

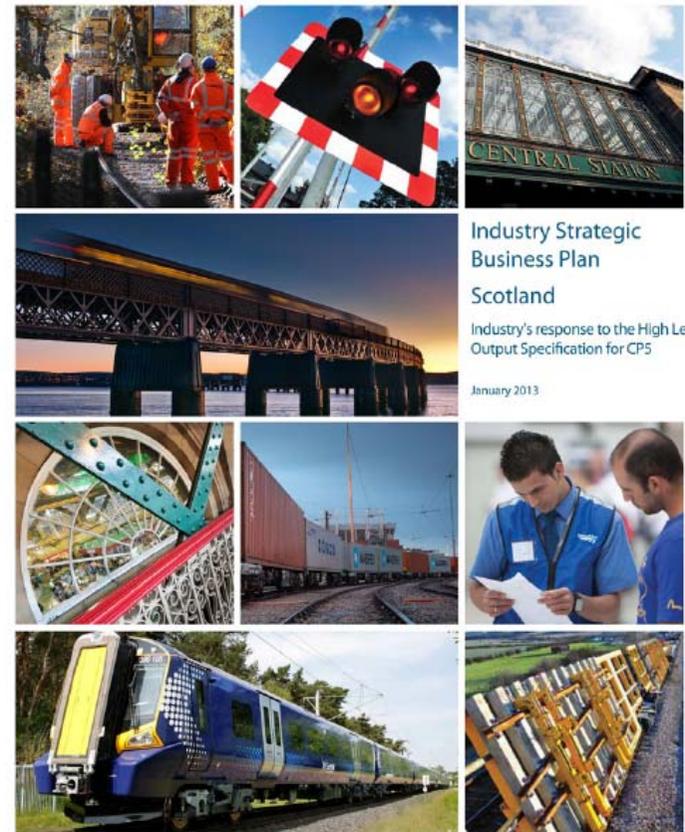
Strategic Business Plan

Stakeholder workshop

13 February 2013

Overall strategy

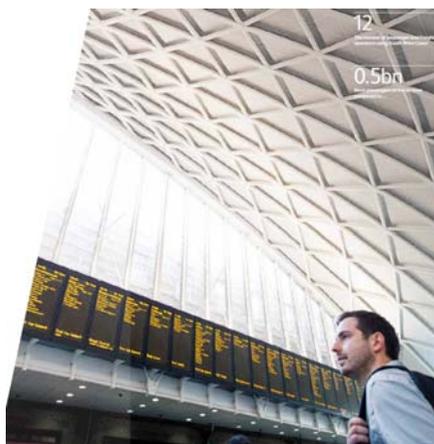
The SBP is part of the industry's plan



The SBP is our business plan



We have made progress but we must be honest about remaining challenges



We have developed a fresh vision for Network Rail

Our purpose
(Why we exist)

To generate outstanding value for taxpayers and customers

Our role
(What we do)

A better railway for a better Britain

Our vision
(What we want to be)

To be a trusted leader in the rail industry

Our strategy
(How we're going to do it)

To work with our partners and use our full potential to improve safety, reliability, capacity and value for customers and tax payers

Our behaviours
(How we need to work)

Customer driven

Accountable

Challenging

Collaborative

We have grouped the key outcomes into strategic themes



Outputs

We are clear on our contribution to the HLOS

E&W

E&W	Industry outputs required by the HLOS
Safety	<ul style="list-style-type: none"> £67 million ring fenced funding to reduce the risk of accidents at level crossings.
Performance	<ul style="list-style-type: none"> 92.5 per cent PPM and 2.2 per cent CaSL at the end of CP5. Focus on improving worst-performing routes and those on which lower levels of reliability have greatest economic effect.
Capacity	<ul style="list-style-type: none"> Specifies level of demand to be accommodated at key points on network. Specifies a number of projects that must be delivered and uses other schemes to illustrate how the HLOS could be delivered.
Availability	<ul style="list-style-type: none"> No specific targets set in the HLOS.
Sustainable development	<ul style="list-style-type: none"> The rail industry to demonstrate greater environmental sustainability Industry to set measures and targets for carbon/energy performance and show how industry considers sustainability in decision making. Industry to make business case for investment.
Ring fenced funds	<ul style="list-style-type: none"> Strategic Freight Network (£200 million), East Coast (£245 million), Passenger Journey (£309 million), Station improvement (£206 million), Development (£144 million), Level crossings (£67 million).

Scotland

Scotland	Industry outputs required by the HLOS:
Safety	<ul style="list-style-type: none"> no specific targets set in the HLOS £10 million level crossing fund.
Performance	<ul style="list-style-type: none"> 92 per cent PPM each year with 92.5 per cent PPM at the end of CP5 for both ScotRail and Sleeper franchises
Capacity	<ul style="list-style-type: none"> no specific targets – background growth to be accommodated with existing infrastructure we will work with the industry to find the most efficient delivery mechanism for the enhancements specified.
Availability	<ul style="list-style-type: none"> where maintenance, renewal or enhancement activity is required on cross-border routes, it is the overall intent that at least one of those routes should be made available to timetabled services, for the passage of scheduled sleeper, passenger, and freight services between Edinburgh or Glasgow and London without the need for change.
Sustainable development	<ul style="list-style-type: none"> no specific targets the rail industry to demonstrate greater environmental sustainability. Industry to set measures and targets for carbon/energy performance and show how industry considers sustainability in decision making. Industry to make business case for investment.
Ring fenced funds	<ul style="list-style-type: none"> Stations (£31 million), Strategic Rail Freight Investment (£31 million), Network Improvement (£62 million), Future Network Development (£10 million) and Level Crossings (£10 million).

We need the right outputs framework for CP5

We must be able to make trade-offs to deliver better value for money

Outputs framework	Examples
Regulated outputs	Performance, enhancements, funds and availability
Indicators	Examples include safety forecasts, asset output measures, delay minutes
Enablers	Examples include asset management excellence
Customer reasonable requirements	Examples include PPM & CaSL by operators

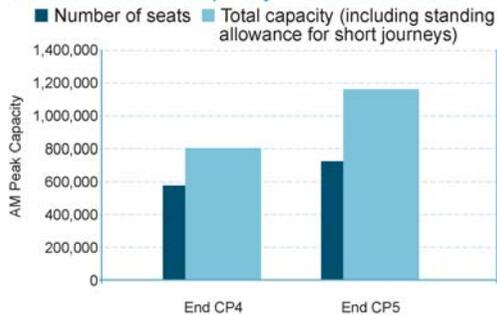
We will deliver significant new capacity

HLOS	Peak Three Hours		High Peak Hour	
	Forecast demand in 2013/14	Extra demand to be met by 2018/19	Forecast demand in 2013/14	Extra demand to be met by 2018/19
London	539,300	119,000	268,500	54,200
Birmingham	37,500	3,900	19,200	1,800
Leeds	25,400	5,100	13,000	2,800
Manchester	28,100	6,200	13,600	2,600
Others	34,800	4,900	16,500	2,000

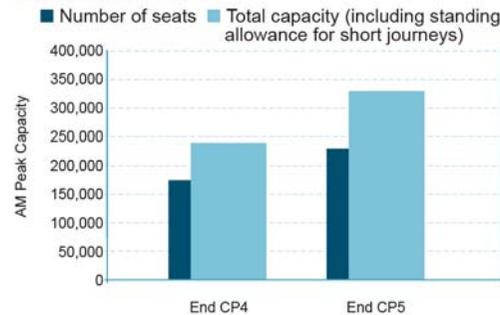
The key capacity interventions specified for the cities are:

- **London:** Thameslink, Crossrail, other train lengthening and power supply
- **Birmingham:** Longer services, electrification of Walsall to Rugeley
- **Bristol:** Introduction of IEP trains, Great Western electrification
- **Leeds:** Longer suburban services incl. platform lengthening, Leeds, Huddersfield and Bradford enhancements, north cross-Pennine electrification, Northern Hub
- **Leicester:** Inter-urban lengthening, and delivery of extra capacity following electrification of the Midland main line
- **Liverpool:** Northern Hub, north west electrification
- **Manchester:** The Northern Hub, north west and north cross-Pennine electrification
- **Newcastle:** Introduction of IEP trains, north cross-Pennine electrification
- **Nottingham:** Suburban lengthening, delivery of extra capacity following electrification of the Midland main line
- **Sheffield:** Suburban train lengthening and delivery of extra capacity following electrification of the Midland main line, Northern Hub.

Central London Capacity Three Hour Peak



All HLOS Regional Cities Capacity Three Hour Peak

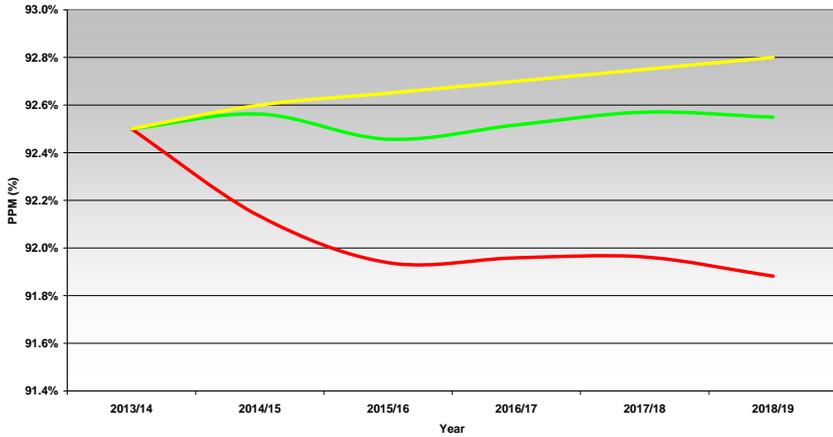


We are exploring how to improve the current framework for measuring and incentivising the use of capacity on the network. We believe the current framework should be retained and enhanced so that we can cascade its use to a route level.

We will maintain a high level of performance

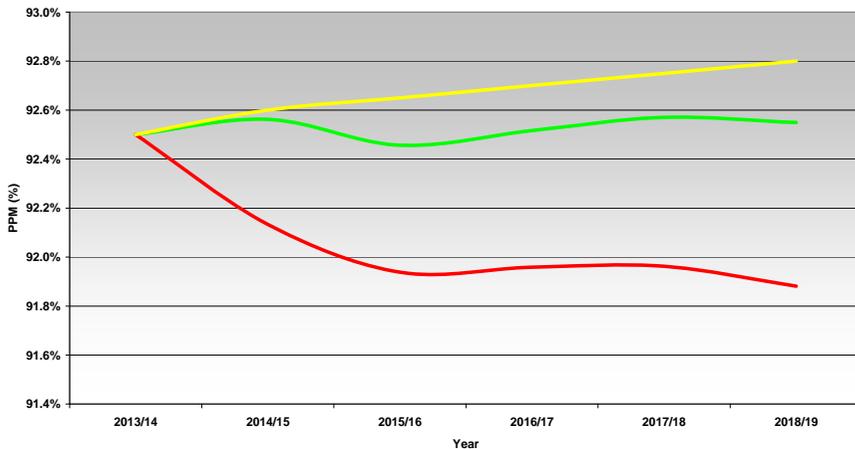
England & Wales

England & Wales
Predicted CP5 PPM Range by Year



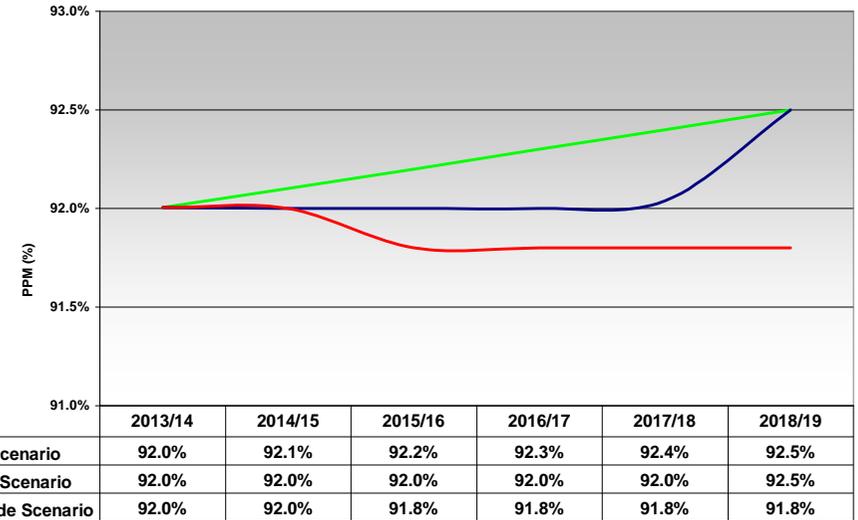
Forecast performance (CaSL) scenarios in CP5 for England and Wales

England & Wales
Predicted CP5 PPM Range by Year



Scotland

Predicted CP5 PPM Range by Year



Freight delivery metric

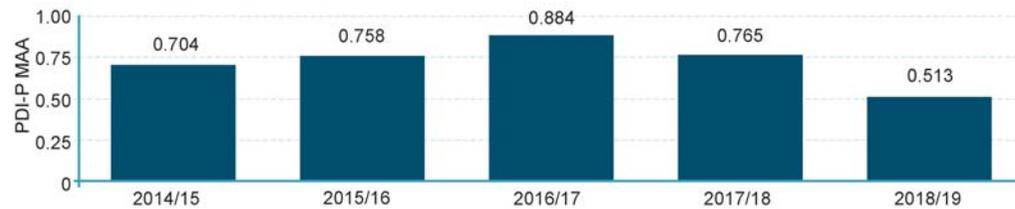
- No HLOS freight performance targets
- Developing new freight delivery metric (FDM) as the main measure of Network Rail freight performance during CP5

We will optimise the balance between running trains and maintaining the infrastructure

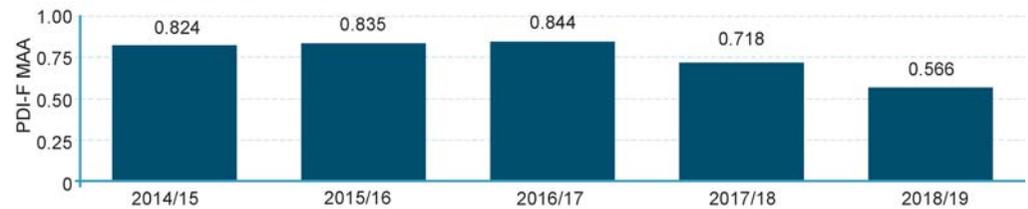
Specific requirement in Scottish HLOS to address issue of Anglo-Scottish route availability

We have included forecasts of PDIs at a network level

National Possession Disruption Impact forecasts
PDI-P contributions by work type



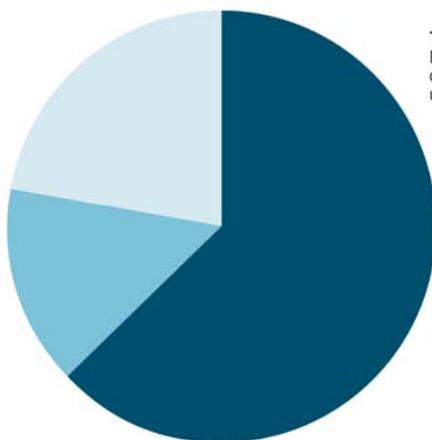
PDI-F contributions by work type



We will improve our carbon footprint

Breakdown of rail industry's whole life carbon footprint

Embedded emissions-22%
Emissions created during resource extraction, transportation, manufacturing and fabrication for the railway. The majority is due to Network Rail activities



Traction emissions- 63%
Emissions from consumption of diesel and electricity used to move trains

Non-traction emissions- 15%
Emissions from offices, stations, depots and signalling. Also emissions associated with transportation and installation of products on the railway

E&W

Carbon dioxide emissions	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Total tonnes CO ₂ e / ktonnes	261	255	256	256	255	254

Note: Forecasts are based on the most recent Defra conversion factors. They do not account for past or future changes in the carbon intensity of electricity and other fuels

Expected Carbon Intensity of our Electricity Supply	2010	End CP5	End CP6
Carbon Intensity of Electricity/kg CO ₂ e per kWh	0.52	0.45	0.40
% Change on 2010 (most recent published year)	-	(14%)	(23%)

Scotland

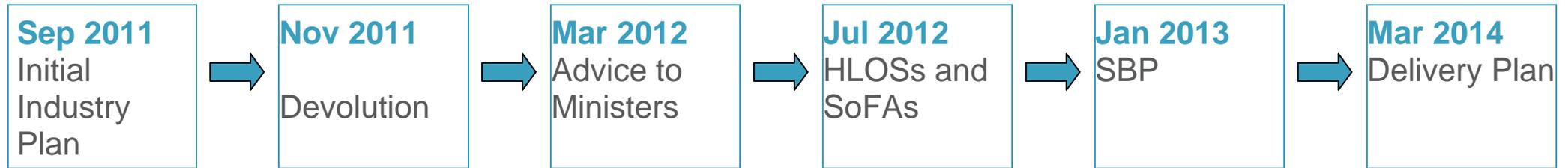
CP5	2014/15	215/16	2016/17	2017/18	2018/19
Total CO ₂ e / ktonnes	33	33	33	33	33
% Change on 2009/10	(2%)	(2%)	(3%)	(3%)	(2%)

Expected Carbon Intensity of our Electricity Supply

	2010	End CP5	End CP6
Carbon Intensity of Electricity/kg CO ₂ e per kWh	0.52	0.45	0.40
% Change on 2010 (most recent published year)	-	(14%)	(23%)

Operating, maintenance and renewals expenditure

The SBP is the next stage in the development of our plans for CP5



We will transform the way we operate the network

Now

800+ locations using a range of technology and infrastructure platforms

>5000 signallers and controllers with productivity constrained by signalling technology

Duplication between Network Rail activities and roles and the TOCs/FOCs across the disparate locations

Key customer interfaces dependent on telephone communication at times of perturbation

Vision

14 Operating Centres using common technology platforms and interfaces

<1000 traffic managers using predictive technology that can be sized based on workload

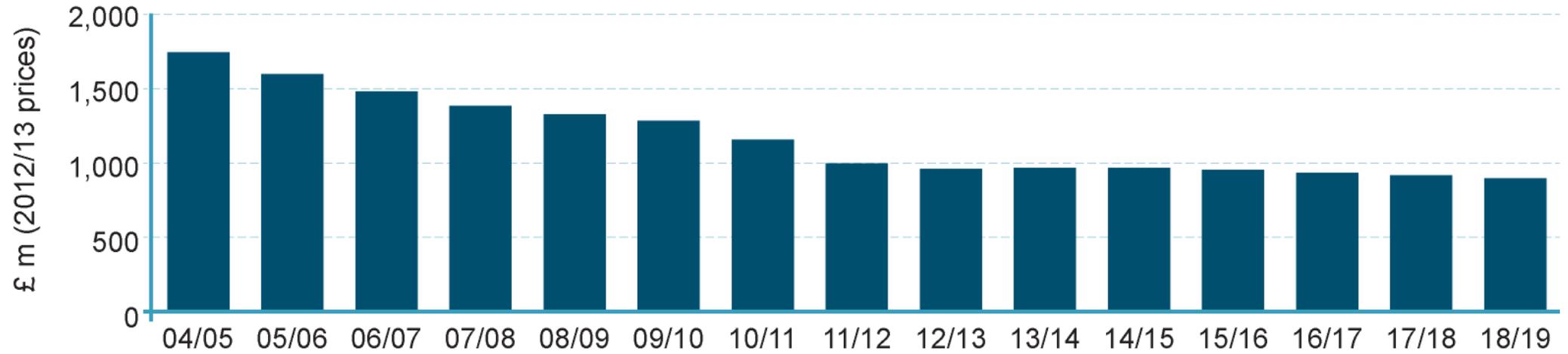
Through centralisation of roles to the new Operating Centres and co-location with TOCs and FOCs, processes can be streamlined with improved responsiveness to customer requirements

Key interfaces integrated with TOC/FOC systems, enabling effective decision making and timely, accurate information to passengers

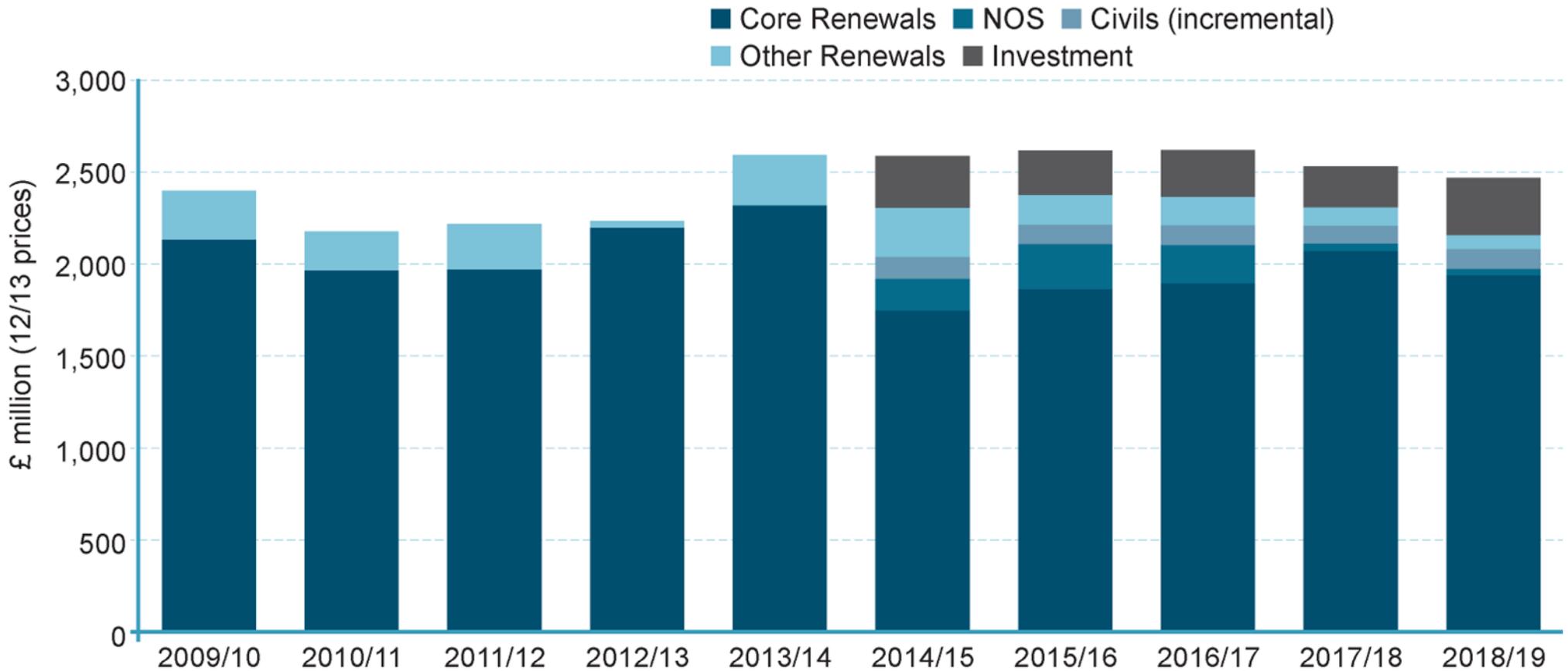
Our asset policies have matured and align with our route plans

Asset	Policy maturity (Robustness / sustainability / efficiency)	Alignment of route renewal plans with policy	Alignment of route maintenance plans with policy
Track			
Signalling			
Structures			
Earthworks			
Drainage, fencing and other off-track			
Electrical Power			
Telecoms <small>* Centrally developed plan by Network Rail Telecoms</small>			
Buildings			

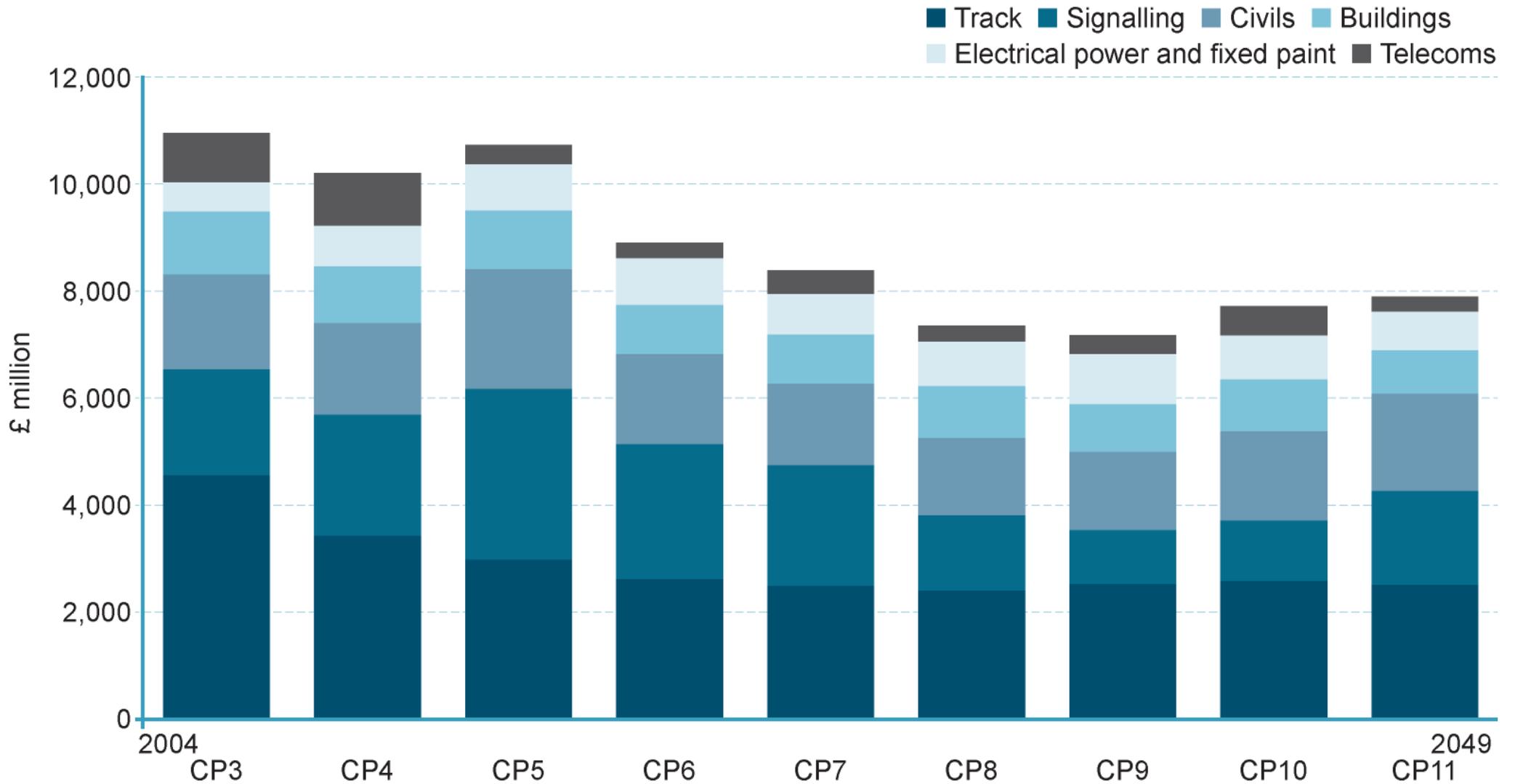
We will continue to maintain the railway in a safe and efficient way



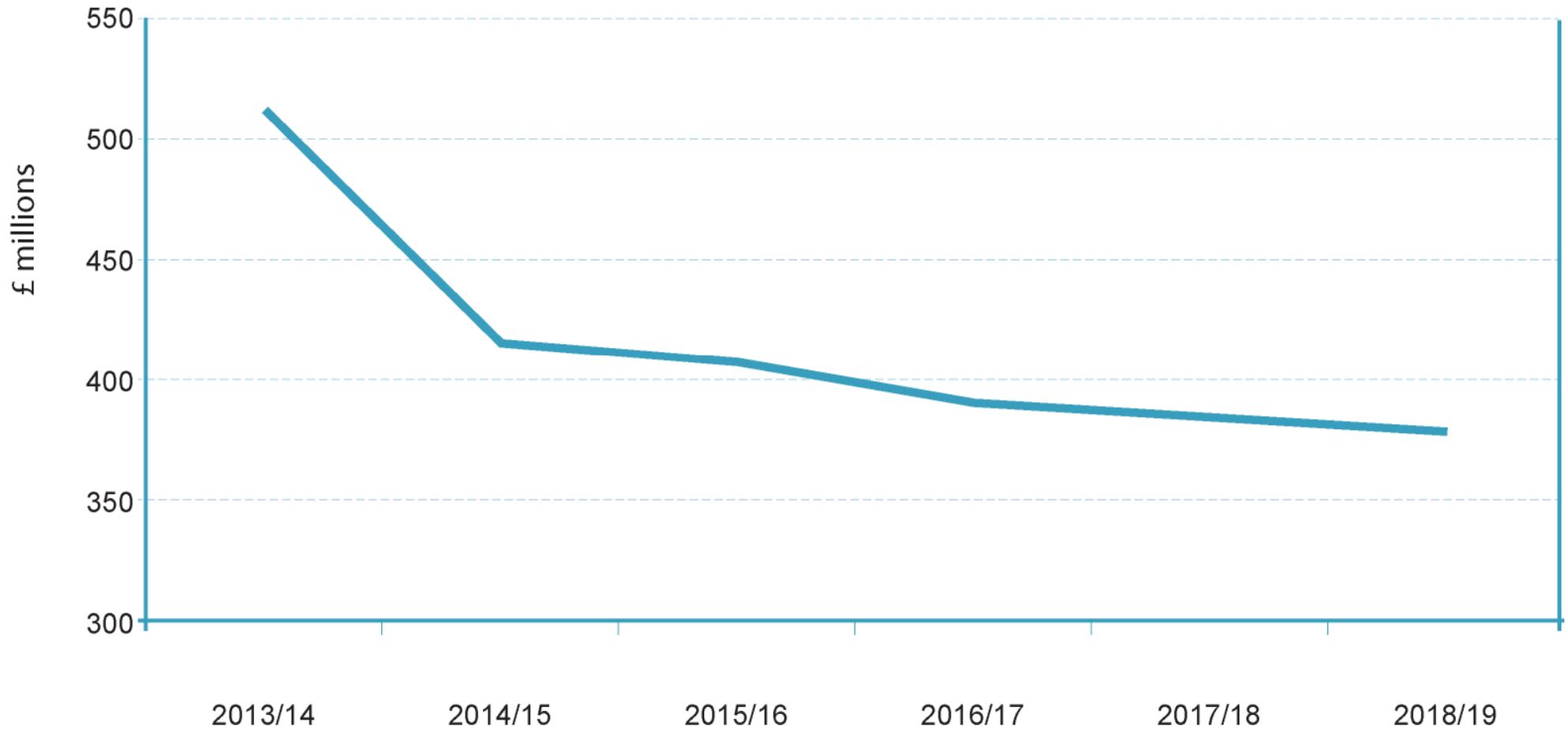
We will renew our assets sustainably and at minimum whole life cost



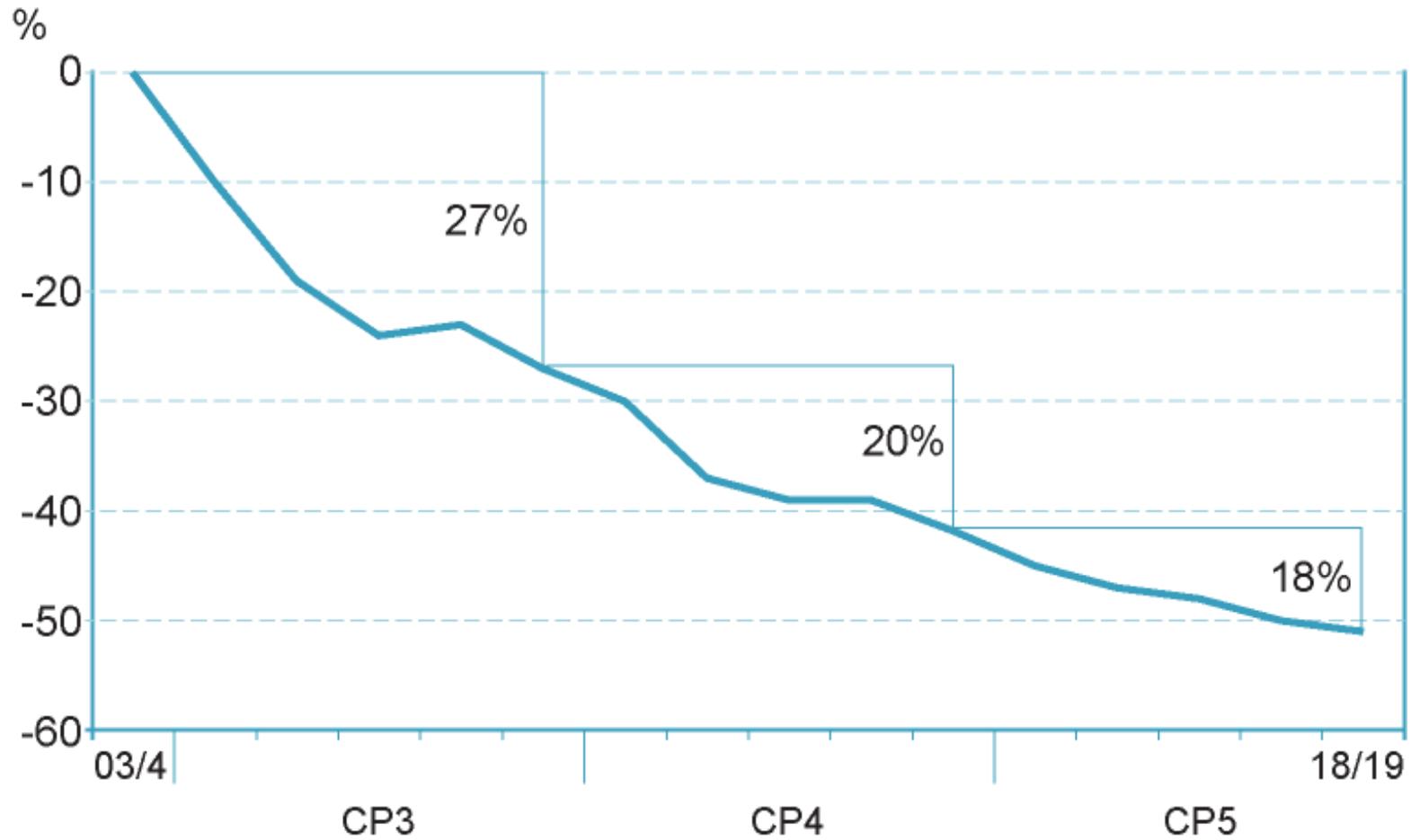
We take a 40 year view of our assets when developing our plans



Our Corporate Services provide increasing value for money to customers



We plan to deliver further efficiency savings of 18 per cent in CP5



Enhancements

We will deliver significant enhancements to the network

	£m	Number of projects
■ GRIP0	2,846	20
■ GRIP1	601	10
■ GRIP2	3,552	33
■ GRIP3	377	7
■ GRIP4	154	1
■ GRIP6	3,343	4



England & Wales - Committed Projects

	CP5 (£m)
Crossrail Programme	1444
Reading Station Area Developments	143
Great Western Electrification	930
North West Electrification	197
Northern Hub	620
Trans-Pennine Electrification	272
Intercity Express Programme (IEP) – great western and East Coast Main Line	365
East West Rail	351
Thameslink Programme	1654
Stafford Area Improvement Scheme	154
West Coast Power Supply Upgrade	82
Total	6212

England & Wales - funds to deliver specific outcomes



	CP5 (£m)
Strategic Freight Network (SFN)	206
East Coast Connectivity	245
Passenger Journey Improvement	309
Station Improvement	206
Development	144
Level Crossing Safety	67
Total	1177

Planning Oversight Group has agreed the further disaggregation shown in the table below:

Fund	Statement	Further breakdown proposed
Strategic Freight Network	£200m ring fenced	No
East Coast Connectivity	£240m max	No
Passenger Journey Improvement	£300m max	£200m Journey Time Improvement £100m NRDF
Station Improvement	£200m max	£100m Improvements to Passenger Experience at Stations £100m Access for All
Development and Innovation	£140m	£55m CP6 Development £50m Innovation £35m HS2 Development
Level Crossing Safety	£65m ring fenced	No

The Electric Spine – Midland Main Line Electrification

	CP5 (£m)
Midland Main Line Electrification	540
Derby station area remodelling	84
TOTAL	624

The Electric Spine – Additional Works

	CP5 (£m)
Oxford – Bletchley – Bedford Electrification	121
Basingstoke to Southampton DC to AC conversion	163
Basingstoke to Reading (Southcote Junction) Electrification	46
Nuneaton – Coventry – Leamington – Oxford Electrification	208
Leicester Capacity	72
Midland Main Line Capacity (Bedford-Sharnbrook-Kettering-Corby)	145
Electric Spine: Coventry to Leamington Spa Capacity	38
Total	793

London and the South East

	CP5 (£m)
Sussex traction power supply upgrade	106
Anglia traction power supply upgrade	128
Kent traction power supply upgrade	53
Wessex traction power supply upgrade	54
South London HV Grid (Wimbledon) upgrade	62
Reading, Ascot to London Waterloo Train Lengthening	23
East Kent resignalling phase 2	38
Uckfield line train lengthening	11
Redhill additional platform	25
London Victoria station capacity improvements	9
Bow Junction	44
West Anglia main line capacity increase	44
New Cross Grid	12
Service Improvements in the Ely Area	32
Waterloo	282
Total	923

North East

	CP5 (£m)
LNE routes traction power supply upgrade	59
Bradford Mill Lane capacity	6
Stevenage and Gordon Hill turnbacks	26
MML long distance high speed services train lengthening	30
Leeds and Sheffield capacity	49
Huddersfield station capacity improvement	9
Micklefield turnback	18
East of Leeds capacity	17
Total	214

London North West

	CP5 (£m)
North West Train Lengthening	30
Walsall to Rugeley electrification	55
Chiltern Main Line Train Lengthening	13
Total	98

Wales

	CP5 (£m)
Welsh Valley Lines Electrification	305
Total	305

Western

	CP5 (£m)
Bristol Temple Meads station capacity (incl. Digby Wyatt Shed)	48
Dr Days Junction to Filton Abbey Wood capacity improvements	63
Oxford corridor capacity improvements	81
West of England Diesel Multiple Unit capability works	23
Thames Valley Electric Multiple Unit capability works	25
Western access to London Heathrow Airport	165
Thames Valley branch lines electrification	20
Acton (Great Western Main Line) to Willesden (West Coast Main Line) electrification	16
Total	440

Scotland - Committed Projects



	CP5 (£m)
EGIP Electrification (Springburn to Cumbernauld)	26
EGIP Electrification (Glasgow to Edinburgh via Falkirk High)	124
EGIP (Edinburgh Gateway Station)	31
EGIP Infrastructure works	308
Borders Railway	124
Total	613

Scotland - Funds to deliver specific outcomes

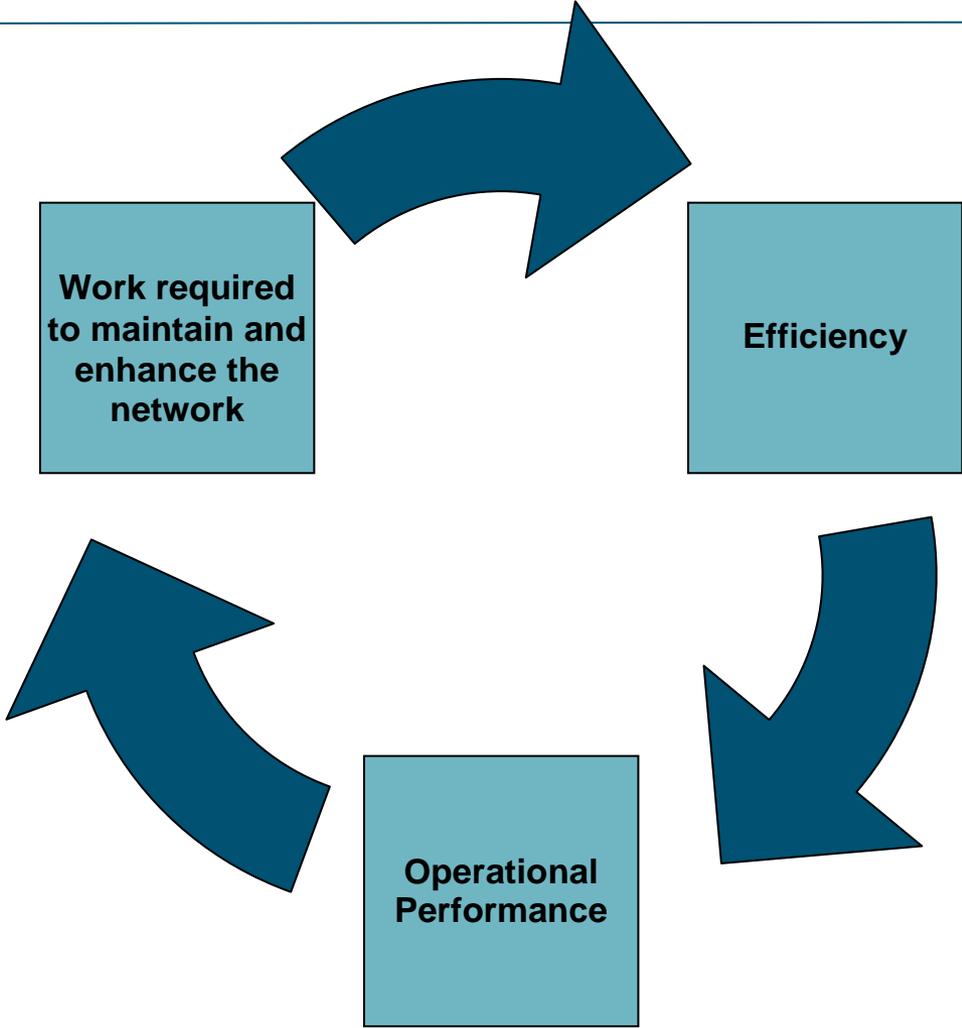
	CP5 (£m)
Scottish Stations Fund	31
Scottish Strategic Rail Freight Investment Fund	31
Scottish Network Improvement Fund	62
Future Network Development Fund	10
Level Crossings Fund	10
Total	144

Scotland - Other Scottish projects

	CP5 (£m)
Aberdeen to Inverness improvements Phase 1	280
Highland main line journey time improvements Phase 2	121
Rolling Programme of Electrification	171
Motherwell re-signalling enhancements	3
Motherwell area stabling	10
Carstairs Junction Remodel	53
Edinburgh South Suburban Electrification	27
Total	665

Deliverability

Deliverability Trade Offs



Process For Deliverability Assessment

The assessment of CP5 deliverability has been subdivided into

- **People/Supply Base**

- E&P
- Building & Civils
- Signalling
- Track
- Project & Programme Management
- Multidisciplinary Contracting

Nick Elliott

Neil Thompson

Mark Southwell

Steve Featherstone

Martin Arter

Roger Dickinson

- **Plant , Equipment & Materials**

Martin Elwood

- **Access**

Fiona Dolman

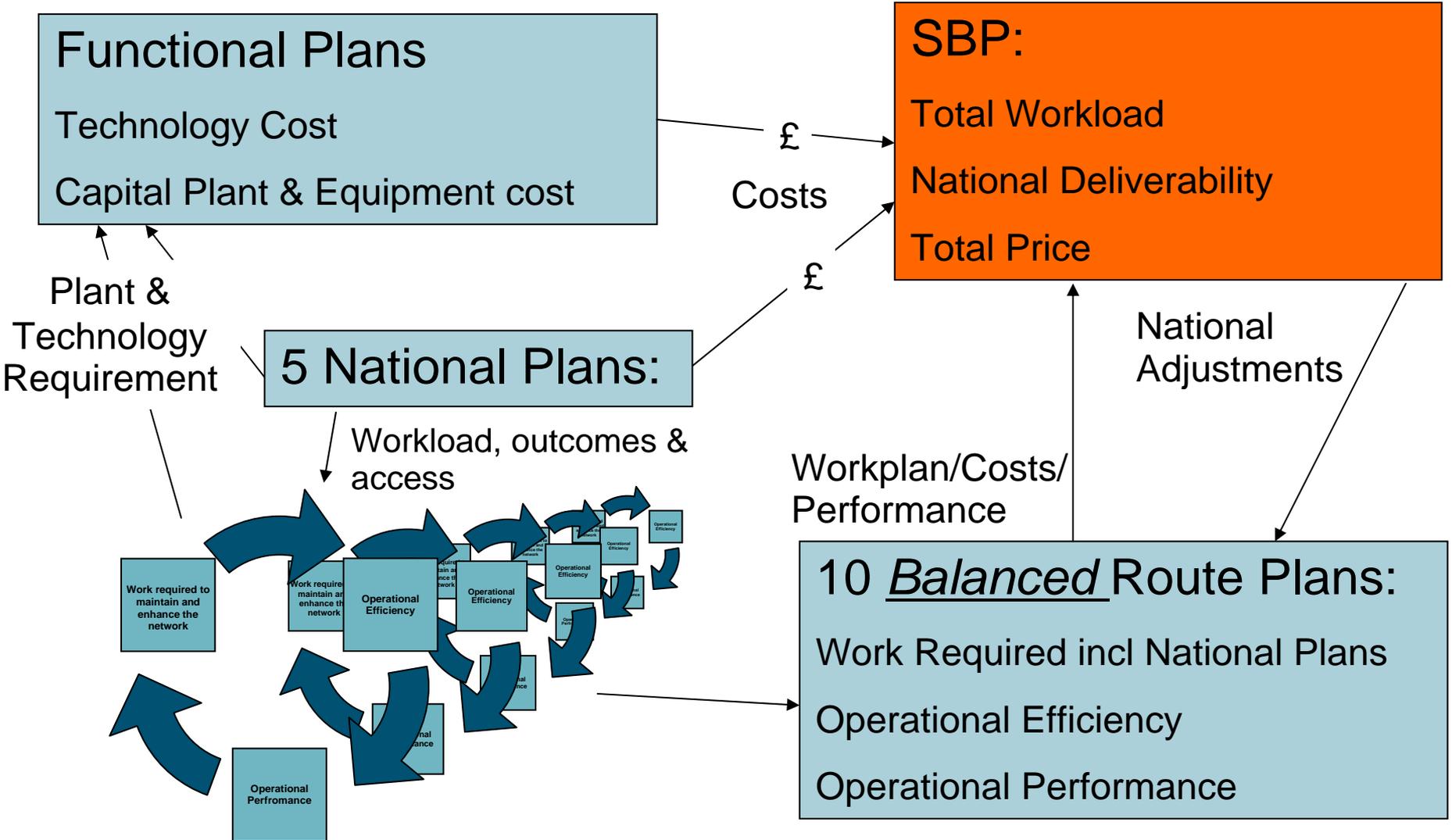
- **Technology**

Susan Cooklin

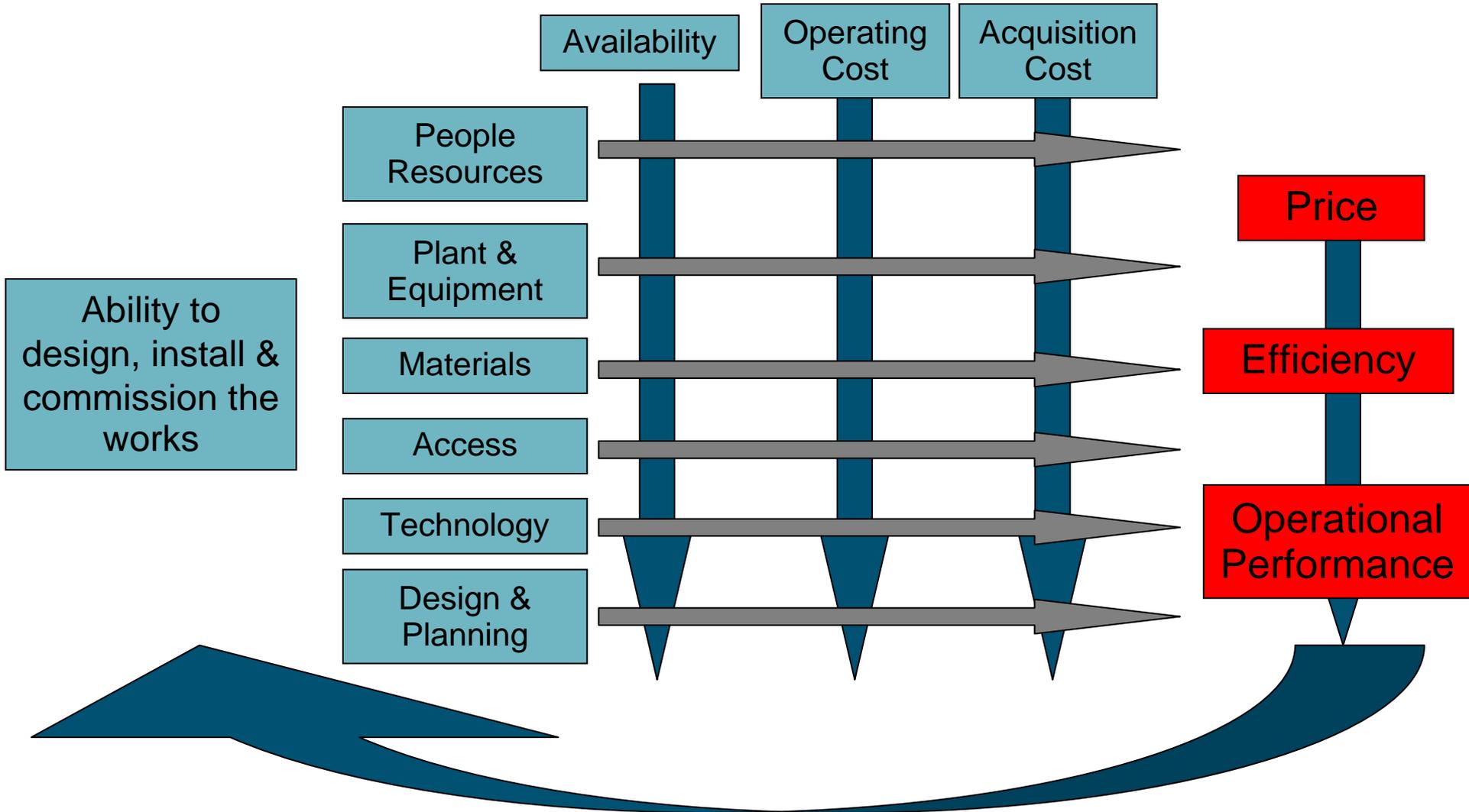
- **Design & Planning**

Martin Arter

Deliverability Information Flows



Deliverability Trade Offs



Current Status of Planning

In broad terms the HLOS workload comprises three elements:

Committed Schemes (e.g. Thameslink/Crossrail)

- A substantial level of planning and maturity of design. Some potential to change but key milestones committed

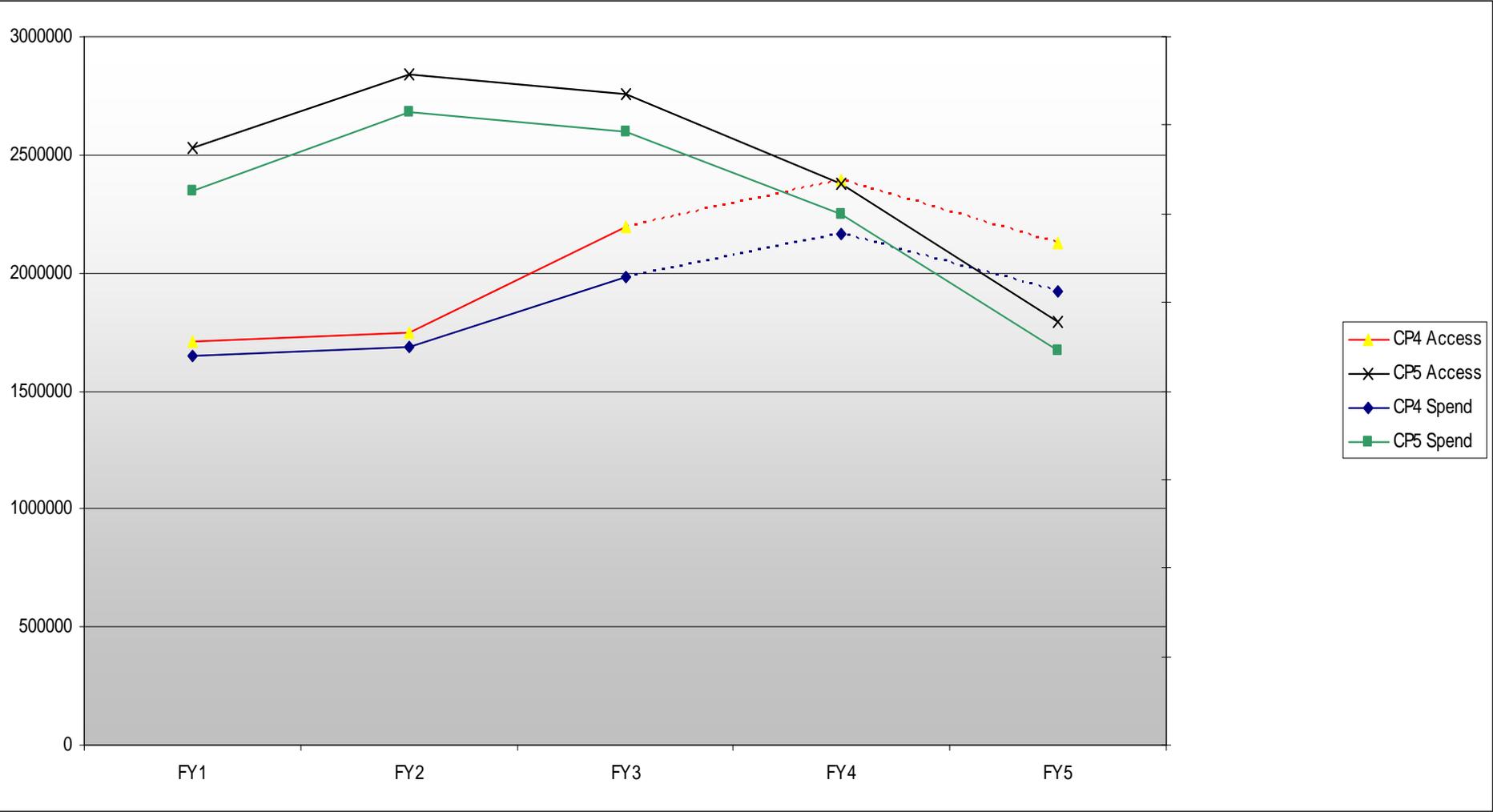
Partially Developed Schemes (GRIP2/GRIP 3)

- Limited level of planning and maturity of design. Access and delivery detail high level only. Ability to flex to some extent within CP5

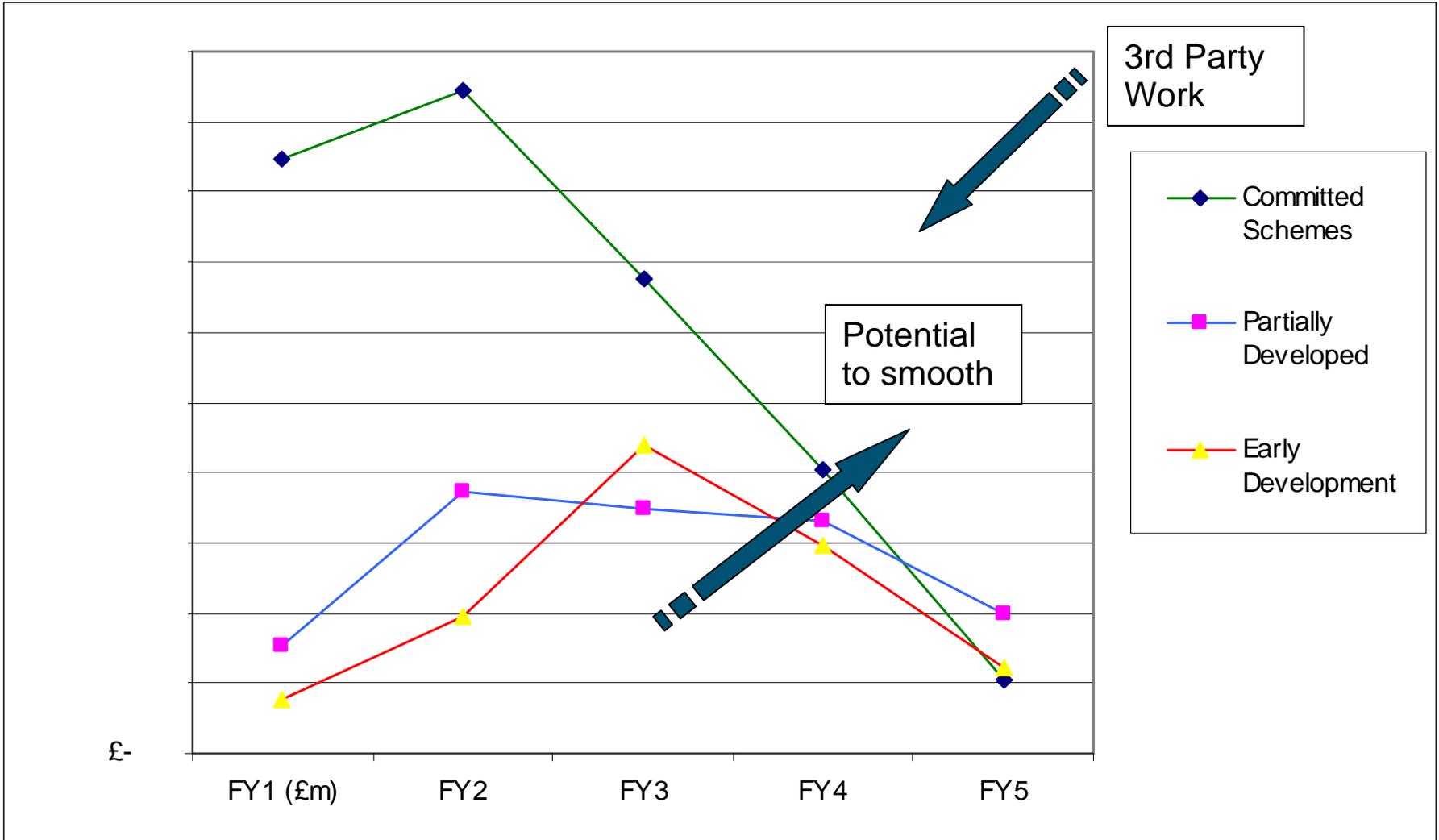
Early Development Schemes (pre GRIP 2)

- High level planning information only. More ability to flex within CP5

Total CP5 Workload/Access



Status of HLOS scheme development



Current Assessment

People

- No significant issues in any area other than E&P resources for electrification. Shortfall in design, management and supervisory staff. Full review of CP5 bank holiday working is underway.

Plant & Equipment

- There may be a requirement to procure new ballast cleaners, tilting wagons, Kirow cranes and wagons.

Materials

- There are no significant shortfalls predicted

Access

- Current national projections indicate circa 25% additional access over CP4 peak for years 2 & 3. Route situation requires further work

Technology

- There are no major dependencies in IM technology for the projects portfolio

Design & Planning

- Development of designs and plans for CP5 must continue

Action Plans

People

- A working party to explore the route to creating sufficient E&P capability has been established and is working with RIA, NSARE and the supply chain to develop.

Plant & Equipment

- Discussions have commenced on the procurement strategy for plant and equipment, including engagement with the supply base.

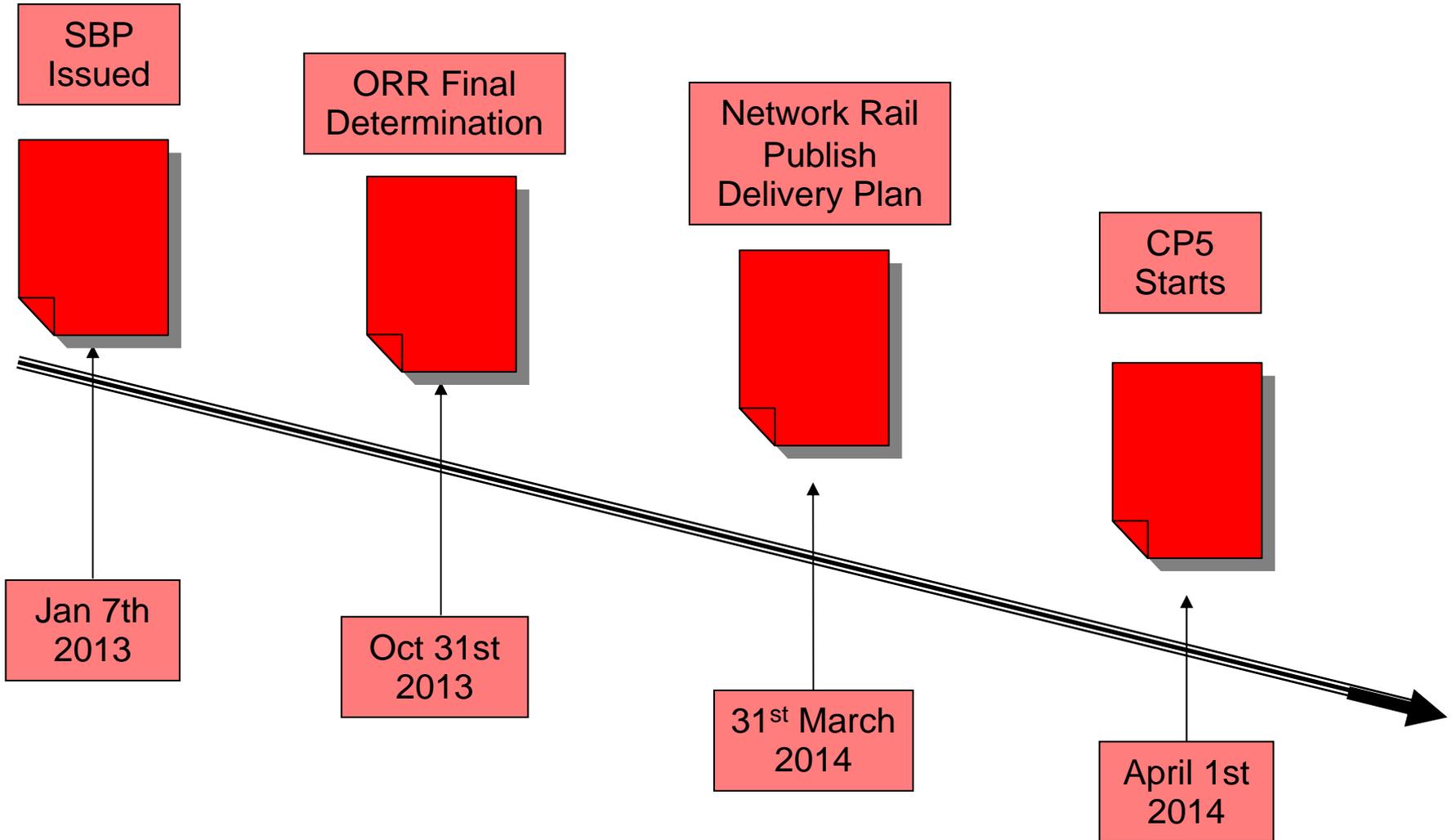
Access

- An enhanced central planning capability is being established to smooth the overall workload and provide single point liaison with Network Operations, Infrastructure Projects, DFT and ORR and other industry stakeholders.. The current plans to improve access efficiency also need to be prioritised.

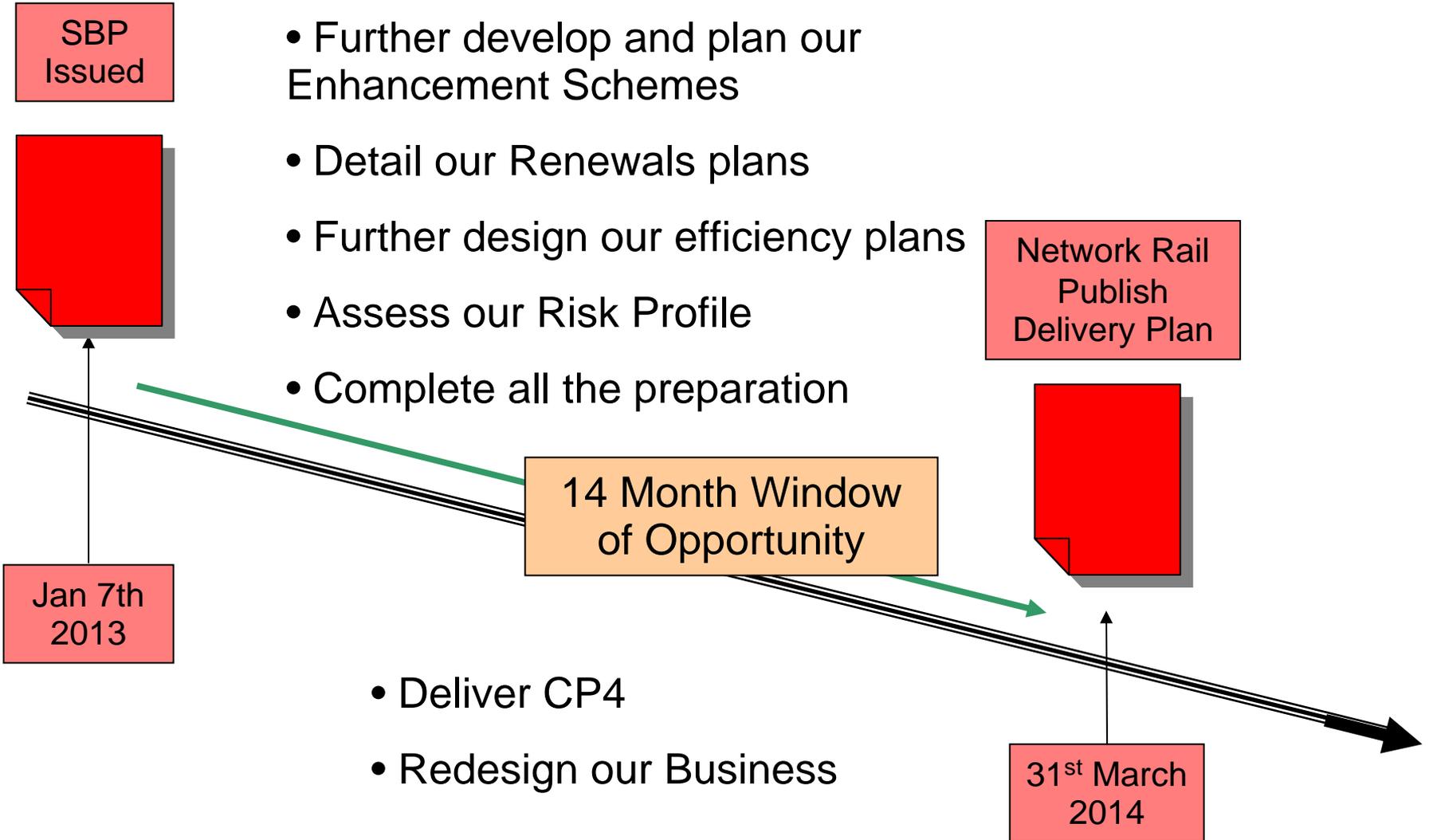
Design & Planning

- The case for CP5 funding and business cases in advance of the full determination is being finalised. CP6 development will also commence in CP5 .

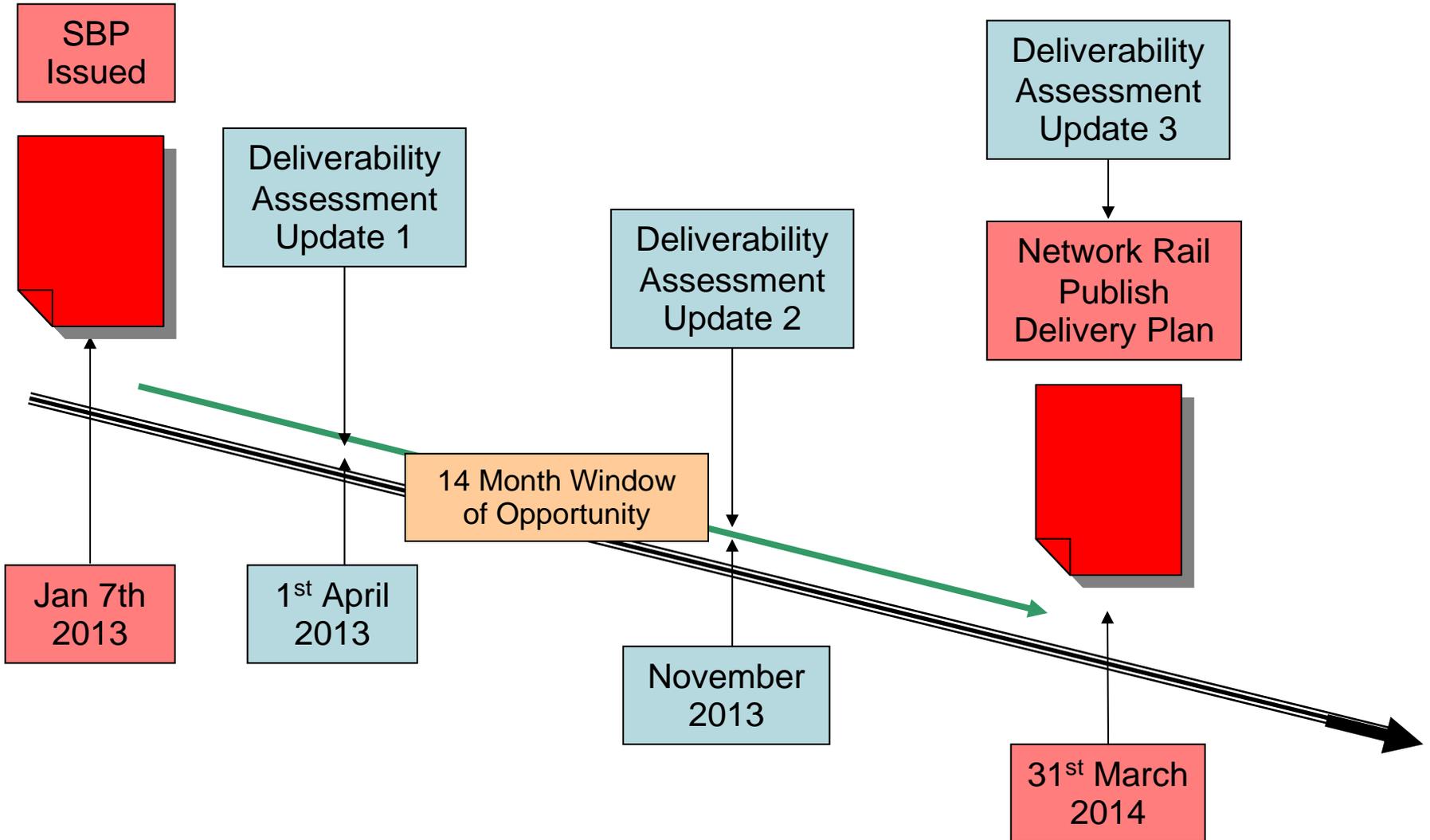
SBP Overview



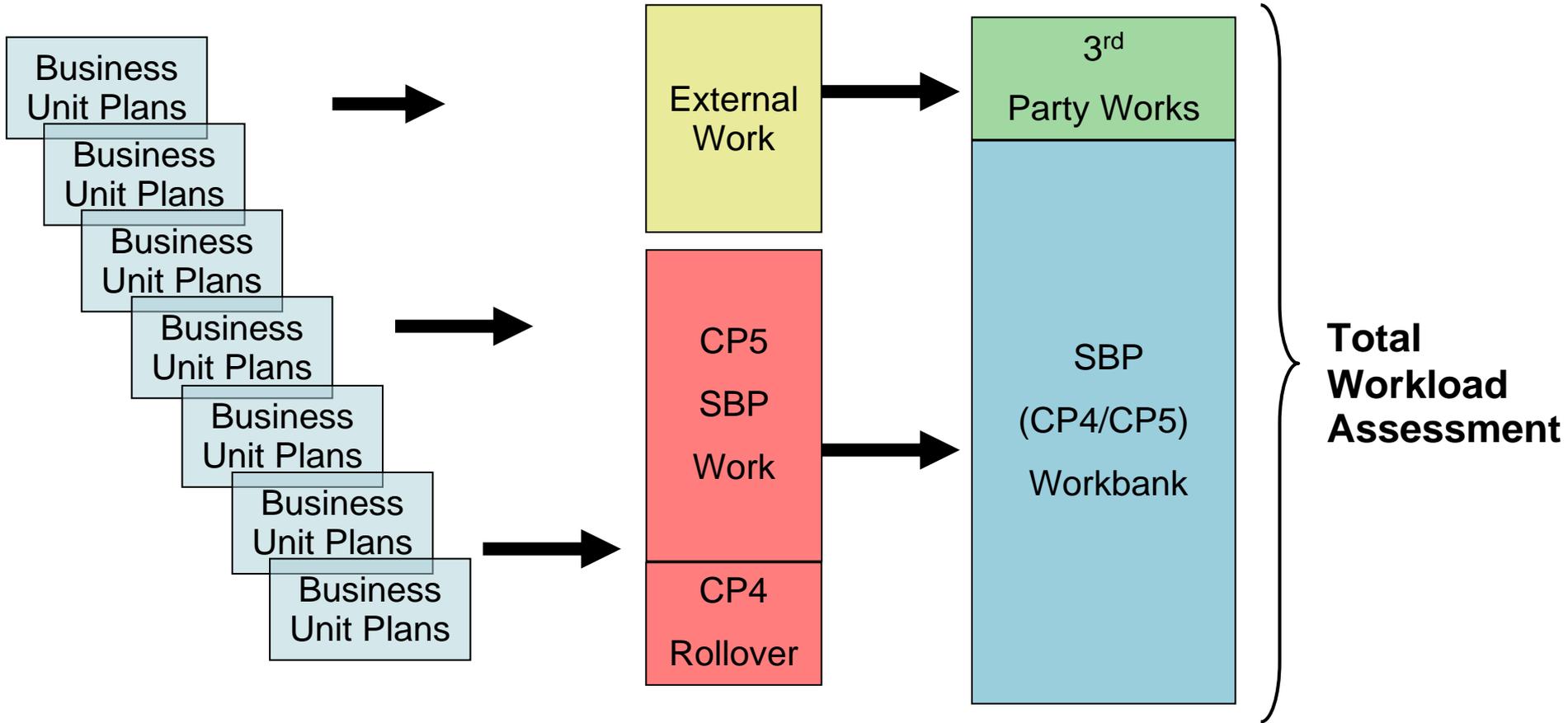
What we have to do.....



What we have to do.....



Assessment Content



Role of the industry

We will continue to develop our plans

