	Q4 2018/19

London North East & East Midlands	Eastern	New LNE Route Multi-discipline frameworks	Q4 2018/19
London North West	Central	Exercise options to extend current multi-disciplined frameworks in return for negotiated efficiencies, re tender one package	Q1 2018/19
All	National Track Programme	Combined plain line and S&C alliances – 2-4 alliances - subject to market testing and board approval	Q1 2019/20
	Early stage design-national	2-tier strategy with a blend of national, multi-disciplinary tier 1 frameworks, and route aligned, single discipline frameworks. All managed through the NRDD and blended with internal NRDD capability.	Q1 2019/20 to Q2 2019/20
	National Signalling & Digital Railway	3 tier strategies - currently under review to ensure DR are adequately integrated – Minor Framework & S&T Framework followed by Major Signalling Framework	Q1 2019/20 & Q1 2020/21

Progress to date in meeting the above expectations can be aligned to three key themes;

1. Providing effective stewardship to an integrated Procurement and Supply Chain Strategy
2. Strengthening the behavioural and technical competencies across Network Rail and its suppliers through best practice, to build a performance culture that drives demonstrable improvement
3. Engaging with industry stakeholders to lead and develop industry capability

1) Integrated Procurement and Supply Chain Strategy

Key improvements already deployed in support of CP6 include;

- Coordinated procurement programme agreed and aligned with each route customer and developed in consultation with the supply chain
- Appointment of an Interim Procurement Director to bring focus and leadership to CP6 Procurement
- Introduction of procurement pipeline and scorecard measuring schedule performance index (SPI) linked to AIP. *Currently on target for 2018/19*
- Refreshed IP Procurement Executive Panel process to align with route requirements
- Introduction of best practice tendering process efficiencies to make procurement smarter and quicker and avoid duplication
- Development of a co-ordinated procurement efficiency programme for CP6 renewals portfolio
- Development of targeted action plans to drive improved supplier advocacy in annual survey

2) Building a Performance Culture

Key improvements already deployed in support of CP6 include;

- Upskilling our people's competencies and capabilities through '1V1W'; an IP-wide programme across 19 professions, supported by an Oracle competency profile and gap analysis for targeted training and development
- Industry adoption of Rail Method of Measurement (RMM) and standardised benchmarking
- Measuring NR capabilities through improved performance and assurance reporting
- Introduction of formal contract training for NR teams as well as the supply chain
- National performance metrics and PRISM relaunched to provide an effective performance and relationship management tools in place
- The introduction of new terms and conditions for CP6, including mandated payment timescales for Tier 1 and 2 suppliers, the abolition of retentions, the option to use Project Bank Accounts and requirement for apprentices
- Increased focus on safety and use of RM3 (see below) with extraordinary Supplier Account Management (SAM) meetings held if performance falls lower than expected and RM3 improvement plans
- Introduction of more robust financial performance checks of Tier 1 suppliers
- Supply chain mapping involving Tier 2 and 3, to better understand our supply chain performance and identify risks and opportunities
- SAM process - IP/RS joined up process to create consistent NR approach to supplier management
- Procurement of a CP6 Collaborative Services Framework (CISF) and Commercial Services Framework (CSF) to bring greater consistency and develop consultancy performance KPIs

3) Leading and Developing Industry Capability

Key improvements already deployed in support of CP6 include;

- Improved cost capture and benchmarking through the industry adoption of RMM1 and RMM2 and cultural focus on the value of cost capture
- Joined up approach to Equality, Diversity and Inclusion with key clients and suppliers (TfL, HS2, HE)
- Improved supplier engagement:
 - Annual supplier survey and workstreams underway to deliver action plans
 - Improved communications to suppliers; refreshed webpage, monthly briefing and engagement events
 - SAM process refocused and national supplier strategies implemented
- Collaboration with industry stakeholders to inform professional standards and areas of priority e.g. ICG, TIES, RDG and STAT
- Measuring collaboration maturity, with improvement plans in place where necessary
- Influencing strategy and capability through industry leadership via various forums, sharing our learning through publishing collateral that highlights best

practice and achievements with regards commercial management (e.g. fair payment terms), collaboration (e.g. ISO 44001 accreditation), informing thought leadership with the Infrastructure Clients Group (e.g. Project 13), as well as promoting a sustainable supply chain, to help NR be a client of choice.

- Strengthen ties to inform professional standards and areas of priority with industry stakeholders and professional institutions, including RIA, CECA, RICS, CICES, ICW, ICE

A fundamental aspect of our aspirations for CP6 is to build performance culture across industry and not just within Network Rail. This requires a focus on supplier performance expectations for CP6. In developing our supplier performance management regime for CP6, four distinct areas have been addressed, namely; 1) the development of national performance metrics, 2) a PRISM refresh, 3) enhancements to the balanced safety scorecard and 4) improved approaches to supplier account management that incorporate specific action plans on safety, delivery and improved cross business reporting.

1) National Performance Metrics (NPM)

Building on our experience during CP5, the common performance themes have been incorporated into a standard set of National Performance Metrics (NPM) which looks to support business capability development as well as contractual performance. These have been incorporated into the CP6 contracts which will for the first time allow like-for-like performance comparisons across our suppliers, whilst allowing regional flexibility in the fiscal weighting of various performance measures. The NPMs will incentivise construction delivery performance as well as promoting benefits to passengers with regards to right time handback of possessions and increased resilience of newly installed infrastructure (these are hard measures already incorporated into the IP Performance Dashboard). Several of the new CP6 NPM measures directly reconcile with Route performance measures, thereby aligning incentives between Routes, IP and the suppliers. This is a key change from CP5.

Targets for apprenticeships (one per £3m turnover above £10m) will be contractual in our new CP6 frameworks. Following agreement with key infrastructure clients (HS2, HE, TFL) and suppliers, improvements on Equality Diversity & Inclusion (ED&I) will focus on the deployment of a common set of metrics to build a consistent approach to measuring performance across the infrastructure sector.

2) PRISM Refresh

PRISM will remain a key aspect of the NR assurance and relationship management process in that it supports working more collaboratively with suppliers by encouraging open and honest ('360 degree') performance conversations through mutual scoring of areas of 'enablement'. The definitions have been refreshed ahead of a relaunch of the process in support of CP6.

3) Balanced Safety Scorecard Enhancement

The regime for driving improved safety via a Balanced Safety Scorecard (BSS) is mature and well understood and the potential for more lead indicators is being

explored in consultation with the supply chain. This approach is being enhanced via the use of a Risk Management Maturity Model (RM3), developed by the ORR. RM3 is focused on driving improvements in Health and Safety Risk Management and will be the standard by which Supplier safety maturity and capability is measured during CP6.

4) Improved Supplier Account Management and Better Integrated Performance Management

In addition to improving our Strategic Account Management (SAM) process to bring greater emphasis on performance using data (NPM, PRISM, BSS) and associated RM3 maturity reviews, there are live initiatives specifically targeted on improving the integration with Route Services both in the reporting and management of suppliers' performance for CP6. With all CP6 procurement activities being managed via a single corporate platform, (Bravo NR) an increasing volume of data and reporting capability will be available from Route Services. Using Supplier Performance Dashboards that can illustrate spend, contract and overall performance against dimensions including National Performance Metrics will be a further step to driving performance, improving supplier relationship management and the effectiveness of the SAM process. Through this blend of management and progress reviews using a range of strategies, data and targets, we are incentivising our business and the supply chain to improve safety and delivery performance for CP6.

(c) Human Resources Strategy

The Network Rail people strategy sets the context and focus of the people agenda to support delivery of the business priorities through our workforce. It is outcome driven and aligned to Network Rail's business strategy with each of the nine outcomes having clear business success and plans to deliver the outcomes.

The IP HR strategy has been updated to consider the requirements of IP's business priorities and to ensure that it reflects the national people strategy. It has been reviewed and refreshed to ensure the outcomes of the strategy deliver the known CP6 business objectives, including being customer focused. We have set up projects to deliver the identified outcomes in the IP HR strategy and mitigate our risks, and these have been validated against the nine outcome statements in the Network Rail people strategy to identify dependencies and combined outcomes. It also ensures there are no gaps in our strategy.

To deliver the infrastructure projects that are commissioned and sponsored by the Route businesses in an efficient and effective way, IP must have the right number of skilled staff that can be deployed nationally to maximise the delivery prospects of those projects and to mitigate delivery risks. The requirement of skilled resources will change considerably as we exit CP5 and move into CP6; this is due to a diminishing enhancements work bank, works delivery potentially undertaking more renewals activity and a change in the funding allocation for enhancement projects in CP6. In addition, the de-mobilisation of three major programmes across Infrastructure Projects in the South and the mobilisation of TRU in the North provides additional complexity around skills mix and geographical mobility.

Attracting & retaining our people

Effective resourcing will require planning to truly attract the best candidates, ensuring that role requirements are flexible and appropriate, and that diversity and inclusion are an integral part of the process. Challenging the existing ways of working and seeing how we can support not only those people already planning a career within NR but also those who may not be attracted by the traditional processes. Strategic Work Force Planning must seek to proactively plan to fill not only the current but future vacancies with the right person and skills at the right time. A move to identifying the required outputs of a role could support a more intelligent approach to resource allocation as well as providing a new template of a model employee appealing to a wider diversity and inclusion focus.

Given the cost of attracting and recruiting people, we have focused on our transition strategy and related processes which are based on organisational requirements. The objectives of this strategy are:

- Retention of knowledge of our skilled workforce
- Engagement of our workforce
- Create a 'level playing field' for IP staff
- Support the IP '1V1W'
- Support legal obligations as an employer to avoid redundancy and offer suitable alternatives where ever possible

- Preserve reputation as a good Employer
- Share best practice and lessons learned from previous major change programmes
- Collaborate with Union colleagues through consultation and beyond

To fulfil the above objectives, the IP Transition Strategy and Principles (covering project demobilisations) was put into place, with the knowledge and awareness that this needed to work seamlessly with the existing People processes (covering re-organisations and re-deployment).

2017 was a significant year; we consulted with the unions and created a transition programme board, and appointed Simon Blanchflower, major programme director, Thameslink Programme, as the lead of the transition board.

As example of the transition strategy in action, to date we have only had to make 15 people redundant from the Crossrail Programme which closed at the end of September 2018. The local HR team, the Transition team and transition managers within the Crossrail team, have been able to retain and transition about 250 Network Rail employees into other roles within our business, saving millions of pounds of tax payers' money in redundancy costs.

The proactive initiatives implemented as part of our transition strategy have also supported the wider management of headcount across the organisation which has allowed us to close the gap between the proposed CP5 exit headcount requirements and the first year of CP6 headcount needs.

Deploying our people

One of Infrastructure Projects strategic objectives is to develop as an agile business. Agility will enable the business to become more competitive in the market when benchmarked against other infrastructure organisations and create a sustainable, innovative and responsive business model for CP6 and beyond.

As a concept, agility can become embedded within IP at several levels and with several strategic benefits for the organisation:

- The agility of the workforce will support the management of fluctuating demands over time in a cost effective and efficient manner. It will enable IP to provide the right level, quality and volume of people resources to the right projects at the right time and within budget. It will also develop transferable skills within the workforce and across IP.
- The agility of the operation will enable IP to be responsive and adaptable about processes, procedures and structures that support the deployment of resources, whilst ensuring that the business is commercial, competitive and customer focused.
- The agility of the organisation will enable it to both anticipate and address forces that affect IP, NR and the wider industry and rapidly adapt to the market and environmental or political policy changes in a responsive and cost-effective manner.

Infrastructure Projects will embed a project-based business model over the course of CP6 that will be comparable with other infrastructure delivery organisations in the construction industry and deliver cost reductions through the reduction of contractors.

A successful agile resourcing strategy must continue to provide the career paths from apprentices and graduates to include the wider potential for secondments not only within IP and NR but also as the wider supply chain. A planned return into IP for secondees will enhance sharing of industry best practice and improved safety.

Agility will address how IP can maximise the opportunities for those able to move around and include a broad view of succession across IP. A collaborative approach across the industry can help shape those expectations and career opportunities and allow IP to better fill vacancies by supporting people moving roles and locations with T&Cs that allow and facilitate this essential ability of projects-based organisation.

Managing our people

Line management capability from on-boarding through to talent management and capability development will reduce Industrial Relations issues and allow for increased local decision making leading to a reduction in time and effort in achieving an improved customer driven experience. Defined management development requirements will support this delivery and further prevention of any silos being created in IP or NR.

Culture transformation and Lean will act as enablers to increased efficiencies and reduced costs. An embedded culture with a consistent understanding of what “Good” looks like and where everyone feels accountable for decision making.

(d) Quality Management Strategy

The scope for the Quality Management element of the functional strategy is articulated into 4 key areas; Governance, Assurance, Improvement and Leadership to align with the overall Network Rail strategy:

Governance - Maintain and improve our process architecture through a single Integrated Management System (IMS), providing clarity of accountability for all staff and a platform from which to embed learning. Compliance with ISO 9001 (Quality), ISO 14001 (Environment), ISO 44001 (Collaboration) and ISO 45001 (Health & Safety) will be mapped and appropriate certifications maintained. Additionally, support the STE team in the development and delivery of a single IMS for the whole of Network Rail.

Assurance - A framework will be maintained defining all assurance activity and accountability, linking both 1st and 2nd lines of defence in support of continual improvement. Effectiveness of this will be assured through an independent audit regime along with external benchmark utilising the Heads of Profession network and their relevant professional bodies.

Improvement - Mature the approach to both change and structured continuous improvement to ensure that the most effective techniques are applied for the greatest impact. The change portfolio will be aligned to the achievement of the 7 strategic objectives of IP and prioritised through our risk framework, with benefit tracked to realisation. This strategy will develop the 'Better Every Day' culture, behaviours and objectives desired by the CEO.

Leadership – Maintain the IP Executive team focus on Quality and Business Improvement through appropriate KPIs and the Business Assurance Committee network. Through the region and programme teams, deploy strong governance, assurance and improvement across IP. Further mature the Quality and Business Improvement profession through deployment of a set of competencies and a development handbook, ensuring focus on skill gaps is provided. Provide regular opportunities for engagement that is aimed at providing feedback to continually improve.

(e) Information Management Strategy

Defined Centrally the IP Systems & Support (IPSS) strategy sets out what IPSS will deliver over the next three years, to support the IP function with achieving its vision be the best rail infrastructure project delivery organisation in the UK, using information systems.

The plan of action is structured around FSQ objectives and specific systems related actions, identified and aligned to the core themes including but not limited to;

One Team - Build new relationships with the Quality and Systems teams in the regions, Professions Heads and Design Review Groups and promote the IPSS team

Systems - Develop, promote and work with the regions to embed the Systems Operational Strategy; Define new frameworks for Assurance, Resilience & Service Continuity and Service Delivery and implement and embed the frameworks for the same by publishing, supporting the business with understanding them and then assuring and measuring performance against them; Collaborate with internal functions and promoting policies for; Information Governance, Information Security and Data Protection. Implement the capability model and producing Roadmaps for capabilities; Continue to improve and/ or enhance IP's solutions for Document Management (through further rollout of HDMS) and Reporting capability (by enhancing existing systems e.g. PAR and Oracle BI); Establishing clear owners for Systems and data and establishing clear data sharing practices

One Vision, One Way - Reviewing IPSS' documents on the IMS

Safety & Wellbeing

People - Introduce the 4 P's. Build on existing relationships with IP teams, Route services and suppliers, moving to partnership status where applicable. Re-organise the current organisation structure to better align with our purpose and scope and strengthen the resource capability to deliver an effective service to IP.

Making Money Matters - Establish the true cost of IT to IP and rationalising current IT and drive the more efficient use if IT systems.

Appendix B Key assumptions

The following assumptions have been made in the preparation of this Strategic Plan.

Ref no.	Topic	Assumption	Areas of spend impacted
1.	Deliverability	Access is as CP5 and external resources are as per CP5	CAPEX (renewals and enhancements)
2.	Volumes	Assumed direct correlation between cost and volume. Therefore +/- 20% in cost will result in +/- 20% of volume delivered	CAPEX (renewals only)
3.	Brexit	The UK negotiates an acceptable deal with a smooth transition, avoiding a No Deal scenario.	CAPEX (renewals and enhancements)
4.	Safety	Staff wellbeing is addressed by HR's strategy including volunteering	OPEX & CAPEX
5.	Safety	Safety Strategy has been developed based on working knowledge of Route activities. We have asked for but not been provided with any Route CP6 plans	OPEX & CAPEX
6.	Dependency	It is assumed the sponsor organisation in the Routes for both renewals and enhancements can fulfil their obligations through the life cycle of a project	CAPEX (renewals and enhancements)
7.	Dependency	It is assumed the Route teams will lead on issues with multiple funders. The IP Engineering organisation exist to support delivery and undertake design	All cost
8.	Dependency	It is assumed that identified technical experts will be prepared to work at different locations to support projects as required. Impacts on agile working.	OPEX
9.	Dependency	Funds requested for training and development of staff are supported through the Business Planning process	OPEX
10.	Dependency	It is assumed funding for the implementation of BIM will sit in each of the IP Regions & Programmes	OPEX
11.	Risk & Value Management	Risk & Value Management will continue to form a significant part of the assurance framework with IP and the wider Network Rail via the Audit & Risk Committee of the Board.	CAPEX (renewals and enhancements)

Ref no.	Topic	Assumption	Areas of spend impacted
12.	Risk & Value Management	Sufficient project risk management expertise will be available in the market place, particularly in the infrastructure sector where the talent pool generally resides in energy, transportation and defence markets.	CAPEX (renewals and enhancements)
13.	Risk & Value Management	The Risk & Value Profession will retain the necessary levels of skills and experience and not lose a disproportionate number of professionals to risk management consultancies; Network Rail and TfL serve as a recruiting ground for risk consultancies and principal contractors staffing transport projects.	OPEX & CAPEX
14.	Work delivered: Costs	The first years of CP7 has been calculated using the average of the 5 years of CP6. This assumes that funding and capital project delivery in CP7 will follow similar pattern of CP6.	CAPEX (renewals and enhancements)
15.	Work delivered: Volumes	Renewals Volumes for CP6 has been estimated based on the CP5 actual delivery, average unit cost and CP6 confirmed remits.	CAPEX (renewals only)
16.	Headcount Costs	The operating cost plan is based on the current remitted workbank of work. The final plan (and indeed) actual outcome will depend of the volume of work delivered.	OPEX

Appendix C N/A

Appendix D Scenario planning – Capex

Scenario 1

WORST CASE (Low)

Renewals Capex = CP6 --> Remitted works; CP7 --> CP6 average ratio of Total workbank delivered (Remitted element only - c40%) * CP7 Total Workbank

Enhancements Capex = CP6/7 as per scheme list

Renewals - 7 Key Volumes	Unit of measure	CP5						CP6						CP7		
		Actual	Actual	Actual	Actual	RF8	Act / RF8	RF8	RF8	RF8	RF8	RF8	RF8	RF8	RF8	RF8
		14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	CP7
Plain Line	lkm	602,470	605,409	510,429	267,289	289,221	2,274,819	286,037	349,215	363,685	316,950	229,135	1,545,023	316,746	325,414	642,160
S&C	Pt ends	278	348	307	242	394	1,569	390	476	495	432	312	2,105	431	443	875
SEUs	No.	689	1,467	1,027	464	2,323	5,969	2,297	2,804	2,920	2,545	1,840	12,407	2,544	2,613	5157
Underbridge	m2	56,647	103,868	89,863	61,970	45,914	358,261	45,409	55,438	57,735	50,316	36,375	245,273	50,284	51,660	101,943
Earthworks	5CL	736	1,489	1,297	729	454	4,705	449	548	571	498	360	2,425	497	511	1008
Conductor Rail Renewal	Various	17	28	15	2	6	68	6	7	8	7	5	33	7	7	14
Wire Runs	No.	21	29	17	27	43	137	43	52	54	47	34	230	47	48	95

Renewals - Asset Category	Unit of measure	CP5 @ 18/19 prices						CP6 @ 18/19 prices						CP7 @ 18/19 prices		
		Actual	Actual	Actual	Actual	RF8	Act / RF8	Actual	Actual	Actual	Actual	RF8	Act / RF8	RF8	RF8	RF8
		14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	CP7
Track	£m	735	751	737	534	571	3,329	626	649	623	640	589	3,127	678	814	1,492
Signalling	£m	607	599	470	560	534	2,770	390	424	398	256	103	1,572	248	233	481
Civils	£m	447	491	447	262	247	1,895	205	132	80	57	43	516	116	113	229
Drainage	£m							26	27	17	21	25	116	29	29	58
Buildings	£m	83	105	69	31	43	331	104	95	101	76	35	411	106	90	197
Electrification & Fixed Plant	£m	95	110	167	111	214	697	114	106	91	83	46	440	115	102	217
Telecoms	£m	20	29	24	24	34	131	20	15	9	13	6	62	18	15	33
Other Renewals	£m	30	35	0	46	107	218	56	72	45	41	28	241	39	38	77
Total		2,017	2,121	1,915	1,568	1,751	9,371	1,540	1,520	1,364	1,187	874	6,485	1,350	1,433	2,784

Enhancements	Unit of measure	CP5 @ 18/19 prices						CP6 @ 18/19 prices						CP7 @ 18/19 prices		
		Actual	Actual	Actual	Actual	RF8	Act / RF8	Actual	Actual	Actual	Actual	RF8	Act / RF8	RF8	RF8	RF8
		14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	CP7
Enhancements	£m	3,551	3,787	4,019	4,077	3,596	19,029	1,734	865	582	397	224	3,803	0	0	0

Notes:

1. CP5 Renewals per Hyperion at RF8 (Current RF) representing 18/19 prices
2. CP6 Renewals per Regional submissions and represents what has been Remitted only
3. CP7 Renewals per % of the total workbank in each year based on the total CP6 exit % of work allocated to IP (c40% of workbank overall)
4. CP6 Enhancements based on Regions RF8 Submission – Live schemes, Hendy Tail & Third party (Remitted only)
5. CP6/7 Volumes are based on CP5 Yr5 Volumes/COWD * CP6/7 forecasted COWD year by year as detailed reliable information currently not available from the business. Assumes same unit rates.

Scenario 2

BASE CASE (Medium)

Renewals Capex = CP6 --> Remitted + Unremitted works; CP7 --> CP6 average ratio of Total workbank delivered (Remitted + Unremitted - c.56%) * CP7 Total Workbank

Enhancements Capex = CP6/7 as per scheme list

Renewals - 7 Key Volumes	Unit of measure	CP5						CP6						CP7		
		Actual	Actual	Actual	Actual	RF8	Act / RF8	RF8	RF8	RF8	RF8	RF8	RF8	RF8	RF8	RF8
		14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	CP7
Plain Line	meters	602,470	605,409	510,429	267,289	289,221	2,274,819	286,037	349,215	363,685	316,950	229,135	1,545,023	316,746	325,414	642,160
S&C	Pt ends	278	348	307	242	394	1,569	390	476	495	432	312	2,105	431	443	875
SEUs	No.	689	1,467	1,027	464	2,323	5,969	2,297	2,804	2,920	2,545	1,840	12,407	2,544	2,613	5157
Underbridge	m2	56,647	103,868	89,863	61,970	45,914	358,261	45,409	55,438	57,735	50,316	36,375	245,273	50,284	51,660	101,943
Earthworks	5CL	736	1,489	1,297	729	454	4,705	449	548	571	498	360	2,425	497	511	1008
Conductor Rail Renewal	Various	17	28	15	2	6	68	6	7	8	7	5	33	7	7	14
Wire Runs	No.	21	29	17	27	43	137	43	52	54	47	34	230	47	48	95

Renewals - Asset Category	Unit of measure	CP5 @ 18/19 prices						CP6 @ 18/19 prices						CP7 @ 18/19 prices		
		Actual	Actual	Actual	Actual	RF8	Act / RF8	Actual	Actual	Actual	Actual	RF8	Act / RF8	RF8	RF8	RF8
		14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	CP7
Track	£m	735	751	737	534	571	3,329	632	671	649	656	611	3,218	698	837	1,535
Signalling	£m	607	599	470	560	534	2,770	395	497	481	346	189	1,908	301	283	584
Civils	£m	447	491	447	262	247	1,895	228	205	190	160	108	892	201	195	395
Drainage	£m							37	47	34	38	35	191	48	48	96
Buildings	£m	83	105	69	31	43	331	113	153	186	148	94	694	180	152	332
Electrification & Fixed Plant	£m	95	110	167	111	214	697	139	179	198	175	103	795	207	185	392
Telecoms	£m	20	29	24	24	34	131	23	28	26	24	13	114	33	26	60
Other Renewals	£m	30	35	0	46	107	218	165	335	438	371	234	1,544	249	245	494
Total		2,017	2,121	1,915	1,568	1,751	9,371	1,732	2,114	2,202	1,919	1,387	9,354	1,918	1,970	3,888

Enhancements	Unit of measure	CP5 @ 18/19 prices						CP6 @ 18/19 prices						CP7 @ 18/19 prices		
		Actual	Actual	Actual	Actual	RF8	Act / RF8	Actual	Actual	Actual	Actual	RF8	Act / RF8	RF8	RF8	RF8
		14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	CP7
E&W								1,578	1,687	1,775	1,978	2,393	9,410	569	447	1,015
Scotland								219	205	253	275	237	1,189	319	349	668
3rd Party								535	353	311	336	364	1,899	158	160	318
Enhancements	£m	3,551	3,787	4,019	4,077	3,596	19,029	2,332	2,244	2,338	2,589	2,994	12,497	1,045	957	2,001

Notes:

- CP5 Renewals per Hyperion at RF8 (Current RF) representing 18/19 prices
- CP6 Renewals per Regional submissions and represents what has been Remitted and what has been told as potential Unremitted work
- CP6 Renewals per % of the total workbank in each year based on the total CP6 exit % of work allocated to IP (c56% of workbank overall)
- CP6 Enhancements based on Regions RF8 Submission – Live schemes, Hendy Tail (all remitted and unremitted) & Third party (remitted) - plus additional potential funding from DfT and Transport Scotland
- CP6/7 Volumes are based on CP5 Yr5 Volumes/COWD * CP6/7 forecasted COWD year by year as detailed reliable information currently not available from the business. Assumes same unit rates.

Scenario 3

BEST CASE (High)

Renewals Capex = CP6 --> Remitted + Unremitted works uplifted to reflect CP5 proportion of renewals delivered by IP (c65%); CP7 --> CP6 average ratio of Total workbank delivered (Remitted + Unremitted Enhancements Capex = CP6/7 as per scheme list

Renewals - 7 Key Volumes	Unit of measure	CP5						CP6						CP7		
		Actual	Actual	Actual	Actual	RF8	Act / RF8	RF8	RF8	RF8	RF8	RF8	RF8	RF8	RF8	RF8
		14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	CP7
Plain Line	meters	602,470	605,409	510,429	267,289	289,221	2,274,819	324,949	396,722	413,160	360,068	260,307	1,755,206	359,836	369,683	729,519
S&C	Pt ends	278	348	307	242	394	1,569	443	540	563	491	355	2,391	490	504	994
SEUs	No.	689	1,467	1,027	464	2,323	5,969	2,609	3,186	3,318	2,891	2,090	14,095	2,890	2,969	5858
Underbridge	m2	56,647	103,868	89,863	61,970	45,914	358,261	51,586	62,980	65,589	57,161	41,324	278,640	57,124	58,687	115,812
Earthworks	SCL	736	1,489	1,297	729	454	4,705	510	623	649	565	409	2,755	565	580	1145
Conductor Rail Renewal	Various	17	28	15	2	6	68	7	8	9	8	6	38	8	8	16
Wire Runs	No.	21	29	17	27	43	137	48	59	61	54	39	261	53	55	108

Renewals - Asset Category	Unit of measure	CP5 @ 18/19 prices						CP6 @ 18/19 prices						CP7 @ 18/19 prices		
		Actual	Actual	Actual	Actual	RF8	Act / RF8	Actual	Actual	Actual	Actual	RF8	Act / RF8	RF8	RF8	RF8
		14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	CP7
Track	£m	735	751	737	534	571	3,329	718	762	737	745	694	3,656	793	951	1,744
Signalling	£m	607	599	470	560	534	2,770	449	565	546	393	214	2,167	342	321	663
Civils	£m	447	491	447	262	247	1,895	259	233	216	182	123	1,013	228	221	449
Drainage	£m							42	53	38	43	40	217	55	54	109
Buildings	£m	83	105	69	31	43	331	128	174	211	168	107	788	204	173	377
Electrification & Fixed Plant	£m	95	110	167	111	214	697	158	203	225	199	117	903	235	210	445
Telecoms	£m	20	29	24	24	34	131	26	32	29	27	15	129	38	30	68
Other Renewals	£m	30	35	0	46	107	218	187	381	498	422	266	1,754	283	278	561
Total		2,017	2,121	1,915	1,568	1,751	9,371	1,967	2,402	2,501	2,180	1,576	10,626	2,179	2,238	4,417

Enhancements	Unit of measure	CP5 @ 18/19 prices						CP6 @ 18/19 prices						CP7 @ 18/19 prices		
		Actual	Actual	Actual	Actual	RF8	Act / RF8	Actual	Actual	Actual	Actual	RF8	Act / RF8	RF8	RF8	RF8
		14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26	CP7
Enhancements	£m	3,551	3,787	4,019	4,077	3,596	19,029	2,549	2,727	2,876	3,250	3,479	14,880	1,122	1,036	2,158

Notes:

1. CP5 Renewals per Hyperion at RF8 (Current RF) representing 18/19 prices
2. CP6 Renewals per Regional submissions and represents what had been Remitted to them and what has been told as potential Unremitted work
3. CP6 Renewals per % of the total workbank in each year based on the total CP5 exit % of work allocated to IP (c65% of workbank overall)
4. CP6 Enhancements based on Regions RF8 Submission – Live schemes, Hendy Tail & Third party (all remitted and unremitted) - plus additional potential funding from DfT and Transport Scotland
5. CP6/7 Volumes are based on CP5 Yr5 Volumes/COWD * CP6/7 forecasted COWD year by year as detailed reliable information currently not available from the business. Assumes same unit rates.

Appendix E Scenario planning – Headcount & Opex

Scenario 1

WORST CASE (Low)

	Unit of measure	CP5						CP6						CP7		
		Actual 14/15	Actual 15/16	Actual 16/17	Actual 17/18	RF8 18/19	Act / RF8 CP5	RF8 19/20	RF8 20/21	RF8 21/22	RF8 22/23	RF8 23/24	RF8 CP6	RF8 24/25	RF8 25/26	RF8 CP7
Headcount																
Permanent	FTE	3,952	4,366	4,679	4,611	4,685	4,685	3,319	2,757	2,486	2,262	1,961	1,961	2,114	2,113	2,113
Agency	FTE	267	455	724	423	328	328	232	193	174	158	137	137	148	148	148
Total	FTE	4,218	4,820	5,403	5,034	5,013		3,551	2,950	2,660	2,420	2,098	2,098	2,262	2,261	2,261
INTERNAL COSTS																
Permanent staff	£m	232	246	289	309	312	1,387	221	184	166	151	131	852	141	141	282
Agency staff	£m	14	30	63	53	36	196	26	21	19	18	15	99	16	16	33
Corporate Costs	£m	28	27	32	23	34	144	24	20	18	16	14	92	15	15	30
Other costs	£m	64	58	111	121	60	414	61	51	46	42	36	235	39	39	78
Total Excl Corporate Charge	£m	309	333	462	483	409	1,996	308	256	231	210	182	1,186	196	196	392
Total Incl Corporate Charge	£m	337	361	494	506	442	2,140	332	276	248	226	196	1,278	211	211	422
<i>Overheads charged</i>	%	27%	24%	29%	29%	21%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%

Notes:

- CP6/7 headcount calculated based on £1.5m Capex per head for Delivery Regional heads, £0.65m Capex per head for Development and HQ + IDG central functions & bespoke regional teams added onto this
- Costs are based on RF8 exit ratios * the heads calculated as above

Scenario 2

BASE CASE (Medium)

	Unit of measure	CP5						CP6						CP7		
		Actual 14/15	Actual 15/16	Actual 16/17	Actual 17/18	RF8 18/19	Act / RF8 CP5	RF8 19/20	RF8 20/21	RF8 21/22	RF8 22/23	RF8 23/24	RF8 CP6	RF8 24/25	RF8 25/26	RF8 CP7
Headcount																
Permanent	FTE	3,952	4,366	4,679	4,611	4,685	4,685	3,896	4,064	4,113	4,094	4,062	4,062	3,174	3,117	3,117
Agency	FTE	267	455	724	423	328	328	273	285	288	287	284	284	222	218	218
Total	FTE	4,218	4,820	5,403	5,034	5,013	5,013	4,168	4,349	4,401	4,380	4,347	4,347	3,396	3,335	3,335
INTERNAL COSTS																
Permanent staff	£m	232	246	289	309	312	1,387	260	271	274	273	271	1,348	211	208	419
Agency staff	£m	14	30	63	53	36	196	30	32	32	32	32	157	25	24	49
Corporate Costs	£m	28	27	32	23	34	144	28	29	30	29	29	145	23	22	45
Other costs	£m	64	58	111	121	60	414	72	75	76	75	75	371	58	57	115
Total Excl Corporate Charge	£m	309	333	462	483	409	1,996	361	377	382	380	377	1,876	294	289	584
Total Incl Corporate Charge	£m	337	361	494	506	442	2,140	389	406	411	409	406	2,022	317	312	629
Overheads charged	%	27%	24%	29%	29%	21%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%

Notes:

- CP6/7 headcount calculated based on £1.5m Capex per head for Delivery Regional heads, £0.65m Capex per head for Development and HQ + IDG central functions & bespoke regional teams added onto this
- Costs are based on RF8 exit ratios * the heads calculated as above

Scenario 3

BEST CASE (High)

	Unit of measure	CP5						CP6						CP7		
		Actual 14/15	Actual 15/16	Actual 16/17	Actual 17/18	RF8 18/19	Act / RF8 CP5	RF8 19/20	RF8 20/21	RF8 21/22	RF8 22/23	RF8 23/24	RF8 CP6	RF8 24/25	RF8 25/26	RF8 CP7
Headcount																
Permanent	FTE	3,952	4,366	4,679	4,611	4,685	4,685	4,190	4,541	4,629	4,655	4,461	4,461	3,371	3,316	3,316
Agency	FTE	267	455	724	423	328	328	293	318	324	326	312	312	236	232	232
Total	FTE	4,218	4,820	5,403	5,034	5,013	5,013	4,483	4,859	4,953	4,981	4,773	4,773	3,607	3,548	3,548
INTERNAL COSTS																
Permanent staff	£m	232	246	289	309	312	1,387	279	303	308	310	297	1,497	225	221	445
Agency staff	£m	14	30	63	53	36	196	33	35	36	36	35	175	26	26	52
Corporate Costs	£m	28	27	32	23	34	144	30	33	33	33	32	162	24	24	48
Other costs	£m	64	58	111	121	60	414	77	83	85	85	82	413	62	61	123
Total Excl Corporate Charge	£m	309	333	462	483	409	1,996	389	421	429	432	414	2,085	313	308	620
Total Incl Corporate Charge	£m	337	361	494	506	442	2,140	419	454	463	465	446	2,246	337	331	668
Overheads charged	%	27%	24%	29%	29%	21%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%

Notes:

- CP6/7 headcount calculated based on £1.5m Capex per head for Delivery Regional heads, £0.65m Capex per head for Development and HQ + IDG central functions & bespoke regional teams added onto this
- Costs are based on RF8 exit ratios * the heads calculated as above

Appendix F N/A
Appendix G N/A