Infrastructure Projects Strategic Plan

V4.0 Jan 2018 version

Contents

1. Foreword and Summary

1.1. Introduction

Infrastructure Projects (IP) is the national infrastructure delivery division of Network Rail and is responsible for the delivery of all major infrastructure delivery works. This includes works to increase the capacity of the network (enhancements) 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 £5.7b of work nationally and supported the delivery of works undertaken by the Routes' own works delivery teams. It is on course to deliver £28b of works for this control period (2015 – 2019) making it one of the largest infrastructure organisations in the UK.

IP focusses on delivery of all works that are seen as large and complex, this includes all enhancements and major renewals, with some of the less complex and smaller works delivered by the Routes themselves. IP's systems, processes and capability framework are utilised by the Routes to deliver these works. Having the Routes deliver simple and less risky works allows them to utilise spare capacity in their own works delivery teams and make better use of routine access where minor renewals may be combined with maintenance.

Infrastructure Projects' strengths are:

- Management of the complete Project Lifecycle
- Management of Engineering and Design
- Management of Supply Chain
- Management of Internal Client
- Management of Support Services & Assurance

In addition, IP as an integrated part of Network Rail minimises the transaction costs between it and its internal clients. This is particularly important around 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 Heads working closely with the Functional Directorate at the centre, this enables the portfolio to be delivered efficiently and effectively, safely and with appropriate levels of governance. It also facilitates continuous improvement and its ability to challenge itself. Also, IP being a service organisation supports the devolved Route businesses by ensuring 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 6 organisations globally to secure certification to ISO 44001, the new international standard for collaborative working.

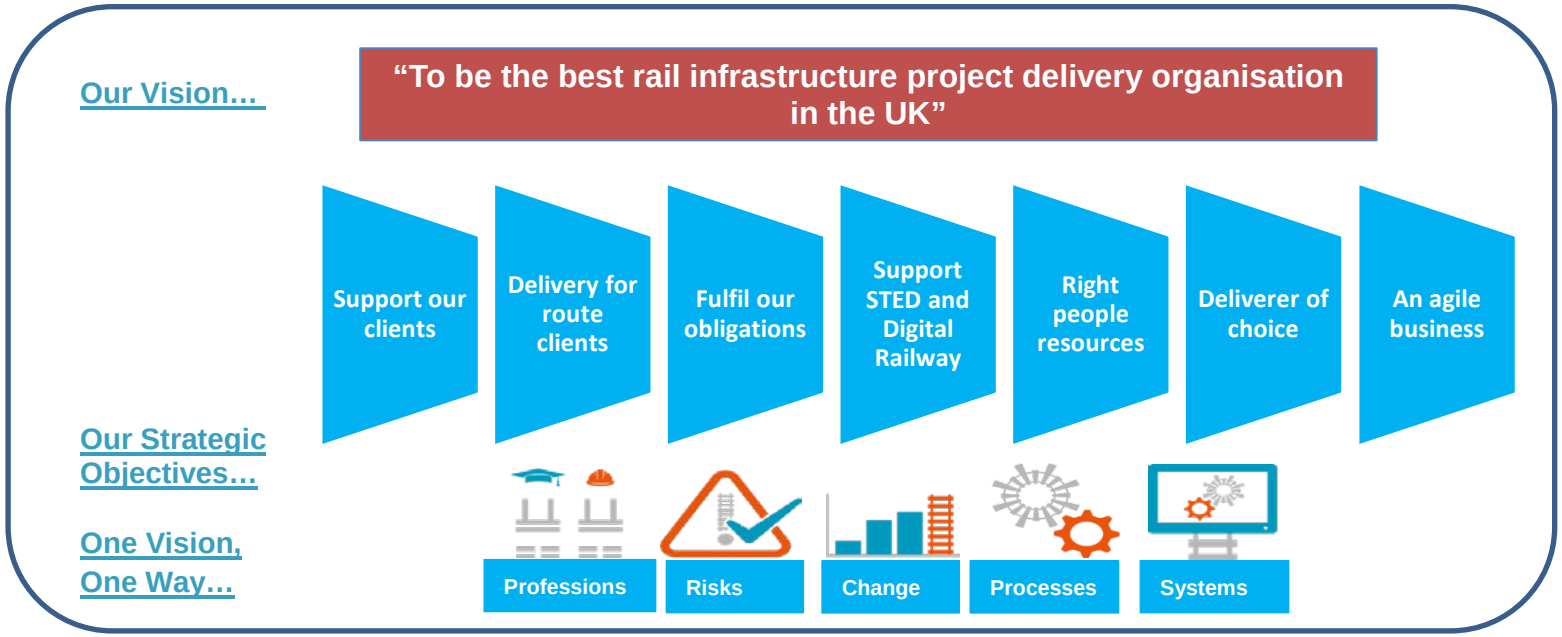
In addition, IP uses the P3M3 (Portfolio, Programme and Project Management Maturity Model) methodology as a management maturity model to assess how it delivers its projects, programmes and portfolio across the organisation. From a recent independent review undertaken, IP has demonstrated an exceptional level of improvement since the start of the control period in 2014 achieving P3M3 maturity level 3 in all its regions and national portfolios and setting the standard for the global transport sector scores. IP plans to build on these achievements in CP6 by further developing areas with opportunities for improvement. With these improvements, IP will work to ensure that it is able to lead and influence the industry as a client of choice through the deployment of best practices, efficient and cost effective delivery of projects.

1.2. Vision & Strategic Objectives

Following 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 Plan agreed with the ORR has been 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 engine, making sure we're in the right shape to be able to deliver the wider Network Rail Strategy and help to achieve our vison 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 STED and 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.*

1.3. Role of IP in Network Rail

Why does NR choose to have IP?

By having IP as its main delivery arm, Network Rail ensures that large, complex and high risk projects are delivered by a competent deliverer. It balances the appropriate level of risk control and project complexity with cost effectiveness by allowing internal resources and systems to be used in the most productive and efficient manner. In addition, IP being the technical authority for NR on cost planning, commercial strategy and delivery is able to provide expert service; set policy and provide assurance and governance on capital delivery to the Board and Executive Committee.

Other benefits why NR chooses to have its own internal delivery expert organisation are:

- Closer collaboration with internal NR functions and Route clients.
- Adherence of world class standards and processes to support efficient delivery of programmes.
- Economies of scale in projects 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 and ability to grow internal key infrastructure resource.

Differences between Works Delivery and IP

In addition to IP as the internal deliverer of capital projects within NR, the Routes also have their internal delivery teams – Works Delivery organisations. Works Delivery was established to assist productivity within NR's directly employed resource, and further ensure that IP were not undertaking low risk/low value works with process and procedures being overly bureaucratic for the simple activities, and therefore not being cost effective.

NR uses the governance process defined by the GRIP and management of level of control (LoC) standard to allocate enhancements capital projects. The level of control (LoC) process 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 5 project considerations (in regard to novelty, technology & design, complexity, pace and operational impact), and 4 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 ensure internal resources are optimised to achieve best outcomes on capital infrastructure delivery.

There are a few potential delivery model options available across the renewals, enhancements and third parties 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

	Funding Programme	Clients	Deliverer	% of CP5 Allocated Works	
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. 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 also 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 the majority 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 are not always financed or even funded by Government, these alternative sources of capital will look 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, define best practices and identify improvement opportunities. IP is positioning itself in a number of ways 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.

1.5. Workforce Agility in CP6

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 has the opportunity to become embedded within IP at a number of levels and with a number of 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 with regard to 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 and professional service contracts that the business currently utilises due to a lack of flexibility of the workforce.

The ability to increase the responsiveness to project skills and resource requirements will drive the on time delivery of projects, whilst also enabling the business to retain talent and skills and develop capability and competence where required. This in conjunction with strategic workforce planning will provide the business with an opportunity to further realise efficiencies and best practice for its stakeholders and customers.

1.6. Right Sizing the IP organisation

During the course of CP5 IP has implemented an annual opex review cycle in addition to the normal 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 (including internal benchmark of delivered capex £1.5m per head per annum.) IP has now completed two rounds of this process which has led to re-organisation in both the Signalling and Track teams. In the case of the former, this has meant the reduction of the organisational size leading to a cessation of recruitment whilst in the latter case the re-organisation will see 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. IP will continue to run this process through CP6 to ensure it is maintaining the right size of organisation for the business.

More strategically, IP have engaged Ernst and Young to carry out a review on the way capital projects are delivered within Network Rail. This work has now concluded and contained a number of recommendations regarding the way renewals are allocated between IP and the Routes for delivery. However, the recommendations were unsubstantiated and work is now underway within Network Rail to understand the benefits and potential impacts of implementing any changes; for example, any changes in headcounts within IP and Route delivery teams, alignment with strategic policy such as devolution, whether services are meeting customer needs and requirements. To do this, a small number of distinct scenarios are being modelled to quantify and better understand the scale of change being considered and any potential impacts. These are being tested with key stakeholders from across Network Rail. Once this has concluded, a second phase will take place to refine any preferred options and better

understand the full implications of the change. This work is expected to conclude by the end of February.

The plan included at this point is a most likely scenario based on a set of assumptions, although this should not be seen as pre-judging the outcome of the ongoing work.

1.7. CP6 Supply Chain Strategy

Network Rail is the UK's largest infrastructure client and has generated £22bn of work for the supply chain over the first three years of CP5, 99% of this work going to UK based companies. The average annual spend 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, many of which provide 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 of 2017, becoming one of the first 6 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.

Access Planning: Driving greater programme stability through earlier & more detailed challenge to access planning assumptions at procurement strategy stage. In addition, for complex major programmes, there will be increased use of Alliances that include TOCs & FOCs to facilitate greater collaboration and support to access planning and change management regimes.

A Coordinated Procurement Pipeline: Developing & publishing an integrated & coordinated procurement pipeline that supported by improved consistency of process, 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 honing High Output volumes for improved efficiency.

Signalling: Recognising that the nature of signalling works changing and 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, we will seek a refreshed engagement with the market, encouraging new entrants, setting higher commercial & 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 make use 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 ensure better visibility of access arrangements and ensure access planning assumptions are fully incorporated to support efficiencies.

Enhancements: Developing specific strategies and Terms & Conditions for progressively funded enhancement schemes whilst drawing on

established approaches to safety, delivery & commercial stewardship by employing corporate targets and National Performance Metrics to incentivise safe & timely delivery and improved cost control and efficiency. These will be competitively tendered and trailed via quarterly supply chain briefings to provide advanced notice of tendering opportunities.

Integrated Category Management: Strengthen our category management capabilities through improved market analysis & capacity planning, supplier account and performance management, to realise greater performance and value for money from 30 key suppliers who account for some 60% of Network Rail's expenditure.

Alliances: For complex, high risk & volume programmes with multiple stakeholders where early supplier & stakeholder engagement is a key success factor, Alliances have proven to be an effective alternative to 'hub & spoke' delivery and 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 & benchmarking and support a culture of commercial accountability to better understand & influence what rail works '*should, will & 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	Mitigation arrangement to ensure continuity
Anglia	Southern	New Anglia Route Multi-discipline framework	Q1 2019/20	• CP5 frameworks extended to cover year 1 of CP6 • Staged transition in year 1 CP6
South East				
Wessex				
Western	Western, Wales and Crossrail	New multi-disciplined frameworks with greater focus on Tier 2s	Staged from Q1 2019/20	• CP5 framework runs until Q1 2020/21
Wales				
Scotland	Scotland and North Eastern	New Scotland Route Multi-discipline Frameworks	Q4 2018/19	• CP5 framework runs until Q2 2019/20 • Option to extend CP5 frameworks if required
London North East and East Midlands				
London North West	Central	Exercise options to extend current multi-disciplined frameworks in return for negotiated efficiencies.	Q1 2018/19	• Not required - Extension terms already agreed with suppliers
All Routes	National Track Programme	Combined plain line and S and C alliances, either 2, 3 or 4 alliances subject to market testing (Subject to Board approval)	Q1 2019/20	• CP5 framework runs until Q2 2019/20 • Option to extend CP5 frameworks if required
	National Signalling Programme and DR	3 x tier strategy (currently under review to ensure DR adequately integrated)(Subject to Board Approval)	Q4 2018/19 to Q1 2019/20	• Existing frameworks have option to extend to cover year 1 of CP6

The top 5 strategic supply chain risks and opportunities have been included in Appendix C.

2. Objectives & Stakeholder priorities

2.1. 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 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. These include:

Key Account Management

Key account management (KAM) annual client satisfaction surveys were introduced in CP5 to help to improve the management of key client relationships. For the 2016/17 Annual Client Satisfaction Survey, 105 interviews were conducted with key Route clients to obtain their feedback, both narrative and a score, on IP's performance. For the first time, and to underline the importance that is attached to delivering *Better Every Day* for its clients, the overall KAM scores were included in the IP Dashboard as an AIP measure for 2016/17. Additionally, in May 2017, IP established a KAM Forum to enable more effective KAM activities, raise awareness and provide a vehicle to communicate KAM information.

The plan is to introduce high level quarterly 'pulse checks', on a trial basis for the remainder of CP5, to assess and monitor the effectiveness of our KAM improvement plans. IP will also work with its Route clients to develop this into a two-way process as the relationship management matures. The KAM strategy will be more client focussed, communicative and collaborative; and this will be embedded as business as usual across IP through CP6. This means extending KAM to the rest of the organisation and developing its relationship into one of collaborative partnership.

Sponsorship

Following the challenges faced in delivering the Enhancements Portfolio for Control Period 5, there was a renewed focus on the role of the sponsor. Network Rail made a commitment in the Enhancements Improvement Plan (EIP) to develop a set of clienting principles to make sure that the accountabilities in the project lifecycle is clear and that a strong, capable sponsor acts as the guiding mind and leader for the life of the project. In implementing this commitment, IP has established a sponsorship support team to provide support to the national sponsorship community in the Routes and System Operator function. The strategic aims are:

- To support and enable sponsors capable of leading successful enhancements projects and programmes from initial concept to delivery of benefits.
- To enable sponsorship to deliver 'Delivering for Our Customers Transformation Plan' and the Enhancements Improvement Programme.
- To enable sponsorship to retain a mandate to be the deliverer of choice and a good investment decision for funders.
- To be the public face of and, the internal role model for, relentless customers focus.

A well-developed sponsorship function supports effective engagement with all the stakeholders in projects delivery ensuring accountabilities are clear so that projects can be delivered on time, on spec and on cost for our clients.

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 and Supplier Account Management (SAM) meetings which run every quarter 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 in order 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.

2.2. 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 dialogues, 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 of the tool to include other NR functions such as 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.
Enhancement Improvement Plan	Formal Meetings, reports & other communications	EIP Programme Manager, Workstream leads	ORR

2.3. 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	To deliver projects on time and to cost, delivering efficiencies and providing value for money. Provide expertise on project delivery, commercial strategy and cost planning.	Key Account Management (KAM) metric was introduced as a scorecard performance measure of 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
DfT, NR Routes, Passengers, Local authorities	To deliver projects on time and to cost, delivering efficiencies and providing value for money.	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 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 also 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

2.4. 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

Scorecard for remaining years of CP5

Safety & Sustainable Development	17/18			18/19		
	WORSE THAN TARGET	TARGET	BETTER THAN TARGET	WORSE THAN TARGET	TARGET	BETTER THAN TARGET
LTIFR	0.259	0.246	0.232	0.233	0.221	0.209
Close calls raised (normalised/100000hrs)	125	150	175	139	165	191
Close calls closed within 90 days	80%	85%	90%	80%	85%	90%
Waste diverted from landfill (non-haz)	90%	95%	98%	90%	95%	98%
Sustainability KPI returns	70%	80%	90%	75%	85%	95%
Volunteering (days per headcount)	80%	100%	120%	80%	100%	120%
Financial performance	**17/18**			**18/19**		
	WORSE THAN TARGET	TARGET	BETTER THAN TARGET	WORSE THAN TARGET	TARGET	BETTER THAN TARGET
Cost of work done – renewals (£m)	1871	1782		95%	100%	
Cost of work done – enhancements (£m)	4521	4306		95%	100%	
FPM – renewals (£m)	-26.76	0	26.76	0.25*0.006 of budget	0	
FPM – enhancements (£m)	-78.48	0	78.48	0.025*0.08 of budget	0	
Investment	**17/18**			**18/19**		
	WORSE THAN TARGET	TARGET	BETTER THAN TARGET	WORSE THAN TARGET	TARGET	BETTER THAN TARGET
Regulatory milestones	60%	80%	100%	60%	80%	100%
Top 10 AIP milestones	6	8	10	6	8	10
All AIP milestones	47	80	78	47	80	78
Schedule adherence	70%	80%	100%	70%	80%	100%
Asset Management	**17/18**			**18/19**		
	WORSE THAN TARGET	TARGET	BETTER THAN TARGET	WORSE THAN TARGET	TARGET	BETTER THAN TARGET
7 Key volumes	90%	95%	100%	90%	95%	100%
Train Performance	**17/18**			**18/19**		
	WORSE THAN TARGET	TARGET	BETTER THAN TARGET	WORSE THAN TARGET	TARGET	BETTER THAN TARGET
Possession overruns (mins)	58019	48349	38679	Target plus 1.2	17/18 less 10%	Target * 0.8
Post implementation asset failures (mins)	164135	136779	109423	Target plus 1.2	17/18 less 10%	Target * 0.8
Locally Driven Measures	**17/18**			**18/19**		
	WORSE THAN TARGET	TARGET	BETTER THAN TARGET	WORSE THAN TARGET	TARGET	BETTER THAN TARGET
KAM – client survey measure	3.5	4	4.5	3.5	4	4.5
Supplier satisfaction	70%	80%	90%	70%	80%	90%
Headcount (FTE)		5747	5632		5747	5632

Long-term scorecard

Safety & Sustainable Development		19/20	20/21	21/22	22/23	23/24	24/25	Achievability
LTIFR	WORSE THAN TARGET	0.233	0.219	0.208	0.197	0.187	0.178	
	TARGET	0.2214	0.1993	0.1794	0.161	0.145	0.13	
	BETTER THAN TARGET	0.209	0.1777	0.151	0.128	0.089	0.063	
Close calls raised (normalised/100000hrs)	WORSE THAN TARGET	125	125	125	125	125	125	
	TARGET	150	150	150	150	150	150	
	BETTER THAN TARGET	175	175	175	175	175	175	
Close calls closed within 90 days	WORSE THAN TARGET	60%	60%	60%	60%	60%	60%	
	TARGET	80%	80%	80%	80%	80%	80%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	
Waste (% recycled or beneficially re-used)	WORSE THAN TARGET							
	TARGET	5% year on year improvement starting from 2018/19 baseline until reaching 90%						
	BETTER THAN TARGET							
Capital carbon savings	WORSE THAN TARGET							
	TARGET	Initial 20% reduction followed by a 5% year on year improvement until reaching 40%						
	BETTER THAN TARGET							
Volunteering (days per headcount)	WORSE THAN TARGET	85%	90%	95%	100%	100%	100%	
	TARGET	105%	110%	115%	120%	125%	125%	
	BETTER THAN TARGET	115%	120%	125%	125%	125%	125%	

Financial Performance		19/20	20/21	21/22	22/23	23/24	24/25	Achievability
Cost of work done – renewals (£m)	WORSE THAN TARGET	95%	95%	95%	95%	95%	95%	
	TARGET	100%	100%	100%	100%	100%	100%	
	BETTER THAN TARGET							
Cost of work done – enhancements (£m)	WORSE THAN TARGET	95%	95%	95%	95%	95%	95%	
	TARGET	100%	100%	100%	100%	100%	100%	
	BETTER THAN TARGET							
FPM – renewals (£m)	WORSE THAN TARGET	-0.25*0.006 of budget						
	TARGET	0	0	0	0	0	0	
	BETTER THAN TARGET	+ 0.25*0.006 of budget						
FPM - enhancements (£m)	WORSE THAN TARGET	0.025*0.08 of budget						
	TARGET	0	0	0	0	0	0	
	BETTER THAN TARGET	+0.025*0.08 of budget						

Investment		19/20	20/21	21/22	22/23	23/24	24/25	Achievability
Regulatory milestones (GRIP 6/ EIS)	WORSE THAN TARGET	70%	70%	70%	70%	70%	70%	
	TARGET	80%	80%	80%	80%	80%	80%	
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	
All AIP milestones	WORSE THAN TARGET	TBC	TBC	TBC	TBC	TBC	TBC	
	TARGET	TBC	TBC	TBC	TBC	TBC	TBC	TBC
	BETTER THAN TARGET	TBC	TBC	TBC	TBC	TBC	TBC	

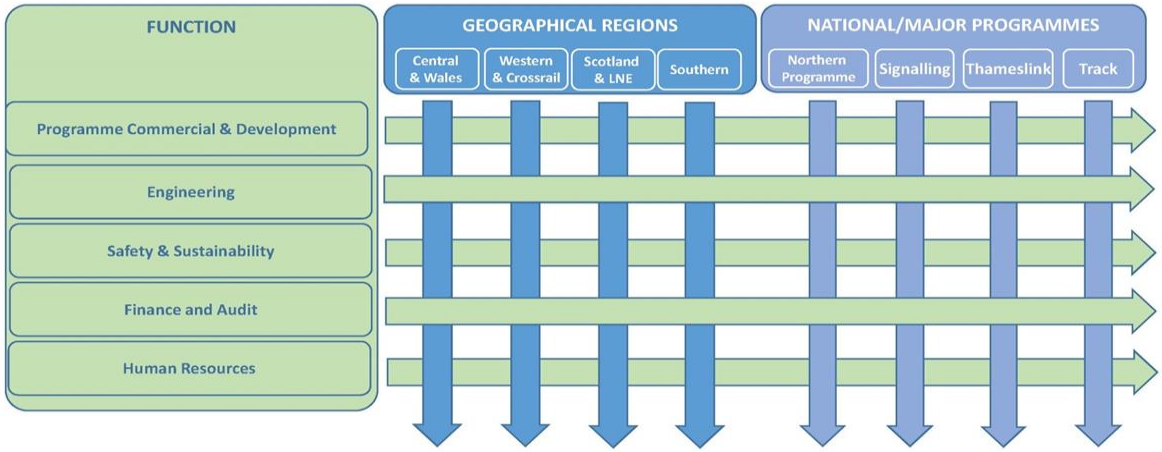
Schedule adherence	**WORSE THAN TARGET**	**70%**	**70%**	**70%**	**70%**	**70%**	**70%**	
	TARGET	**80%**	**80%**	**80%**	**80%**	**80%**	**80%**	
	BETTER THAN TARGET	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	
Asset Management		**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	**24/25**	**Achievability**
7 Key volumes	**WORSE THAN TARGET**	**90%**	**90%**	**90%**	**90%**	**90%**	**90%**	
	TARGET	**95%**	**95%**	**95%**	**95%**	**95%**	**95%**	
	BETTER THAN TARGET	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	
Train Performance		**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	**24/25**	**Achievability**
Possession overruns (mins)	**WORSE THAN TARGET**	**Target * 1.2**	**Target * 1.2**	**Target * 1.2**	**Target * 1.2**	**Target * 1.2**	**Target * 1.2**	
	TARGET	**50000**	**50000**	**50000**	**50000**	**50000**	**50000**	
	BETTER THAN TARGET	**Target * 0.8**	**Target * 0.8**	**Target * 0.8**	**Target * 0.8**	**Target * 0.8**	**Target * 0.8**	
Post implementation asset failures (mins)	**WORSE THAN TARGET**	**Target * 1.2**	**Target * 1.2**	**Target * 1.2**	**Target * 1.2**	**Target * 1.2**	**Target * 1.2**	
	TARGET	**18/19 less 5%**	**19/20 less 5%**	**20/21 less 5%**	**21/22 less 5%**	**22/23 less 5%**	**23/24 less 5%**	
	BETTER THAN TARGET	**Target * 0.8**	**Target * 0.8**	**Target * 0.8**	**Target * 0.8**	**Target * 0.8**	**Target * 0.8**	
Locally Driven Measures		**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	**24/25**	**Achievability**
KAM – client survey measure	**WORSE THAN TARGET**	**3.7**	**3.7**	**3.7**	**3.7**	**3.7**	**3.7**	
	TARGET	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**	
	BETTER THAN TARGET	**4.3**	**4.3**	**4.3**	**4.3**	**4.3**	**4.3**	
Supplier satisfaction	**WORSE THAN TARGET**	**66%**	**68%**	**70%**	**72%**	**74%**	**76%**	
	TARGET	**70%**	**72%**	**74%**	**76%**	**78%**	**80%**	
	BETTER THAN TARGET	**74%**	**76%**	**78%**	**80%**	**82%**	**84%**	

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

3. Structure & Operating Model

3.1. Structure

Infrastructure Projects' organisational structure is designed to support the goal to become more client orientated and also 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. Detailed functional strategies are shown in Appendix A.

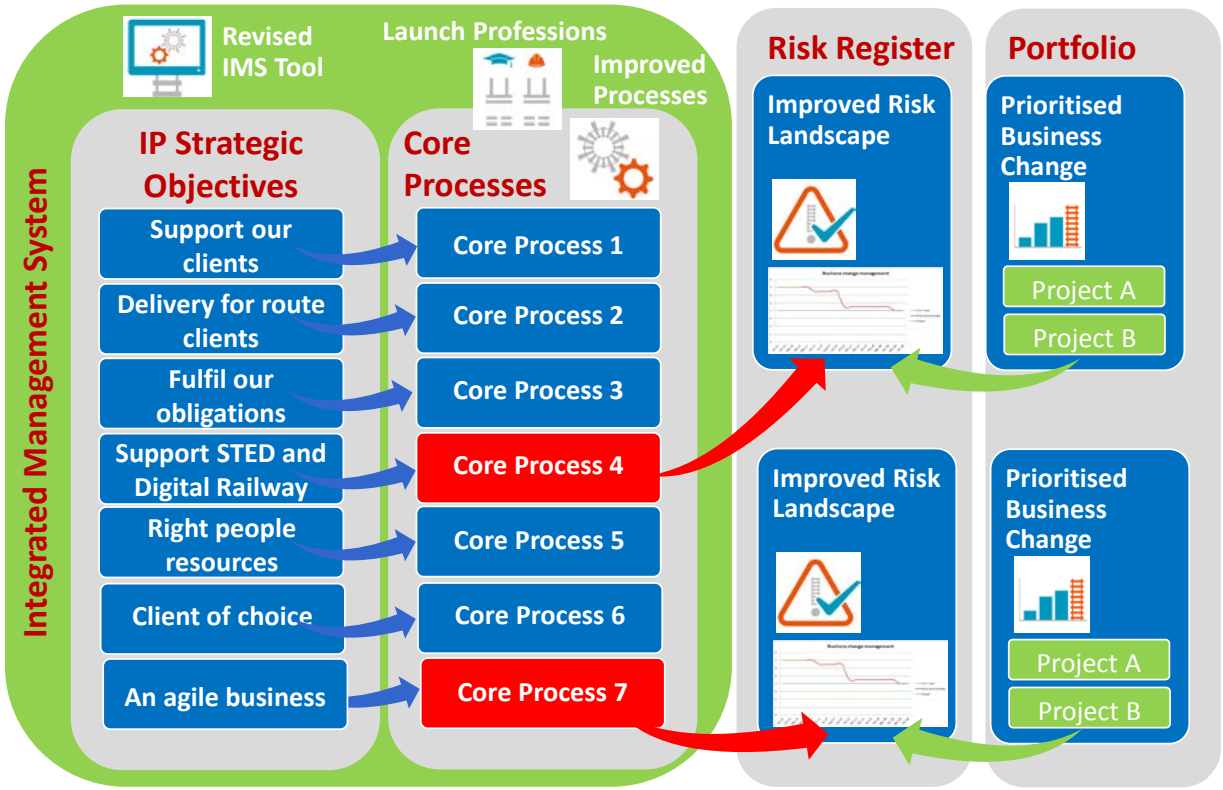


3.2. Operating Model

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 which when completed will be combined to form a new operating model.

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** – makes sure any business change and improvement activities that are undertaken are focussed on addressing those risks to achieving its objectives.
4. **Improves Processes** – agrees the processes which IP will use for delivery of its vision.
5. **Integrated Management System** – develops a user-friendly and interactive Integrated Management System (IMS) which will host our processes and procedures.

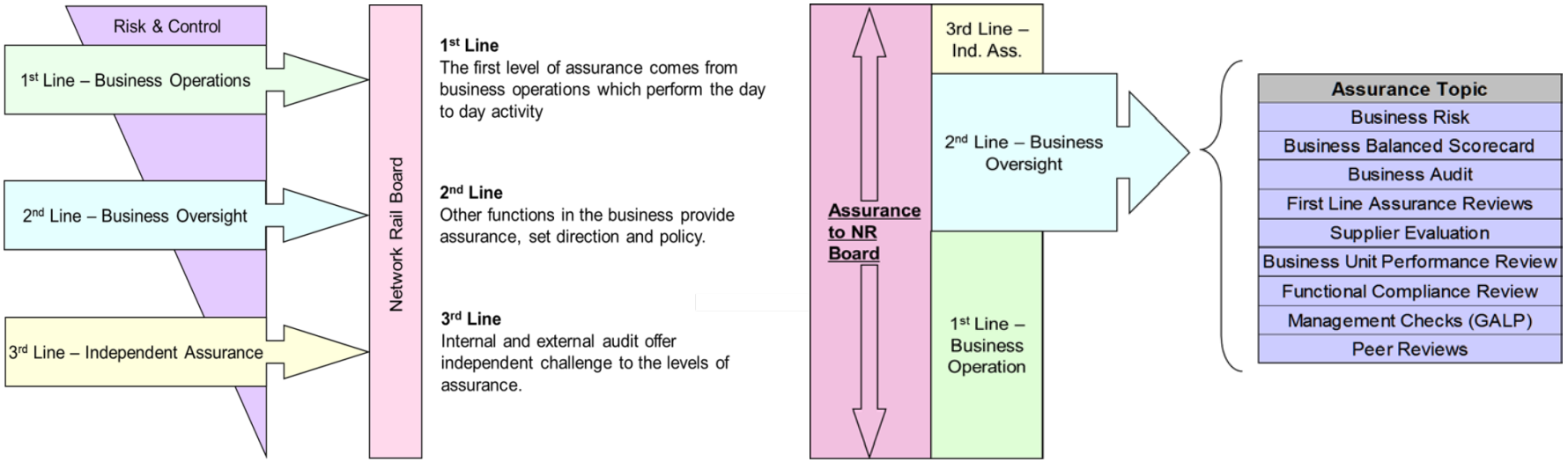
Future Operating Model



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 Region and 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 a number of 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 Region and Programme Director makes a declaration of compliance against the key policies set down by Network Rail.

The second line of assurance is provided by the Functional Directors, there are a number of 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.

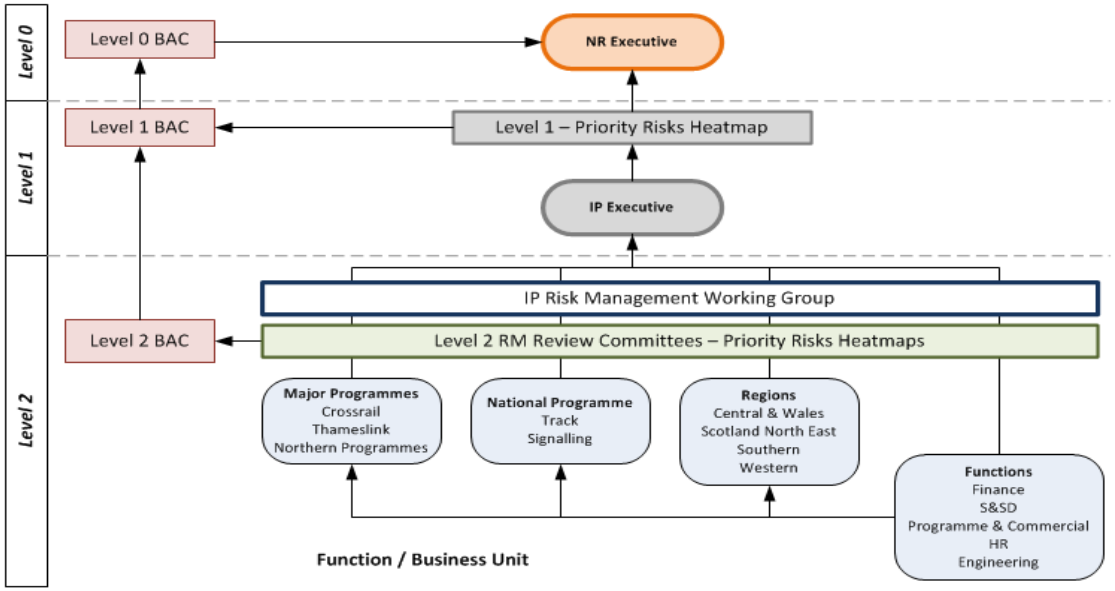
The third line of defence is provided independently and is aimed at providing reasonable assurance to the Network Rail Audit and Risk Committee regarding the adequacy of the risk management and internal control framework in operation, and to identify weaknesses and opportunities to strengthen risk management 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 One Vision One Way 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 Network Rail Infrastructure Projects as amongst best in class level for enterprise risk management. 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 a related 'Level 1' business risk.

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. In simple terms management of 'Level 0' risks is overseen by the CEO and assured by the Audit & Risk Committee of the 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.



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. Level 2 BACs, led by Region and 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 starting to be plotted along a timeline (or trajectory) with reviews of the progress on mitigations being built into the agenda of the MDs monthly leadership meeting, serving 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 in order 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 good 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. Key Risks, Opportunities and Constraints

The following tables show the current level 1 risks and some of the level 2 (as of Nov 2017), 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 and roll out of SSD Profession and competencies.	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	30/09/2018
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] Adequacy of the risk & value management activities to provide timely early warnings affects ability to mitigate risks.	Continue implementing improvements as reviewed through ORRs monitor.	P&CD, IP	Routes, Regions & Programmes	Review June 2018

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 driving 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] Business change management isn't adequately controlled resulting in initiative overload.	Introduce a governance framework to improve the prioritisation and management of business change initiatives.	Finance Director	Routes/ Regions/ Programmes	CP5 / CP6
3	[R] Inaccuracies in financial reporting, e.g. COWD, AFC and FPM give a misleading position.	Reinforce and improve internal financial controls including financial assurance and maintain visibility.	Finance Director	Routes / NR	CP5 / CP6
4	[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
5	[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

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	Number of initiatives ongoing to reduce this risk on themes of assurance, capability, data management and improvements in early stage design and in construction phase of projects.	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.	Lead enhancement efficiency initiatives across the Regions and Programmes. Governance regime established to monitor and share best practice	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	Managing Director, IP	Routes	CP5 / CP6
4	[O] Reduction of Post Implementation Asset Failure (PIAF) gives rise to improved network performance.	To further improve our performance post handback, apply lessons learned and undertake regular analysis of national incidents causing PIAF.	Engineering Director, IP	Routes	CP5 / CP6

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. Expenditure & Efficiency

5.1 Work delivered

	Unit of measure	CP5 RF06							CP6 as per Regions submissions							Variance	CP7
7 Key Volumes Renewals		**14/15**	**15/16**	**16/17**	**17/18**	**18/19**	**CP5**	**% of NR total**	**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	**CP6**	**% of NR total**		**24/25**
Plain Line (7Key)	meters	602,470	605,409	510,429	280,262	219,585	2,218,156	42%	625,167	568,685	543,978	380,098	423,386	2,033,051	41%	185,105	508,263
S & C (7Key)	Pt ends	278	348	307	244	377	1,554	37%	249	205	194	205	280	906	37%	648	227
SEUs (7Key)	No.	689	1,467	1,027	584	2,186	5,953	100%	518	986	1,983	1,743	1,078	5,046	100%	907	1262
Underbridge (7Key)	m2	56,647	103,868	89,863	63,342	37,071	350,791	82%	46,261	53,131	47,536	44,144	32,450	178,817	81%	171,973	44,704
Earthworks (7Key)	5CL	736	1,489	1,297	730	386	4,638	28%	947	1,234	1,283	476	436	3,501	29%	1,137	875
Conductor Rail Renewal (7Key)	Various	17	28	15	1	6	66	53%	6	21	8	1	4	31	52%	35	8
Wire Runs(7Key)	No.	21	29	17	25	51	143	50%	14	21	13	38	56	114	190%	29	28

		CP5 RF06 17/18 prices							CP6 17/18 Prices calculated on Route Businesses 1st Dec Submission							Variance	CP7
Renewals		**14/15**	**15/16**	**16/17**	**17/18**	**18/19**	**CP5**	**% of NR total**	**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	**CP6**	**% of NR total**		**24/25**
Track	£m	686	674	675	533	463	3,030	72%	452	486	483	460	425	2,307	72%	724	461
Drainage	£m	14	42	26	15	3	100	51%	44	46	45	48	37	221	79%	(121)	44
Signalling	£m	578	570	448	554	533	2,683	84%	514	714	818	785	599	3,429	82%	(745)	686
Structures	£m	287	336	313	212	170	1,318	69%	182	227	225	209	185	1,030	66%	288	206
Earthworks	£m	138	132	113	74	35	492	70%	86	92	85	72	66	402	70%	90	80
Buildings	£m	79	100	65	37	19	301	39%	54	57	66	44	30	251	34%	49	50
Electrification & Fixed Plant	£m	91	105	147	129	91	563	69%	86	133	150	138	104	611	68%	(48)	122
Telecoms	£m	19	28	23	26	38	134	38%	0	0	0	0	0	0	0%	134	0
Other Renewals	£m	28	33	0	42	58	162	14%	0	0	0	0	0	0	0%	162	0
Total		**1,920**	**2,020**	**1,811**	**1,623**	**1,409**	**8,782**	**64%**	**1,419**	**1,755**	**1,873**	**1,757**	**1,446**	**8,250**	**59%**	**532**	**1,650**

		CP5 RF06 17/18 prices							CP6 17/18 Prices - CP6 as per Regions submissions							Variance	CP7
		14/15	**15/16**	**16/17**	**17/18**	**18/19**	**CP5**	**% of NR total**	**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	**CP6**	**% of NR total**		**24/25**
Enhancements	£m	3,381	3,606	3,827	4,195	3,942	18,951	96%	1,731	1,483	1,407	1,307	1,170	7,098		11,853	1420

Notes:

1. CP5 in 17/18 Prices and CP6 in 17/18 Prices
2. CP6 Renewals calculated on Route Businesses 1st Dec submission based on 80% of CP5 delivery for £ and volumes
3. CP6 Enhancements based on Regions RF06 Submission
4. Enhancements based on Priority list of schemes as advised by Network Strategy and Capacity Planning pending DfT confirmation.

5.2 Infrastructure Project costs

IP is faced with a few uncertainties in CP6, some of which include unconfirmed enhancements schemes and funding, the scope of renewals to be of delivered by IP and the right organisational size for an effective IP. Due to these uncertainties, 3 scenarios have been calculated to depict the CP6 IP headcount and operating cost – worst, most likely and best cases. The **most likely 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 Appendix E.

Scenario 2 – Most Likely Case

		CP5						CP6					
		Actual	Actual	Actual	RF06	RF06		RF06	RF06	RF06	RF06	RF06	
	Unit of measure	14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6
Headcount													
Permanent	FTE	3,952	4,366	4,679	4,981	4,872	4,872	3,669	3,892	4,199	3,881	3,375	3,375
Agency	FTE	267	455	724	480	315	315	237	252	271	251	218	218
Total	FTE	4,218	4,820	5,403	5,461	5,187	5,187	3,906	4,144	4,470	4,132	3,593	3,593
INTERNAL COSTS													
Permanent staff	£m	232	246	289	319	332	1,417	250	265	286	264	230	1,294
Agency staff	£m	14	30	63	55	36	198	27	29	31	29	25	141
Corporate Costs	£m	28	27	32	31	31	148	31	31	31	31	31	155
Other costs	£m	64	58	111	99	84	416	63	67	72	67	58	328
Total Excl Corporate Charge	£m	309	333	462	474	452	2,031	340	361	389	360	313	1,763
Corporate Costs	£m	28	27	32	31	31	148	31	31	31	31	31	155
Total Incl Corporate Charge		337	361	494	504	483	2,179	371	392	420	391	344	1,918
Overheads charged	%	27%	24%	29%	26%	24%	26%	25%	25%	25%	25%	26%	25%

Notes:

1. Scenario Planning 2 – Most likely case
2. 80% of CP5 level of renewals flexed around CP6 numbers will be given to IP
3. Enhancements based on Priority list of schemes as advised by Network Strategy and Capacity Planning pending DfT confirmation
4. 80% of Hendy Tail schemes will be awarded to IP
5. £1billion of development funding awarded to NR for IP to develop schemes

Comparison to benchmarks

Further analysis to make reference to industry benchmarks and norms and will be carried out upon the completion of the review of the way capital projects are delivered within Network Rail and the impact of this on the right size and effectiveness of IP. (See Section 1.6).

Summary of headwinds identified by Infrastructure Projects [opex and overheads only]

Applicability	Head wind name	Description	Mitigating actions	%
Opex	Enhancement workbank	Uncertainty on enhancement workbank	Remain competitive and undertake Organisational Reviews annual to assess the size of the workforce	TBC
Opex	Wage inflation	Wage inflation	Ensure correct assumptions applied in business planning	2%
Opex	Flexibility of workforce	Workforce not in the same location as the workbanks	Use of an agile workforce	TBC

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

Applicability	Efficiency name	Type of efficiency	Description	%
Opex	Sharing of support resources	Cost reduction	Sharing of support resources within same building/ locations	TBC
Opex	Making Money Matter	Cost reduction	Making people more focused and aware of what they are spending	TBC
Opex	IT Systems	Cost reduction	Reducing number of systems and integrating more systems	TBC
Opex	Utilisation	Increased Productivity	Better utilisation of workforce and resources	TBC

Notes: The opex efficiencies and headwinds that have been provided above are more of 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 Network Rail and the impact of this on the right size and effectiveness of IP. (See Section 1.6).

5.3 Route Business Scotland details

Note		CP5 Year			CP6 Year					CP6 Total
		16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	
	National Cost (£m)									
1	Scotland Opex Costs (£m) (Gross Cost) *	19.65	24.03	24.69	24.69	24.69	24.69	24.69	24.69	123.47
	*The net cost to Scotland is zero after recovery to projects.									
	Activity	Transports Scotland have committed to the same spending levels in CP6 as CP5. **Enhancements** Flash ship Enhancements Programmes / Projects for CP6 are: - Edinburgh Suburban Electrification Programme Dunblane to Perth Corridor Enhancement Perth Muirton Yard East Kilbride Barr head Enhancements Aberdeen to Inverness Phase 2 Highland Mainline Phase 3 Far North Lines **Renewals** Spend is consistent with CP5 levels with a forecast of £532m. Of which £247.5m is for structures, £100.9m is earthworks & £34.2m has been identified against for Buildings.								

5.4 Risk and uncertainty in the CP6 plan

This section provides an explanation of the how we have built up our overall CP6 plan and sets out our estimate of the degree of uncertainty within this plan.

Uncertainty Ranges for CP6 Plan

The information in the table below, presents our estimate of the overall range of uncertainty across our renewals, enhancements and headcount for CP6. We have also identified and discussed the main drivers of the uncertainty ranges. The information in this table is based on the detailed inputs provided in our renewals, enhancements and headcount plans. The spot estimates represent the most likely option from the scenario planning.

Area (R, E & Headcount)	***Potential range (low – spot – high)***	***Summary of key drivers of the uncertainty range***	
		Driver of range/ Commentary	***% of range***
Renewals	Low (-£0m) Spot (£8,250m) High (+£2,063m)	*As Network Rail continues to establish devolution, Route Businesses will build their works delivery teams' capacity, capability and competences throughout CP6. This will mean more internal options for delivering renewals and could lead to more work being delivered by the Routes compared to CP5 levels. There is an ongoing review on the way capital projects are delivered within Network Rail which should provide some clarity when concluded.* *In addition, contestability may impact the work that IP are awarded in CP6 as Route Businesses may give work to others outside of NR.*	*0% to 25%*
Enhancements	Low (-£6,084m) Spot (£13,182m) High (+£2,521m)	*Funding for Enhancements is changing in CP6. There will be more uncertainty as schemes will be re-evaluated at stage gates through the schemes life to ensure it remains value for money. Therefore funding will be piece meal and will be paused while schemes are evaluated to ensure costs are kept to a minimum and efficient delivery.*	*-46% to 19%*
Total expenditure	**Low (-£6,084m) Spot (£21,432m) High (+£4,584)**		
Headcount (Opex)	Low (-758) Spot (3,560) High (+464)	*IP's headcount will be structured to meet the workbank we will deliver. IP will have flexible people plan process to enable IP to react to the requirements and workbanks to be delivered.*	*-21% to 13%*

6. Sign-off

This document and accompanying templates are owned by the Managing Director, Infrastructure Projects.
Submission of this document indicates confirmation that:

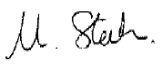
- **all appropriate level 1 assurance activities have been undertaken (see separate advice on definition of level 1 assurance);**
- **the Managing Director, Infrastructure Projects is satisfied with the quality, currency and appropriateness of the content of this document as well as the cost, volume 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: 

Anit Chandarana
Finance Director

Date: 19 January 2018

Sign: 

Matthew Steele
Commercial & Development Director

Date: 19 January 2018

Sign: 

Francis Paonessa
Managing Director, Infrastructure Projects

Date: 19 January 2018

Appendix A Functional Strategies
(a) Safety

Purpose & Vision of Safety & Sustainable Development

Our purpose is to support IP to be the best rail Infrastructure Project Delivery Organisation in the UK without compromising the wellbeing of our people, the communities we serve and the environment within which we operate.

We will achieve this by integrating the lifesaving rules, that underpin 'Everyone home safe every day', to enable a cultural change in our business that results in improved safety for all those who work in the rail industry. We will drive the sustainable development agenda in everything that we do as we work to be externally recognised as an industry leader. We will work with our Supply Chain to help us become world class.

To do this we must set and continue raising our safety and sustainability standards to world class levels, and implement a safety and sustainable development agenda that helps us to deliver a railway fit for the future. This makes sense for our business, the industry, and the wider community and environment in which we operate. Network Rail's vision for safety, 'Everyone home safe every day', sits at the heart of everything we do as an organisation.

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.

Two critical relationships are key to successful delivery of our vision:

1. The relationship between Network Rail's clients and sponsors, which will ensure we are enabled to innovate and deliver our safety and sustainable development commitments.
2. The relationship with our Supply Chain, which will ensure that they are fully accountable for delivering against their safety and sustainability commitment to us.

Functional Strategies

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

	Process and Systems	■ Integrated Management System (EMS & HSMS) • 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	***Strategic Outcome :*** Our S&SD risk control systems are fit for purpose and robustly monitored for adequacy and compliance. Improving consistency
		■ Procuring to deliver excellent S&SD performance • Refine our process to enable this to occur • Improve consistency in our expectations of high HS&SD standards	

		• Increase sustainability weighting in tenders	
		■ Safe & Sustainable by Design • 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	
		■ Risk based assurance & monitoring processes to include embedding learning	
		■ Key Performance Indicators • Hold contractors accountable on submitting their performance indicators • Develop consistent incentivisation for good HS&SD performance	
		■ Target Occupational Health improvements for Health surveillance	
		■ Integrate sustainability into the IP scorecard	
	Supplier Engagement	■ Incentivising high performers • 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	***Strategic Outcome :*** High Performing Suppliers
		■ 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.	
	People and Engagement	■ Embed our Capability Framework for S&SD • 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.	***Strategic Outcome :*** Our staff and suppliers are fully competent, high performers. High quality consistent stakeholder management
		■ Life Saving Rules – improve monitoring and application of consequences.	
		■ HS&SD Communications	***Strategic Outcome :*** Consistent improving safety and performance across all regions and

			programmes; moving beyond compliance to best in class.
	Sustainability	■ 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) Commercial & Development

Introduction

The Commercial & Development strategies comprise six key functional areas; programme development, programme management, risk & value management, programme controls, procurement and commercial to support and implement Infrastructure Projects 7 strategic objectives. The functional strategy for each is detailed below.

Programme Development

Programme Development is a newly created profession within infrastructure projects, its purpose first and foremost is to bring greater rigour and quality to the development of Network Rail's enhancement and renewals portfolio, typically associated with GRIP 1 to 3. Both the Bowe and Hendy Reviews identified unsatisfactory development of the enhancement portfolio in CP5 as a key reason for cost and schedule overruns. Programme Development's vision is to be the customer's first choice for the development of optimal railway solutions. Our objectives are to:

- Develop the work bank.
- Provide professional head and functional leadership in regions / major programmes.
- Responsible for early GRIP development.
- Championship of key account management (KAM) in regions / major programmes.
- Business development and supporting sponsors with third parties proposals.
- Supporting Network Strategy and Capacity Planning, and routes, in developing regulatory submissions.

In addition Programme Development will focus on improving the processes and governance structures used in the Development phase of the project lifecycle, working closely with our sponsors and clients. Most importantly though it will focus on giving people the necessary skills and capabilities, there is also recognition that whilst Programme Management is an important and broad skill base, giving people the opportunity to specialise in the upfront definition and development is critical to Network Rail's long-term success.

Programme Management

The aim of the Programme Management function is support the devolved Routes and Infrastructure Projects strategic objectives, by the provision of the tools, transparent processes and skilled staff, enabling effective development and delivery of the rail network from minor renewals to large enhancement programmes. Following an independent Portfolio, Programme, Project Management Maturity Model (P3M3) assessment of Infrastructure Projects in 2017, there are four focused areas of capability improvement that will need further adoption and embedment in CP6:

- **People** – It is essential that Network Rail has competent staff applying robust Portfolio, Programme and Project Management techniques. In alignment with the intended changes in our processes and using the new guidance published by the Association for Project Management (APM), Network Rail's professional development framework will be modified to incorporate the new competency sets for portfolio, programme and project management. Roles and responsibilities will also continue to be updated to reflect these new specialisms. Training for each specific field will be introduced and staff will establish personal development plans accordingly. To reduce cost and encourage agility/mobility, our technical training will increasingly use industry standard e-learning. Network Rail will continue to recognise and support individuals gain APM professional accreditation/s and Chartership.
- **Processes and Systems** – Network Rail has established processes

and systems suitable for delivery of small to large complex projects. Consistent processes and systems for future major enhancement programmes and portfolio management will be embedded to support the Routes and their selected delivery agent, enabling transfer of best practice and reducing start-up costs. Our funders will have visibility of our processes to provide confidence in our approach and to facilitate effective integration.

- **Requirements Management** – Working together with our funders/clients, a formal requirements management process and systems will be adopted across our CP6 portfolio to add clarity to the commitments being made by Network Rail, track change and assist the validation of delivered capability.
- **Risk and Value Management** – In addition to upskilling our project and programme management community, during CP6, mechanisms to help understand and manage complex programme/portfolio interdependencies and risks will be established and deployed. This is part of a transition from being focused primarily on threats to projects and programmes, to becoming a model of best practice for integrated risk management; covering threats and opportunities in the development, design and delivery of critical infrastructure for customers and stakeholders. It is an important transition for IP and Network Rail, given the appetite to encourage 3rd party investment into the railway; consequently there is an increasing emphasis on assurance.

A further P3M3 assessment will take place to validate the capability improvements made and structure future continuous improvement activities in order to provide tangible benefits to our delivery performance.

Programme Controls

The Programme Controls profession has a disparate number of specialisms which will be providing a service to the IP organisation and a specification and service to the wider Network Rail Organisation, encompassing::

- Planning & Scheduling (Portfolio, Programme, Project & Operational)
- Portfolio & Business Control, Integration & Performance Insight
- Delivering Work Within Possessions (DWWP)
- Resource Management (People, Plant & equipment, Materials & Access)
- Document & Information Management
- Professional Accreditation and capability development

IP Strategic Alignment

The profession aligns primarily to three Strategic Themes:

- Support for our Clients
- Delivery for our Route Clients
- Right People Resources

Delivery for our Route Clients/Support for our Clients

The profession encompasses all stages of a project or programme's lifecycle from the initial estimating needed to 'size' a proposed project, through efficient delivery whilst encompassing lessons learned and the forensic analysis needed to understand the causes of failure. The supporting capabilities are as follows:

- Planning and scheduling capabilities covering portfolio, programme and project – embracing methodologies supporting development, design & delivery.
- Timely integration & alignment of other capabilities such as Cost Planning, Procurement, Post Contract management, Risk and Value management.
- Effective Portfolio, Programme and Project reporting, embracing approaches such as Earned Value Management and Earned Schedule.
- Work Package control, the preparation and authorisation of work and the control of change.
- Project Document control – Effective Management and recovery of project and functional information.

Right People and Resources

It is imperative that the resource demands are understood to ensure success of delivery. To ensure this the following capabilities are available:

- Resource management (+12 Months out) – The National Consolidated

key resource plan allied with Strategic and Workforce Planning and Modelling.
- Management of the Delivering Work Within Possessions process safeguarding the deliverability of the works and minimising the risk of possession over-run
- Incorporation and monitoring of resource requirements from of 3rd Party organisations such as HS2, London Underground, Highways Agency & National Grid.

Commercial

The Commercial Discipline within Infrastructure Projects encompasses 4 distinct areas of expertise, namely; Cost Planning, Commercial Management, Claims Management and Collaboration. The Commercial vision is to develop and deploy effective People, Process & Systems, supported by an assurance and governance regime to establish and maintain an industry leading commercial services culture and capability that;

- demonstrates industry leadership in the pursuit of deeper and more effective collaboration
- drives progressive supply chain engagement, collaboration and improved supplier performance, bringing tangible and sustainable value to industry and the taxpayer
- develops our capability in the commercial stewardship of infrastructure investment such that we can better influence and predict what rail works 'will cost', are effective in managing commercial risks and liabilities, and can demonstrate what works 'did cost' and 'why'
- drives an improved benchmarking capability to illustrate what rail works 'should cost' and 'why' so as to better inform investment decisions and the pursuit of value for money and targeted efficiencies
- drives Industry change, such that new and progressive commercial techniques are adopted and become business as usual across the rail supply chain, embedding structured continuous improvement for all
- drives improved stakeholder confidence Network Rail's capability to predict and influence costs and drive efficient, value for money investment in rail infrastructure in a sustainable way
- Is recognised by industry as progressive and active in driving industry change.

Cost Planning - will be the recognised industry experts of what rail works should, will and did cost, and why; leading the sector in the collection of data and the development & use of standard measurement language & systems for effective cost planning & industry wide benchmarking. This will be achieved through the progressive embedding of 5 key work-streams developed within the Cost Planning Improvement Programme (CPIP - 1 People, 2 Systems & Data, 3 Industry Language – Rail Method of Measurement, 4 Process – GRIP & Governance & Assurance, 5 Life Cycle Costing)

Commercial Management – will pursue a 'commercial excellence model' that will build the technical and professional capability of practitioners, align competencies and training with the RICS, improve the level of challenge as to what can be delivered for available budget and bring improved stewardship & proactive influence to project outturn costs. In addition, it will drive structured continuous improvement to supply chain performance through the deployment of National Performance Metrics

Claims & Contract Assurance – will, through effective assurance and strategic interventions reduce the propensity for claims from the supply chain and the associated risk to the portfolio's outturn cost

Collaboration – will become an increasingly mature facet of our capability where we are acknowledged as a progressive, industry leading client able to create tangible value through long term collaborations with our supply chain and industry stakeholders, retaining our accreditations and building our maturity through consistent application of standard (newly deployed) process & systems.

Network Rail's professional development framework will be modified to align our practitioners' competencies with the RICS & CICES for Cost Planning and Commercial and lead the industry (& ICW) in the development of competencies for Collaboration. In parallel, the Commercial operating model, roles and responsibilities will be updated to better reflect industry expectations with tailored training to support each defined competency. Network Rail will more rigorously support individuals gaining professional accreditation/s and Chartership.

Culturally, emphasis will be brought for a greater level of informed opinion through the use of better data for very early funding assessments, through to the GRIP 0-8 process. In addition, to developing our capability as a service provider, the commercial discipline will better support and promote the concept contestability and the Routes in their aspirations to efficiently deliver renewals.

(c) Finance, Systems & Quality

Introduction

The FS&Q strategies have been developed in support of the vision and purpose agreed with the region and programme Finance Director community:

Through the implementation of the seven strategic objectives, supporting core processes have been developed and their effectiveness will be assured through both the first and second lines of defence. In addition, the competence frameworks to support both Finance and Quality professions have been developed and will be deployed to ensure we understand our people capability and develop this to meet our business need. The systems competencies are owned by Route Services and will be deployed through the corporate professions roll-out.

Finance

As with all the functions, the Finance function can be considered a level 2 organisation. This means the key roles of the function are to:

- Interpret group policy for application into the division and then to assure this application.
- Act as Head of Profession for the discipline

In terms of the former, CP5 saw us develop the strategy discussed in the opening paragraph. This has put us in good stead and we have a very good track record evidenced through both internal and external audit reviews. We have reviewed our risks against the achievement of the strategy and have developed a set of objectives to help further enhance our performance. Each of the objectives is owned by one of the Regional Finance Directors who is accountable for delivery.

We are currently in the process of introducing the Head of Profession process as part of the overall One Vision / One Way programme. The plan is to fully embed this during the final year of this control period which will enable a step improvement in simplifying processes and be clearer about the competency requirements expected for all roles in the profession.

Quality Management

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 all staff clarity of accountability 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.

Business Systems & Intelligence

The IP Systems & Support (IPSS) team's purpose is to make sure that IP are provided with information systems that enable delivery of its business outputs.
The IPSS team:

- Provides the design, supplier management and support of IT systems used by IP;
- Provides governance and assurance across IT processes;
- Influences the direction, delivery and support of the IT systems we use;
- Provides assurance to IP that IT system development and usage aligns with corporate policy and standards;
- Enables access to the right IT systems to support activities and provides business advice and guidance to get the best out of those system

IPSS does this by working closely with our colleagues and suppliers who provide technology services.

Defined Centrally the IPSS strategy sets out what IPSS will deliver over the next 3 years, to support the IP function with achieving its vision be the best rail infrastructure project delivery organisation in the UK, through the use of information systems.

The plan of action is structured around FSQ objectives 2017/18 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 in order 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

(d) Engineering & Design

IP Engineering embodies the vision of the wider IP team “to be the best rail infrastructure project delivery organisation in the UK”.

The function has two strategic objectives

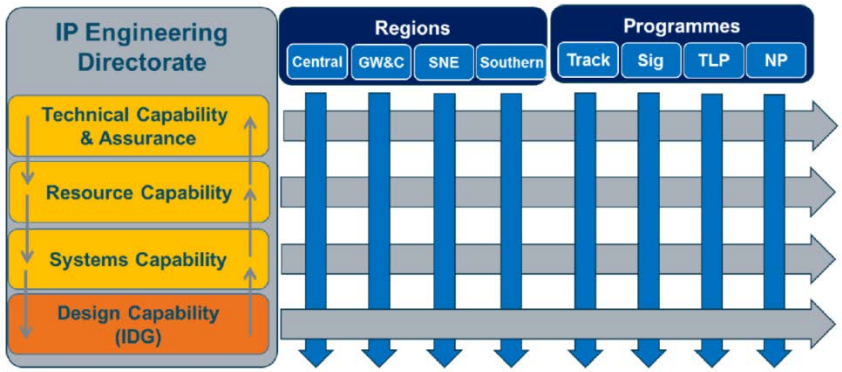
1. To safely and sustainably deliver projects to time, specification and cost for Route Clients
2. To support and develop STED, Digital Rail and the Routes

And two Level 1 Risks:

1. IP fails to design and construct projects appropriately leading to failure in infrastructure
2. IP could fail to effectively or efficiently deliver its engineering solutions

These objectives and risks have been set in year 4 of CP5 and it is the intention to carry them forward into CP6.

Engineering across IP operates as a matrix organisation, with around 600 engineers in IP Engineering, and around 1,000 in the 8 regions and programmes. The operating model can be described as follows:



Engineering expertise is key to success and the organisation is governed via a five pronged operating model. Each of the operational areas has a part to play in delivering our core strategies. Common themes running through each of the operational areas are the 5 principles of “One Vision, One Way”.

- **Technical capability and assurance**: This part of the organisation is the key interface with STED as the Technical Authority. It is also the home of the Technical Head of Profession within IP with an expert lead for each of the disciplines. This group is responsible for technical briefing cascade, management of standards and the establishment of Discipline Review Groups to develop and share best practice within the discipline. The DRGs are key in driving Continuous Improvement through the engineering organisation.
  This part of the organisation also leads the level 1 and 2 assurance regime that will demonstrate to the function, wider IP, Route Customers and STED its strengths and areas for improvement.
  Members of this community will work alongside the Digital Railway team to develop signalling solutions.

- **Resource capability:** This area focuses on competence management, learning and development, new entrant programmes and Strategic Workforce Planning. It will provide a much improved understanding of levels of expertise in each of the disciplines and where this resource needs to be allocated for maximum benefit. It is a key contributor to developing an agile workforce.

- **Systems capability**; This area of the business is responsible for Systems Engineering, Information Management and IP Change Projects It is also the home of “One Vision, One Way” within IP Engineering. It is recognised that it will take some time to reach a level of maturity in each of the work streams associated with this and we see this continuing as a core strategy into CP6.

Other core objectives for CP6 within this operational area of the business include improving systems capability with particular emphasis on developing engineers who hold the post of DPE or CEM. Not only do we

require technical experts in a particular discipline but there is a need for a certain percentage of the team to have strength and depth of knowledge in multi-disciplinary matters – this is fundamental to achieving system safety including the interface with the operational railway.
With respect to Information Management we are currently formulating the IP strategy for the implementation of BIM and recognise this will be a significant change Programme led by the Engineering function. It will commence in CP5 and continue into CP6.

- **Design capability**: At present Network Rail have a 550 strong design capability and one of our core strategies is to realign this team so that it provides best value to Network Rail. Leadership will be provided by a Chief Design Engineer who will drive a "one way" approach across the individual disciplines and strengthen multi discipline capability. They will own the strategy for design development to ensure that asset creation is optimised for safety, value, quality and reliability, and is compliant with corporate and legal requirements and standards.

It is well understood that the opportune time to produce value engineered solutions is in the early stages of a Project's life (GRIP 0-3). Network Rail's internal design team have unique strengths in this area; the team are unencumbered by corporate liability concerns which facilitate honest and challenging scope debate. They also hold strong internal relationships with both Route customers and IP Delivery teams, understanding the needs of the business more readily than external suppliers. For example, if 30% less access availability is a known constraint, then solutions will be provided which take this into consideration.

It is therefore a core objective to undertake a higher proportion of development works using the internal design capability than has been seen previously. We view this as key in supporting the devolved Route businesses achieve their aims.

- **Construction Management capability**: Our core objective is not only to improve the quality and reliability of the installed product but to put greater emphasis on constructability during the design phase following the principles of Safe by Design.

The priorities for the IP Engineering team are informed both by corporate objectives as described above, and in the detail by the Head of Engineering (HoE) team. This team comprises membership from each region and programme, and enables the matrix organisation to operate effectively.

The HoE team informs the development of the Level 2 Risk and Opportunity Register, which in turn facilities the management of the Level 1 risks as set out above. The ownership of actions and controls set out within this register are shared across the wider engineering community of IP, and programme managed by IP Engineering. Risks and Opportunities on the register fall into 5 themes as below:

1. Technical Assurance
2. Data
3. Construction
4. Capability
5. Efficiency

(e) Human Resources

What IP needs to consider

In developing the Resources and Capability strategies of CP6, it is essential to build on the CP5 “must wins” and “7 strategic objectives” in a way that ensures that Infrastructure Projects (IP) is able to embrace and capitalise on the prospect of multiple funding sources and contestability in delivering a vision of “A better railway for a better Britain”.

In order 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. This need to deploy resources in an agile way will provide the opportunity to work in a truly project focused environment and to manage resource and skills shortfalls in a more strategic and holistic way. Individuals in IP also benefit from greater opportunity to work on a variety of projects to further their personal and career development. A number of employment issues arise from the need to move to an agile workforce; our recruitment advertising policy, our remuneration and compensation packages as well as the impacts on diversity and health and wellbeing all need careful consideration. IR issues need careful management both in consultation and implementation phases.
Bringing in 3rd party funders, will require clear governance and systems and processes in relation to accountability, financing, funding and management of projects and operating models, they will also require far more resource flexibility than was envisaged for CP5.

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 back into IP for secondees will enhance sharing of industry best practice and improved safety.

Resources and capability at the right level, quality and volume will be supported with deployment of the existing workforce and also the attraction of external talent. As such IP will need to work to ensure that it is able to lead and influence the industry as a client of choice through the deployment of best practice if it is to continue to be seen equally as an employer of choice.

How does this theme align to NR behaviours?

Effective resourcing will require planning and recruitment tools effective at sourcing the best candidates in the industry. To truly attract the best candidates these tools will need to ensure these role requirements are flexible and appropriate and that Diversity & Inclusion are part of the DNA of this 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 D&I focus.

Retention though a focus on-boarding and wellbeing will support a reduction in the number of unplanned vacancies and allow for a more planned approach to career development opportunities. An embedded robust talent and succession planning process combined with the development of an IP reward and Policy structure will be required to ensure that talent pools allow a regional movement of resources enabling IP to compete for, mobilise, retain talent and be an agile best practice projects organisation

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.

Line Management capability from on-boarding through to talent management and capability development will reduce IR 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 an enabler 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.

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.	Costs	Routes have used relevant unit rate costing that is applicable to CP6	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 are able to 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 year of CP7 has been calculated using the average of the 5 years of CP6. This is based on the assumption 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 and average unit cost.	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 Supply Chain Risks & Opportunities

The top 5 risks and opportunities in the CP6 Supply Chain Strategy are currently:

Risk Description	Action being taken	Rating
Reduced workload in the last 18 months of CP5 results in suppliers significantly downsizing or withdrawing from market	1. Impact assessment undertaken and communicated to the DfT 2. Proposal to re-phase funding made to DfT	**High**
Network Rail and supply chain is not ready to deliver the first year of CP6	1. Deliverability of year one under-review and workload being re-profiled 2. High risk contracts identified and plan to re-tender in final year of CP5	**High**
Network Rail does not have the right	1. One Vision One Way implemented to drive	**Medium**

skills of volume of resource to efficiently administer the CP6 contracts	professional consistency across Network Rail 2. Resource planning underway	
Progressive approach to approvals for enhancements does not give suppliers adequate visibility of workload resulting in capacity being reduced	1. Register of enhancement and procurement status being developed for supply chain visibility 2. Procurement timetables being development 3. Improved supply chain communication strategy	**Medium**
Capacity & Capability within Network Rail and across the supply chain	1. Development & roll out of 19 professions across Network Rail, to establish consistency of people, process & systems and defined & improved capability **2.** Sharing of knowledge capital with our supply chain through cross industry forums such as the CDF, common training, access to manuals and material	**Medium**

Opportunity Description	**Action being taken**	**Rating**
Savings and innovation can be better leveraged from effective category management	1. Integrated category management workstreams being developed and jointly led by Engineering/Route Services.	**High**
National workloads can be better packaged to drive improved value for money	1. National review of volumes as part of the CP6 Supply Chain Strategy to ensure tender strategies drive best efficiency	**High**
Lessons learnt from CP5	1. Lessons learnt from CP5 being developed with each Region to ensure incorporated effectively in future strategies.	**High**
Terms and conditions of contracts aligned to incentivise better cost control from suppliers	1. Review of terms and conditions underway, particularly target pain/gain share mechanisms.	**Medium**

Appendix D Scenario planning - narratives

Part (1): Tactical scenario planning for CP5

Provide information on the impacts on CP5 of each of the following scenarios:

- Scenario 1: 20% increase in work remitted or requested by the routes (renewals or enhancements)

Impacts of an increase in remitted work in CP5

Overall approach to managing the situation	Work closely with Routes to manage workbank and phasing of work. Work closely with suppliers to ensure they can deliver on an increased workbank, reach out to additional suppliers.
Impacts on the Infrastructure Projects organisation	Headcount would have to match estimated spend. May be reliant on agency heads. Resources may not be in the required locations.
Impacts on the supply chain	May not have required resources. May have to buy in additional resources (this may take time). May lead to lower costs by supply chain as maximising economics of scale.
How headcount and overheads charged will be impacted	Would aim to keep overhead charges to a minimum by utilising existing accommodation and agile working arrangements

- Scenario 2: 20% decrease in work remitted or requested by the routes (renewals or enhancements).

Impacts of a reduction in remitted work in CP5

Overall approach to managing the situation	Work closely with Routes to manage workbank and phasing of work. Work closely with suppliers to ensure there is a smooth workbank.
Impacts on the Infrastructure Projects organisation	Headcount would have to match estimated spend. Resources may not be in the required locations. May lose staff in CP5 that are then required for CP6.
Impacts on the supply chain	Resources may go elsewhere or lead to increased costs.
How headcount and overheads charged will be impacted	Would aim to keep overhead charges to a minimum by utilising existing accommodation and agile working arrangements.

Part (2a): CP6 scenario planning: investment options

This section describes the impacts of an increase of 15% in work remitted/requested by the routes compared to the base CP6 plan (renewals or

enhancements).

Impacts of an increase in remitted work in CP6

Overall approach to managing the situation	Work closely with Routes to manage workbank and phasing of work. Work closely with suppliers to ensure they can deliver on an increased workbank, reach out to additional suppliers.
Impacts on the Infrastructure Projects organisation	Headcount would have to match estimated spend. May be reliant on agency heads. Resources may not be in the required locations. Lack of development spend in CP5 will reduce the ability to begin CP6 at implementation stage; therefore an increased workbank would only increase this risk. Therefore potentially pushing more work in to the later years of CP6
Impacts on the supply chain	May not have required resources. May have to buy in additional resources (this may take time), due to low workbank at end of CP5.
How headcount and overheads charged will be impacted	Would aim to keep overhead charges to a minimum by utilising existing accommodation and agile working arrangements

Part (2b): CP6 scenario planning: reduced funding options

This section describes the impacts of a decrease of 15% in work remitted/requested by the routes compared to the base CP6 plan (renewals or enhancements).

Impacts of a decrease in remitted work in CP6

Overall approach to managing the situation	Work closely with Routes to manage workbank and phasing of work. Work closely with suppliers to ensure there is a smooth workbank.
Impacts on the Infrastructure Projects organisation	Headcount would have to match estimated spend. Resources may not be in the required locations. Lack of development spend in CP5 will reduce the ability to begin CP6 at implementation stage; therefore a reduced workbank could mean little implementation work begins in the early years of CP6.
Impacts on the supply chain	Resources may go elsewhere or lead to increased costs.
How headcount and overheads charged will be impacted	Would aim to keep overhead charges to a minimum by utilising existing accommodation and agile working arrangements

Appendix E Scenario planning – Headcount & Opex

Scenario 1

		CP5						CP6					
		Actual	Actual	Actual	RF06	RF06		RF06	RF06	RF06	RF06	RF06	
	Unit of measure	14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6
Headcount													
Permanent	FTE	3,952	4,366	4,679	4,981	4,872	4,872	2,966	3,022	3,048	2,912	2,632	2,632
Agency	FTE	267	455	724	480	315	315	192	195	197	188	170	170
Total	FTE	4,218	4,820	5,403	5,461	5,187	5,187	3,158	3,217	3,245	3,101	2,802	2,802
INTERNAL COSTS													
Permanent staff	£m	232	246	289	319	332	1,417	202	206	207	198	179	992
Agency staff	£m	14	30	63	55	36	198	22	22	23	22	20	108
Corporate Costs	£m	28	27	32	31	31	148	31	31	31	31	31	155
Other costs	£m	64	58	111	99	84	416	51	52	53	50	45	251
Total Excl Corporate Charge	£m	309	333	462	474	452	2,031	275	280	283	270	244	1,351
Corporate Costs	£m	28	27	32	31	31	148	31	31	31	31	31	155
Total Incl Corporate Charge		337	361	494	504	483	2,179	306	311	314	301	275	1,506
Overheads charged	%	27%	24%	29%	26%	24%	26%	27%	27%	27%	27%	28%	27%

Notes:

1. Scenario Planning 1 – Worst Case
2. 80% of CP5 level of renewals flexed around CP6 numbers will be given to IP
3. Enhancements based on Priority list of schemes as advised by Network Strategy and Capacity Planning pending DfT confirmation

Scenario 2

		CP5						CP6					
		Actual	Actual	Actual	RF06	RF06		RF06	RF06	RF06	RF06	RF06	
	Unit of measure	14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6
Headcount													
Permanent	FTE	3,952	4,366	4,679	4,981	4,872	4,872	3,669	3,892	4,199	3,881	3,375	3,375
Agency	FTE	267	455	724	480	315	315	237	252	271	251	218	218
Total	FTE	4,218	4,820	5,403	5,461	5,187	5,187	3,906	4,144	4,470	4,132	3,593	3,593
INTERNAL COSTS													
Permanent staff	£m	232	246	289	319	332	1,417	250	265	286	264	230	1,294
Agency staff	£m	14	30	63	55	36	198	27	29	31	29	25	141
Corporate Costs	£m	28	27	32	31	31	148	31	31	31	31	31	155
Other costs	£m	64	58	111	99	84	416	63	67	72	67	58	328
Total Excl Corporate Charge	£m	309	333	462	474	452	2,031	340	361	389	360	313	1,763
Corporate Costs	£m	28	27	32	31	31	148	31	31	31	31	31	155
Total Incl Corporate Charge		337	361	494	504	483	2,179	371	392	420	391	344	1,918
Overheads charged	%	27%	24%	29%	26%	24%	26%	25%	25%	25%	25%	26%	25%

Notes:

1. Scenario Planning 2 – Most likely case
2. 80% of CP5 level of renewals flexed around CP6 numbers will be given to IP
3. Enhancements based on Priority list of schemes as advised by Network Strategy and Capacity Planning pending DfT confirmation
4. 80% of Hendy Tail schemes will be awarded to IP
5. £1billion of development funding awarded to NR for IP to develop schemes

Scenario 3

		CP5						CP6					
		Actual	Actual	Actual	RF06	RF06		RF06	RF06	RF06	RF06	RF06	
	Unit of measure	14/15	15/16	16/17	17/18	18/19	CP5	19/20	20/21	21/22	22/23	23/24	CP6
Headcount													
Permanent	FTE	3,952	4,366	4,679	4,981	4,872	4,872	4,019	4,338	4,733	4,390	3,779	3,779
Agency	FTE	267	455	724	480	315	315	260	280	306	284	244	244
Total	FTE	4,218	4,820	5,403	5,461	5,187	5,187	4,279	4,618	5,039	4,674	4,024	4,024
INTERNAL COSTS													
Permanent staff	£m	232	246	289	319	332	1,417	274	295	322	299	257	1,447
Agency staff	£m	14	30	63	55	36	198	30	32	35	33	28	158
Corporate Costs	£m	28	27	32	31	31	148	31	31	31	31	31	155
Other costs	£m	64	58	111	99	84	416	69	75	82	76	65	367
Total Excl Corporate Charge	£m	309	333	462	474	452	2,031	373	402	439	407	350	1,971
Corporate Costs	£m	28	27	32	31	31	148	31	31	31	31	31	155
Total Incl Corporate Charge		337	361	494	504	483	2,179	404	433	470	438	381	2,126
Overheads charged	%	27%	24%	29%	26%	24%	26%	25%	24%	24%	24%	25%	25%

Notes:

1. Scenario Planning 3 – Best case
2. Like for Like CP5 level of renewals flexed around CP6 numbers will be given to IP
3. Enhancements based on Priority list of schemes as advised by Network Strategy and Capacity Planning pending DfT confirmation
4. 100% of Hendy Tail schemes will be awarded to IP
5. £1billion of development funding awarded to NR for IP to develop schemes

Appendix F N/A

Appendix G N/A