Office of Rail and Road

Review of Network Rail's renewals and efficiency planning for years 1 and 2 of CP6

Independent Reporter Lot 4

Western Route Report - November 2019

Contents

1. Introduction

An Independent Reporter review by Nichols was jointly commissioned by the ORR and Network Rail in April 2019. The mandate for the review set out the purpose: "to provide an independent assessment of Network Rail's preparations to deliver its efficiency planning in the early part of Control Period 6 (CP6). The review should specifically consider the reasonableness of route's renewals workbank planning and efficiency plans."

The review was structured in two phases. Review phase 1 assessed the Scotland and Wessex routes and a phase 1 report was issued in July 2019.

A Stage Gate meeting was held after completing phase 1 to review the findings and lessons learnt. It was agreed to alter the emphasis for review phase 2, within the purpose of the original mandate, as follows:

For renewals:

- Additional emphasis on workbank maturity, notably detailed design and construction stages for year 1.
- Examine progress data captured by routes from delivery teams, agents and frameworks. For example, seeking assurance on remits for delivery, procurement, start of works and progress per GRIP stages.
- Review progress in developing the Leading Indicator process.
- Check risk resilience through over-programming, the approach to possession booking and any key enhancements interfaces.

For efficiencies:

- Reviewing fewer initiatives in more detail.
- Greater emphasis on capital expenditure (capex) efficiencies to explore ownership of delivery of post-efficient costs; robustness of plans and programmes to deliver these: implementation by Delivery Agents (for example, Network Rail Infrastructure Projects (IP)); and governance and monitoring of implementation.
- Explicit reference to good practice in efficiency (benefits) realisation programmes.

Review phase 2 assessed six routes between July and September 2019; namely Anglia, London North East & East Midlands (LNE&EM), London North West (LNW), South East, Wales and Western.

This is a review phase 2 report that sets out the Reporter's assessment specifically for the Western route. There are five similar reports for the other routes being assessed in review phase 2. There is also a separate overall review phase 2 report that contains common themes from across the route reports.

The structure of this report is:

Renewals workbank delivery assessment

- Renewals assessment methodology
- Route review context
- Assessment scope
- Assessment findings
- Conclusions and recommendations

Efficiencies plans delivery assessment

- Efficiencies assessment methodology
- Route review context
- Assessment scope
- Assessment findings
- Conclusions and recommendations

2. Renewals delivery assessment

2.1 Renewals assessment methodology

The Reporter mandate set out a high-level scope:

"The reporter should assess the preparedness of the route to deliver its renewals plan in CP6. This should be based on the latest data in Network Rail's Leading Indicators report together with discussion with the route of the implications of the data. Based on its assessment, the reporter should identify opportunities for improving the route's approach to reporting its preparedness for delivery of renewals workbanks in CP6."

Renewals Delivery Reference Model (Figure 1 below)

The Reporter's methodology for assessing preparedness uses a Renewals Delivery Reference Model to provide a structure based on a simplified lifecycle with the following stages:

Stage 1 – Workbank management

Stage 2A – Authorisation and project development

Stage 2B – Delivery planning

Stage 3 – Design and construction

The model is shown in Figure 1 follows a lifecycle-based structure and provides a timescale perspective to assessing delivery preparedness, for example:

For the current financial year (CP6 year 1) – The workbank plan is being actively measured through Stage 3 Design and construction.

For the next financial year (CP6 year 2) – The workbank plan is being actively measured through Stage 2A Authorisation and project development and also Stage 2B Delivery planning.

For later financial years (CP6 year 3 onwards) – Expectation is the workbank plan is being actively measured through Stage 1 Workbank management and Stage 2A Authorisation and project development.

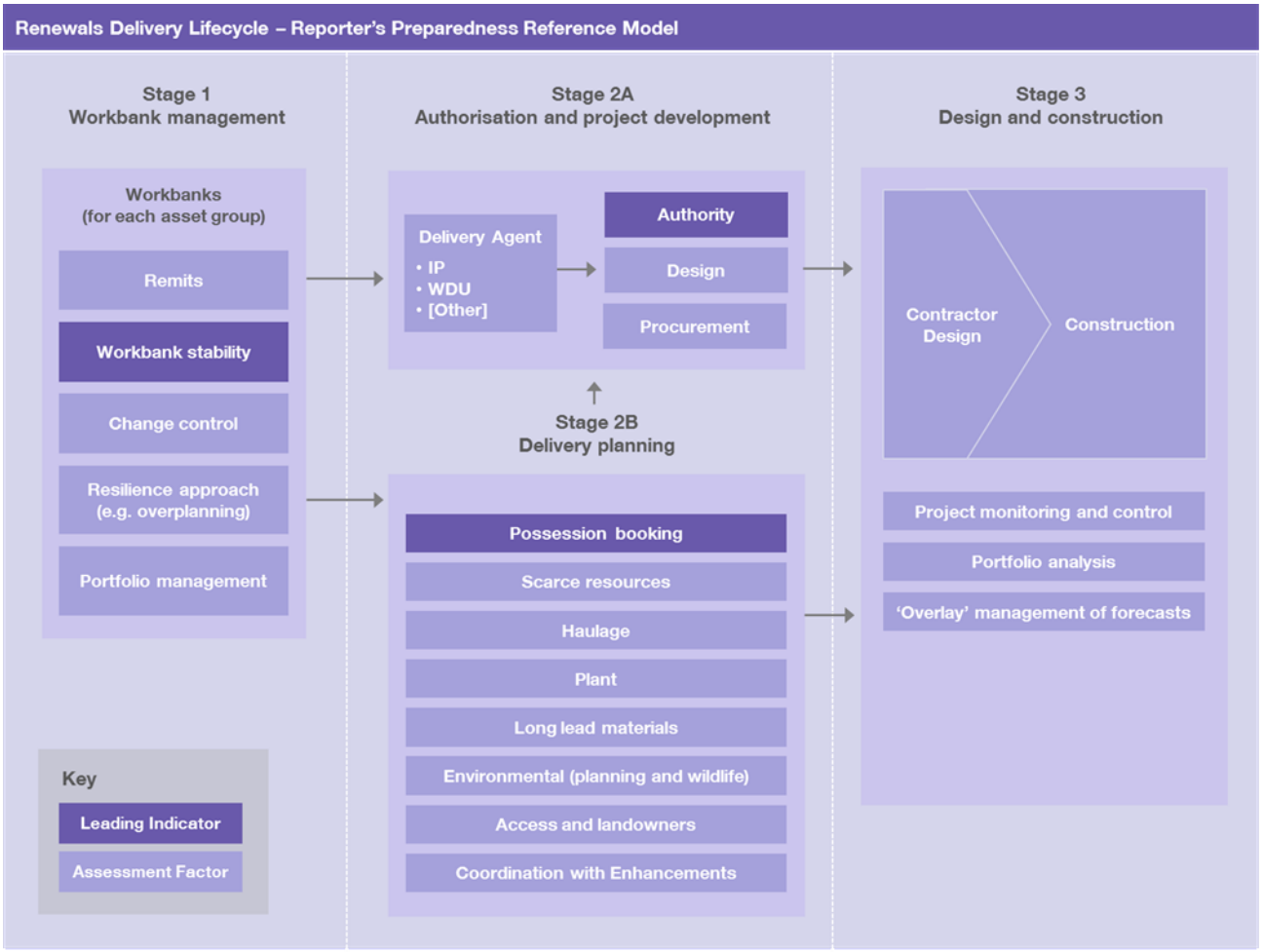

Figure 1: Renewals Delivery Reference Model

Assessment of Leading Indicators in phase 1

During review phase 1 we reviewed the available Leading Indicators (disruptive access, project authorisation and workbank stability). The Leading Indicators are provided by each route into Network Rail centre and ORR as a high-level summary of renewals delivery progress. We mapped the three Leading Indicators against the model to understand their scope of coverage and this is shown by the dark shaded boxes in Figure 1 as: possession booking, authority and workbank stability.

Our conclusion from phase 1 was that the Leading Indicators provided only a partial view of preparedness and we made a number of recommendations for improvements to indicators and metrics that could be used to provide a more complete picture.

Assessment methodology for phase 2

There was a change in emphasis for review phase 2 and the Reporter focus was on how each route was managing its preparedness for workbank delivery in year 1 (2019/20) and year 2 (2020/21). We examined the metrics and management controls being used by route management teams to assure themselves of workbank delivery. We sought to find evidence of route management and metrics using the Model to provide a structure for our assessment:

1. Workbank management. Workbank stability measures, active use of change control and planning resilience processes like over-planning.

2A. Authorisation and project development. Remit, investment authorisation and procurement progress monitoring and controls.

2B. Delivery planning. Possessions booking, scarce resource management, haulage, plant, long lead materials, environmental progress monitoring and controls.

3. Design and construction. Actual delivery and forecasting against plan, appropriate use of progress monitoring and controls, use of overlay processes to improve the quality of forecast plans, active management of risks.

To undertake a route assessment, we investigated and examined at two levels:

Portfolio – Monitoring and management of the renewals portfolio as a whole, across asset types.

Project – Monitoring and management of a sample of renewals projects from the largest asset workbanks.

The actual scope of the investigation (i.e. the balance between a focus at portfolio and at project level) at each route was determined by the assessment team leader to fit the time available and was designed to ensure both levels were addressed across the route assessments.

2.2 Route review context

We met representatives of Western route in Swindon and Reading on various occasions between 13 August 2019 and 19 September 2019. The meetings were conducted in an open and helpful manner. Supporting information was provided after the meetings and in response to further requests and a meeting to discuss our emerging findings was held on 30 September 2019. The timing of our review meant that a combination of Period 4 and Period 5 reporting information was available, and we have generally referred to the most up-to-date information provided to us. This did not have a material effect on our findings.

Western route's targets for renewals expenditure in CP6 are set out in Table 1.

Asset group	CP6 Delivery Plan (cash prices)					
	19/20 (£m)	20/21 (£m)	21/22 (£m)	22/23 (£m)	23/24 (£m)	Total CP6 (£m)
Track	88.9	76.1	87.4	110.5	126.4	489.3
Signalling Including Level Crossing	59.4	75.6	114.4	120.1	88.6	458.0
Structures	28.6	39.9	43.6	40.7	37.1	189.8
Earthworks	24.7	19.6	17.9	19.2	20.2	101.6
Buildings	15.2	44.8	51.9	37.0	19.3	168.3
Electrification & Fixed Plant	19.1	13.2	19.0	22.8	14.8	88.8
Drainage	4.0	4.1	5.2	4.5	4.1	22.0
Telecoms	-	-	-	-	-	-
Other Renewals (route only)	-	-	-	-	-	-
Total	**239.8**	**273.3**	**339.3**	**354.8**	**310.4**	**1,517.7**[1]

Table 1: Western renewals budget for CP6 (Source: Network Rail)

[1] CP6 total taken from figures provided by Network Rail centre at the start of this review. Western route is currently using £1,503m as its delivery target.

The budget in Table 1 for year 1 was set in the route's delivery plan and included a proposal to include £6m of track and electrification and plant (E&P) contingent renewals. Following internal review, this was subsequently deferred to later in CP6 meaning that the control budget for year 1 is £233.8m as shown in Table 2.

Asset group	19/20 (£m)
Track	87.9
Signalling Including Level Crossing	59.4
Structures	28.6
Earthworks	24.7
Buildings	15.2
Electrification & Fixed Plant	14.1
Drainage	4.0
Telecoms	-
Others	-
Total	**233.8**

Table 2: Revised control budget for year 1 (Source: Network Rail (Western route))

Western route's planned and forecast volumes for years 1 and 2 of CP6 are summarised in Table 3.

Asset group	Unit	Year 1 budget	Year 2 budget
Plain Line	Linear track km	67.60	77.78
S&C	S&C unit	21.00	48.00
Signalling	SEU	80.00	26.96
Underbridges	m^2 deck area	3,155.00	6,709.50
Conductor Rail	km	-	-
Earthworks	No	364.00	360.90
Wire runs	No	-	-

Table 3: 7-Key Volumes for year 1 and year 2 (Western route) (Source: Network Rail (Western route))

Assessment scope

To assess Western route's preparedness to deliver their renewals workbank in years 1 and 2 of CP6, we sought evidence of both portfolio and project level management and control. However, the majority of our emphasis in this route was on a review of the most significant asset groups at portfolio level.

Selecting which asset groups to review

At our initial meeting with the route it was agreed that our review would be based on the four most significant asset group portfolios as determined by combined year 1 and year 2 budgets. These are:

- Track (32% of years 1 and 2 renewals budget)
- Signalling (26%)
- Structures (13%)
- Buildings (12%)

Together these four asset group portfolios cover 83% of the budget for renewals in years 1 and 2 of CP6.

Selecting a sample of projects for review

To supplement our review of asset group portfolios, we identified two projects in each group as a sample for further analysis in order to demonstrate the practical application of general management principles at a project level. To choose the sample, we started with the two largest projects in each asset group, however the final selection was modified in discussion with the route to try to ensure that a representative range of project types was included. In practice, we found that it was not necessary or possible within the review timeframe to examine the sample of projects in any great detail. The sample is summarised in Table 4.

Project	Asset	Year 1 (£m)	Year 2 (£m)	Stage
OP 160971 19/20 MDTR WD TRACK WEST	Track	20.5	-	3 Design and construction
OP 157452 20/21 Western BCS	Track	0.6	23.7	2A Authorisation and project development
OP 157912 Paddington Train Detection Conversion	Signalling	10.5	20.4	3 Design and construction

				3 Design and
OP 161195 year 1 structures projects	Structures	4.1	-	3 Design and construction
OP 163771 19/20 CP6 Business Plan Unremitted	Structures	0	9.9	1 Workbank
OP 159367 Bristol Temp Meads Roof Refurb	Buildings	1.9	18.3	2A Authorisation and project development
OP 160974 Western Route CP6 MEW Programme	Buildings	4.4	4.4	2A Authorisation and project development

Table 4: Summary of the sample of projects reviewed

2.4 Assessment findings

We assessed a substantial body of evidence provided on the planning, management and delivery of the route's renewals workbank, primarily focused on years 1 and 2 of CP6, with good evidence of detailed knowledge, ownership of and commitment to delivery across Route Asset Managers (RAMs), finance, sponsor and delivery teams. Our findings are presented using the Renewals Delivery Reference Model structure described earlier and with supporting examples from our review of sample asset group portfolios and the sample of projects.

Management and delivery of the renewals workbank is overseen by the Director Route Asset Management (DRAM) using data and reports provided by finance and team members. These are mainly spreadsheet based and draw on data held in Oracle Projects. Management review is supported by three layers of governance meetings. These are:

Level 1 – Route Periodic Business Review meeting between DRAM and Route Director

Level 2 – Periodic Business Review (PBR) meetings between DRAM and RAMs

Level 3 – Governance meetings between RAMs and Delivery Agents (IP and Works Delivery)

We have reviewed a sample of material relating to this process and we consider that the process being followed is comprehensive and can be expected to support the identification, discussion and mitigation of significant risks or issues likely to threaten delivery of the route's renewals programme.

The overall process for managing renewals is complex with a combination of formal and informal processes all of which rely on the skills, experience and professionalism of those involved. Timescales and the level of control (for example, through the authority process) vary to suit the nature of each asset group. For example, track renewals are fairly generic in nature and are pre-authorised on an annual basis albeit that significant early development has been undertaken in order to plan possessions and logistical support. On the other hand, structures renewals may progress through authorisation later in their delivery cycle as requirements are confirmed on site and optimal solutions are selected. Earthworks and drainage schemes typically have short development and implementation periods due to the absence of long lead possession or logistical constraints whilst re-signalling schemes usually require very long lead times for development and planning. As the different asset groups have different authorisation lead time characteristics then any indicators (leading or otherwise) which are blended across all asset groups may mask the status and level of risk in specific asset groups. This variance between different asset groups on levels of development work and project lead times also has an impact on the options available to routes to plan and manage contingent renewals and over planned work.

Model Stage 1 – Workbank management

Renewals workbanks are developed following Network Rail's asset management and business planning processes and, once agreed, are held by RAMS in individual (non-standard) spreadsheets. The workbanks for each year are subject to change control which is managed as part of the periodic DRAM meeting cycle.

The workbanks currently held in the system are summarised in financial terms in Table 5.

Asset group	Year 1			Year 2		
	Control budget (£m)	Net change (£m)	Current (£m)	Business Plan (£m)	Net change (£m)	Current (£m)
Track	87.9	6.8	94.6	76.1	(2.0)	74.1
Signalling (inc. LC)	59.4	(12.1)	47.3	75.6	(1.1)	74.5
Structures	28.6	1.5	30.1	39.9	(0.4)	39.5
Earthworks	24.7	(0.3)	24.4	19.6	0.4	20.0
Buildings	15.2	(0.1)	15.1	44.8	1.6	46.4
Electrification & FP	14.1	3.1	17.1	13.2	5.4	18.6
Drainage	4.0	0.9	4.9	4.1	0.1	4.2
Telecoms	-	-	-	-	-	-

Asset group	Year 1			Year 2		
	Control budget (£m)	Net change (£m)	Current (£m)	Business Plan (£m)	Net change (£m)	Current (£m)
Others	-	-	-	-	-	-
Total	**233.8**	**(0.2)**	**233.6**	**273.3**	**4.0**	**277.3**

Table 5: Western route targets at RF04 (Source: Network Rail (Western route))

We have considered four factors associated with workbank management:

- Workbank compliance with financial and volume budgets
- Amount of change in workbanks since budgets were set
- Use of change control
- Use of overplanning and contingent renewals to provide resilience to changes

Our assessment of these four factors is discussed below:

Workbank compliance (financial and volume)

Our review has confirmed that the workbank for each of the asset groups in our sample is adequately defined to identify the projects on which the financial and volume budgets for years 1 and 2 will be spent.

Within the workbanks for buildings and signalling there are allowances for minor emerging works. Such work is, by definition, not clear at the planning stage and budgets are set by reference to previous years. For example, for buildings the allowance is £6.4m (42% of budget) for year 1. Further provision for emerging works is made through the Emerging Cost overlay and its counterpart, the Financial Performance Measure (FPM) overlay and these are set at approximately 10% of the annual renewals budget at the start of each year. Emerging work is typically carried out by works delivery teams without significant disruptive possessions or other long lead constraints and so can reasonably be assumed to be deliverable as part of the target for the overall portfolio.

The route has confirmed that the planned workbank for year 1 covers its required volumes as illustrated by the summary of budget and forecast values for the 7-Key Volumes shown in Table 4 earlier in this report.

Adjustments to these budgets made during the Rolling Forecast (RF) business planning process are discussed in the 'Model stage 3 - Design and construction' section on page 26 of this report..

Workbank level of change

At Period 5, the Leading Indicator report puts Western's year 1 stability at 81% which is towards the bottom of the cross-route range of 79% - 91%.

Underpinning this headline Leading Indicator figure, the route has tracked changes through both the change control process and in preparing its RF4 updates. These changes are summarised in Table 6 and shown graphically in Figure 2 below.

Asset group	Year 1			
	Control budget (£m)	By change control (£m)	Outside change control (£m)	Current (£m)
Track	87.9	1.3	5.5	94.6
Signalling (inc. LC)	59.4	(2.4)	(9.6)	47.3
Structures	28.6	5.5	(4.0)	30.1
Earthworks	24.7	4.5	(4.8)	24.4
Buildings	15.2	3.1	(3.2)	15.1
Electrification & FP	14.1	2.5	0.6	17.1
Drainage	4.0	1.5	(0.6)	4.9
Telecoms	-	-	-	-
Others	-	-	-	-
Total	**233.8**	**15.8**	**(16.0)**	**233.6**

Table 6: Analysis of Western route changes levels in year 1 (Source: Network Rail (Western route)

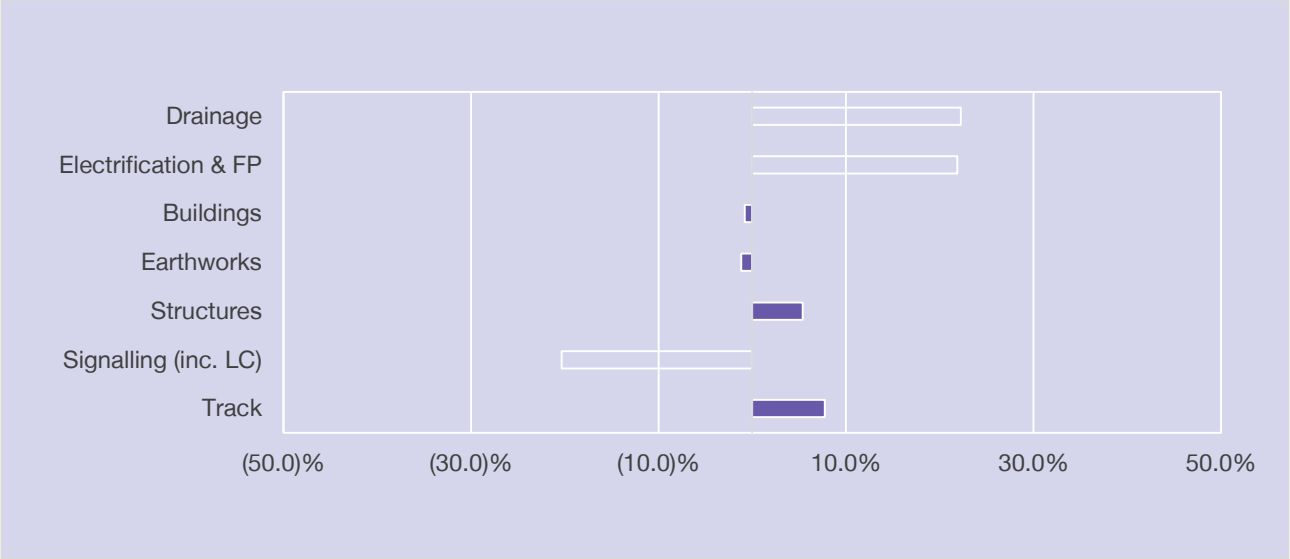

Figure 2: Workbank variance in year 1 (Western route)

The figure shows considerable variation of change across asset groups with overall net changes ranging from -20% to +23%. This implies that there is a significant level of underlying change in the workbank. This is particularly significant in the relatively high value signalling asset group where change control has removed £2.4m of expenditure and the RF4 process has removed a further £9.6m. This reduction in the forecast appears to be mainly in works delivery managed works.

The route has also identified a further £21.9m of contingent renewals (referred to as options for investment) which may be introduced over and above these forecasts if funding is identified and agreed at a later point in the year.

We recognise that the dynamic nature of asset condition and its interaction with weather, railway operations and other factors means that a certain 'minimum' level of change is inevitable. Further monitoring and analysis work should be undertaken over CP6 to understand the drivers of change and what levels can be managed without jeopardising efficiencies and other benefits that flow from having a stable workbank. We suggest that a standard classification system should be used in change control to facilitate this analysis.

Whilst the workbank stability indicator remains a useful broad-brush guide to the overall level of change in a route, these findings suggest that it operates at too high a level and can mask significant movement in individual asset groups.

Use of change control

The route operates a change control process which is managed through the DRAM meeting cycle and documented in a spreadsheet. This appears to provide a reasonable process for managing change to the workbank.

We note that there is a lag between updates to change control and revision of forecasts as seen at RF4. Table 6 above illustrates this showing significant revisions to asset groups outside change control at RF4. From what we have seen on other routes, we expect that some of the RF4 changes relate to deliverability overlays which it may be inappropriate to manage through change control. We consider overlays in more detail in the 'Model stage 3 - Design and construction' section on page 26 of this report.

The change control spreadsheet requires changes to be classified by 'reason for change' but these are not organised into standard categories and this prevents meaningful detailed analysis of change. We have endeavoured to group the route's gross changes to date for year 1 under the high-level categories used to analyse change in LNW route's Information Management System (IMS) and the results are shown in Figure 3. We note that 22% of change appears to be linked to slippage of projects (c/f 25% in LNW) however, it is not clear how this is divided between planned and unplanned slippage or to see if this is indicative of a more significant planning issue. We recommend that the route implements a standard set of change categories to aid better analysis in the future.

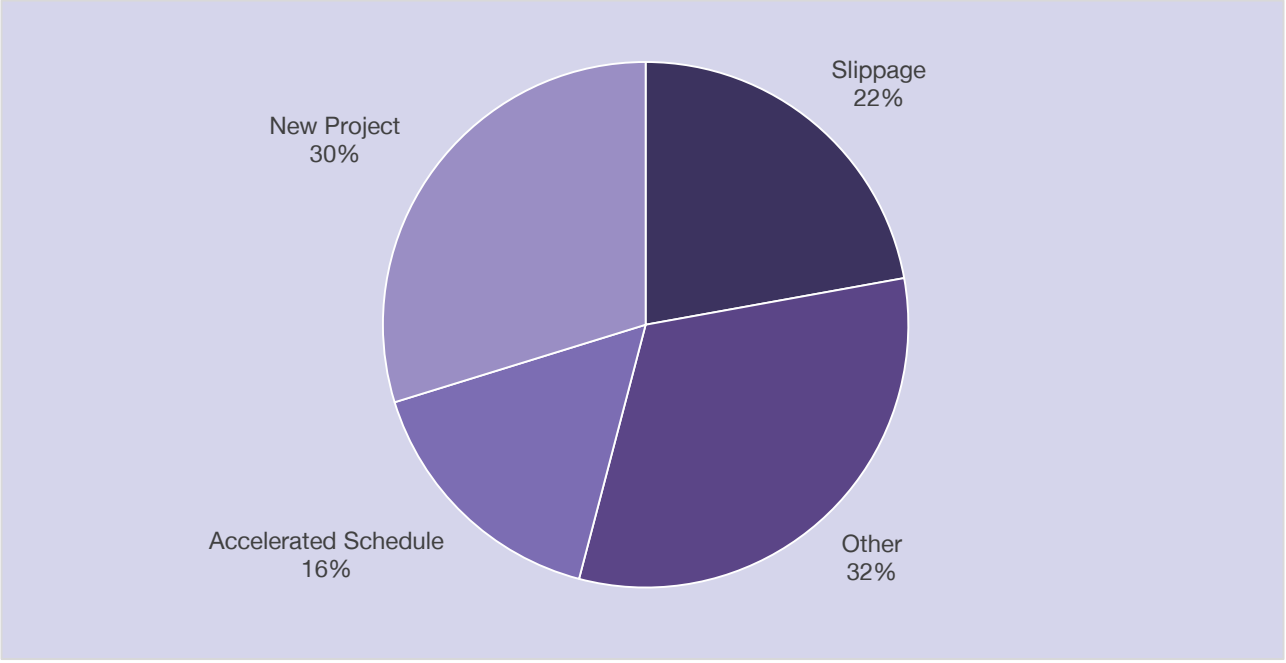

Figure 3: Preliminary analysis of change drivers in year 1 (Western route) (Source: Network Rail (Western route))

Overplanning and contingent renewals

Western route uses overplanning and contingent renewals to support management of its programme within Departmental Expenditure Limits (DEL).

Overplanning – Active planning and preparation to deliver renewals over the budget provision is used across all asset groups in Western to provide assurance that work is available to replace any potential slippage or cancellation. Current overplanning (as represented by deliverability overlays at RF4) is shown in Table 7 below.

Asset group	Year 1 (£m)	Year 2 (£m)
Track	10.7	10.0
Signalling (inc. LC)	6.6	2.2
Structures	3.2	0.6
Earthworks	0.8	0.4
Buildings	1.5	1.2
Electrification & FP	1.7	1.6
Drainage	0.6	-
Telecoms	-	-
Others	-	-
Total	**25.2**	**16.1**
Overplanning as a percentage of annual budget	**10.8%**	**5.9%**

Table 7: Current levels of overplanning (Western route) (Source: Network Rail (Western route))

We note that the level of overplanning for year 2 has reduced from £24.4m at the start of year 1 to £16.1m at RF4.

Contingent renewals – The route has no contingent renewals in the plan for year 1. Should additional work be required, the intention is to implement some or all of the 'options to invest' schemes and/or bring forward projects from the year 2 workbank where this can be completed without complex access or logistical planning. The route has advised us that it intends to develop contingent renewals for the remaining years of CP6.

In summary, the route has a good approach to workbank management and change control. However, we are concerned about the level of change indicated by the Leading Indicator report (81%) and the more detailed analysis presented above. Inconsistencies in the structure and classification of data about changes limits the extent to which this can be analysed, and the drivers of change understood. Our concern is without the drivers of change being understood, the level of change seen at this point in the year could be more than should be reasonably expected for the portfolio of asset renewals. We recommend that the level of change be monitored in the future and that more should be done to understand and reduce the drivers of this change.

Model Stage 2A – Authorisation and project development

The route uses a number of Delivery Agents from within IP and Works Delivery to service its portfolio and these are all involved with the authorisation and project development stage for relevant schemes. Each has slightly different processes and reports progress in different format of status reports. This makes aggregation of the overall position difficult for an ad-hoc review.

In this section, we consider the route's preparedness in this area under five headings:

- Remits, status of issue and acceptance
- Project controls and governance
- Investment authority
- Design
- Procurement

Remit status

Issue of a remit by a route sponsor or asset manager and acceptance by a Delivery Agent marks the start of the project development process. Where a scheme is complex, remits may be updated at several points in the project lifecycle, typically for initial development and then for detailed design and implementation. Using remit status tracking as a Leading Indicator would therefore need to be based on the value of work remitted rather than the existence of a remit on any given project. Western route does not have a central tracker for remits and so consolidated data is unavailable in the Leading Indicator report or to assist local management.

We found evidence that remits were being tracked in detail for the buildings asset group but no other evidence of tracking for other asset groups was provided to us. For buildings, the position is shown in Table 8 and Figures 4 and 5:

Remit status	Year 1 (£m)	Year 2 (£m)
Accepted	3.0	1.9
Issued (not yet accepted)	-	-
Not issued	4.3	6.1
Total	**7.3**	**8.0**

Table 8: Remit status for buildings asset group (Western route) (Source: Network Rail (Western route))

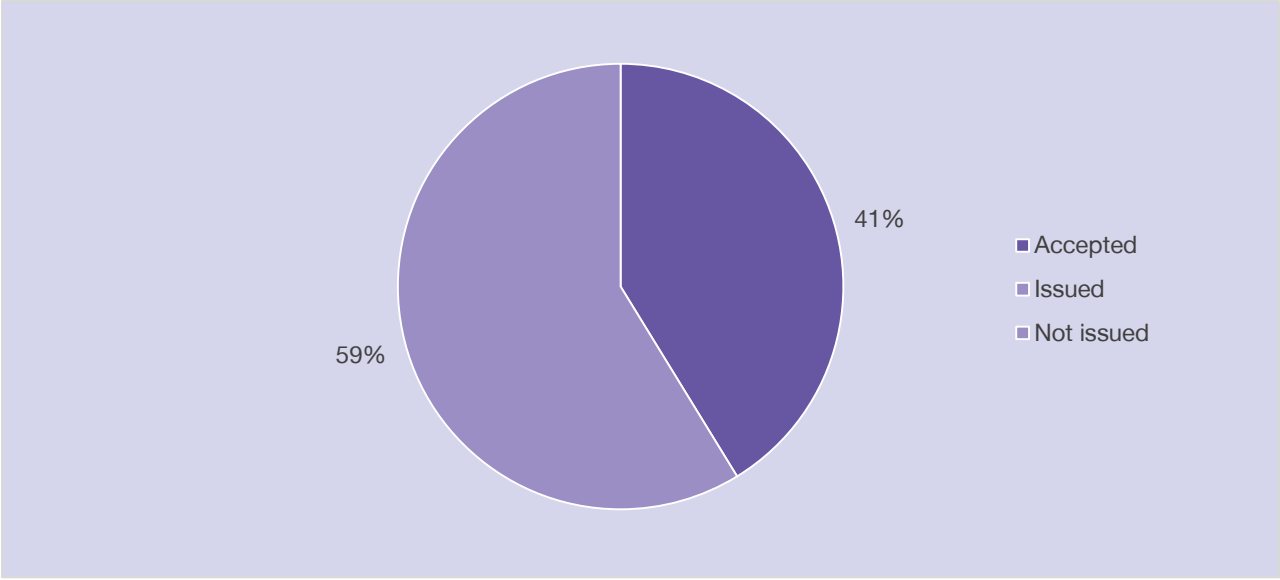

Figure 4: Buildings remit status for year 1 (Western route)

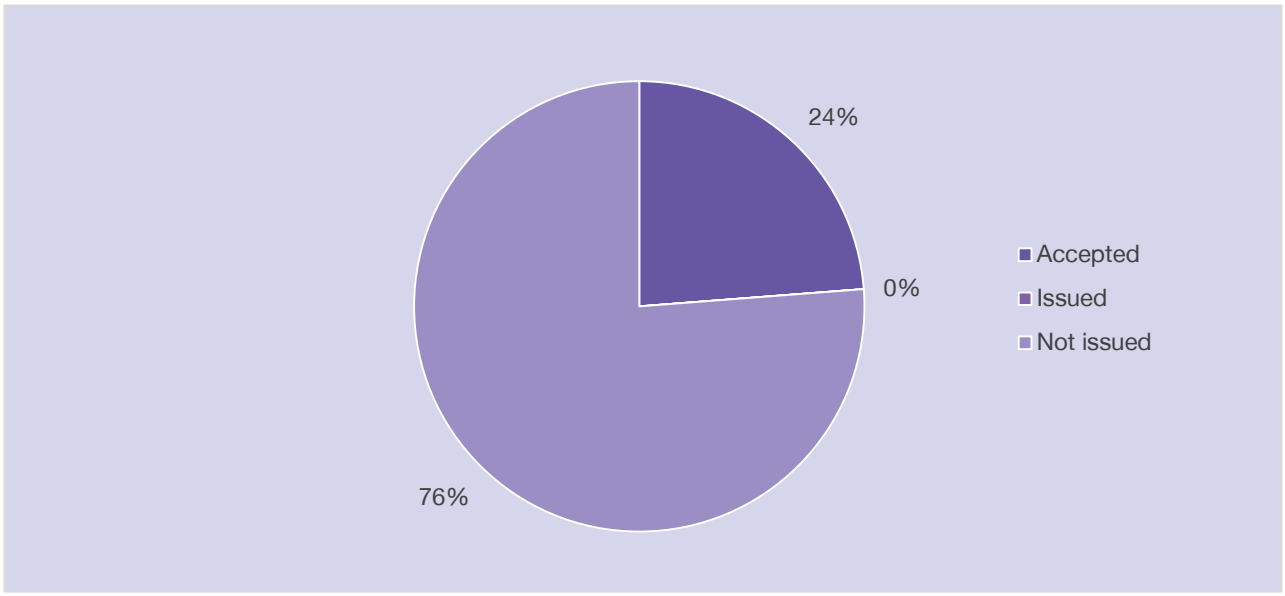

Figure 5: Buildings remit status for year 2 (Western route)

This data suggests there is a shortfall in the remitting of work for each year. Whilst that may be partly explained by remits written in previous years carrying forward, the situation is indicative of potential risk to future delivery. We recommend that data coverage is improved for all asset groups and further analysis then be undertaken.

Project controls and governance

Effective project controls and governance are essential for both the project development and design and construction stages of project delivery (i.e. Stages 2A, 2B and 3 in our project delivery model).

Our focus has been on the project controls and governance implemented by Western route on its renewals portfolio rather than on the management systems employed by the various Delivery Agents (IP and Works Delivery). However, the governance process relies on the accuracy and timeliness of reports from the Delivery Agents. We note that approximately 68% of the portfolio is managed by IP and this organisation has well established management and reporting processes although we note that the reports, provided as evidence, from different IP teams provided as evidence follow different formats and levels of detail. The introduction of regional capital programme directors provides an opportunity to better align and standardise the reporting of renewals across all Delivery Agents, whilst needing to address the loss of central oversight by IP that could, over time, compromise the consistency and quality of project reporting.

Western route follows the current cross-route practice of reviewing the status of its renewals programme through three tiers of meetings which operate on a 4-weekly periodic cycle. There is an additional tier (known as the governance board) for track renewals. This cycle is supplemented by a more comprehensive review of the status of the programme at each (quarterly) RF update. This provides a routine basis for the identification and escalation of risks and issues.

The three tiers of review are:

RAMs' review meetings with their Delivery Agents – Each RAM holds a detailed 4-weekly review meeting. For these meetings each Delivery Agent provides a progress report, with progress, issues and matters requiring escalation. These are primarily detailed working meetings with a focus on maintaining progress. There is a range of formats for inputs and outputs to these meetings which make it difficult to identify common trends and issues as inputs to overall assurance of delivery.

DRAM's PBR meeting with RAMs – This is the key governance meeting where financial performance, volumes, delivery issues and efficiencies are reviewed using a common format report (known as a 'project on a page') which draw together information from the RAM review meetings, Oracle Projects and other sources. This forum also manages the change control process.

Route Director's PBR meeting with the DRAM – Whilst we have not observed the meetings within this process, we consider that the overall approach is what we would expect and is likely to provide a good basis for active management of the renewals programme.

Investment authority

Progress in authorising each year's renewals programme is reported in the Leading Indicators report. Up to Period 3 the report focused on year 1 with the emphasis switching to year 2 at Period 4. The latest reported position is:

Year 1 – 93% authorised at Period 3.

Year 2 – 35% authorised at Period 5 (compares with 16% at this point last year).

Year 1 – We discussed the authority position with the DRAM and were advised the authorities that remained outstanding at period 3 related to relatively minor items with short lead times. On this basis, the position does not appear to have any significant risk to delivery plans.

The latest updated year 1 position provided to us is in Table 9. This shows 99% of the year 1 workload is authorised with individual asset groups ranging from 61% to 107% (figures over 100% indicate that over planned work has been authorised. Excluding over planned work, 98% of the year 1 target has been authorised.).

Asset Group	Target at RF4 (£m)	Current authority (£m)	Current authority %
Track	94.6	96.1	102%
Signalling (inc. LC)	47.4	44.8	94%
Structures	30.1	32.2	107%
Earthworks	24.4	23.9	98%
Buildings	15.1	14.5	96%
Electrification & FP	17.2	17.6	102%
Drainage	5.0	3.1	61%
Telecoms	-		-
Others	-		-
Total	**233.8**	**232.1**	**Average 99%**

Table 9: Updated project authorisation for year 1 (Western route) (Source: Network Rail (Western Route))

Year 2 – The route is ahead of its position in period 5 last year. The status of year 2 authorities is tracked in the periodic review cycle at the DRAM meetings and through project on a page reports. The route recognises the importance of progressively securing authorities and expects to exceed the glide path shown in the Leading Indicators report.

Scheme design

Progress of projects through scheme design (GRIP 4) is reviewed at the RAMs' progress meetings with their Delivery Agents. We received evidence to support this, however we understand that issues are generally raised verbally as exception reports and that, for IP delivered projects, this is based on tracking GRIP stages as standard milestones in their P6 planning system.

Procurement

We assessed whether there are contractual arrangements in place to deliver the renewals programme or that there are plans and processes being followed to support timely award of contracts.

Our review identified the following status:

Track – Framework contracts are in place to deliver plain line and switch and crossing (S&C) renewals in CP6. Major materials, haulage and plant requirements are met through existing contracts held by Supply Chain Operations (SCO). There have been some issues associated with negotiating acceptable target costs for track work, but the year 2 work is expected to be agreed for instruction by RF8.

Signalling – Minor signalling and signalling & telecoms (S&T) frameworks for CP6 commenced in June 2019. The framework for major signalling schemes is being re-tendered by IP and is currently expected to be awarded in January 2020. This creates some uncertainty over the pricing of schemes in later years of CP6. We understand that existing framework arrangements will extend until May 2020 to facilitate a handover of ongoing schemes. The route does not regard these arrangements as creating a risk to its delivery in years 1 or 2. Progress in awarding the new framework and its impact on unit rates and/or efficiencies should be kept under review.

Structures – The structures team provided a copy of their tender event schedule which demonstrates a planned approach to procuring the necessary contracts. This is particularly important for this asset group as, following the failure of Carillion a strategy of procuring each package of works directly rather than via frameworks was implemented (reportedly this provided cost savings and other benefits). Three year 1 packages have been awarded with the remaining three due for award by the end of October 2019. Maintaining this programme is important as there is approximately £10m of work to be executed in Period 13 and slippage of this at year end would prove difficult to mitigate.

Buildings – Apart from the large and complex Bristol Temple Meads roof project which will be tendered, all works are undertaken through existing framework arrangements. Minor works and works delivery can use frameworks with two to three years left to run and so there is limited procurement risk for this element of the portfolio. The major renewals framework has been extended to cover the early years of CP6 and tendering for a replacement contract is underway. As with signalling, this introduces some uncertainty over pricing for future years.

Overall, there appears to be a viable procurement strategy with the use of frameworks minimising procurement timescales as each package completes its design stage. In the current economic environment, there is always a risk of insolvency or other disruption to the supply chain (for example, from Britain's exit from the European Union), however the route did not identify any specific concerns.

Model Stage 2B – Delivery planning

We sought assurance from the route that it has suitable arrangements in place to ensure that long lead activities, scarce resources, critical plant and logistics support and other similar factors will be in place as needed to support the renewals programme. We note that the ORR's Final Determination identified that some aspects of Network Rail's delivery planning did not look across the whole of CP6, this review only considers the first two years of the control period and so does not address these longer-term concerns.

The review covered eight areas with a focus on process, assurance and risk rather than understanding the detailed position for each portfolio or resource.

Disruptive possessions

Booking of disruptive possessions is managed through the national timetable planning process which incorporates long-lead times (up to two years) to facilitate coordination across the network and operational planning by train operators. Network Rail is encouraged to book disruptive access early by an incentive system whereby discounts are available but reduce if bookings are made later in the planning process.

Progress booking disruptive possessions is measured by a Leading Indicator. The latest reported position for Western route is:

Year 1 – 86% booked at Period 3.

Year 2 – 50% booked at Period 5. This is an improvement on 41% booked at Period 5 last year.

It should be noted that the '100%' figure used in the Leading Indicator report is a notional figure based on historical possessions requirements applied to projected work volumes. It is therefore possible that a route can secure all of its required possessions without the indicator reaching 100% (or conversely that more than 100% of projected possessions may be needed.

Disruptive possessions are a fundamental requirement for track and signalling renewals. They are used by other asset groups but work such as preparation for major renewals, lineside earthworks and drainage can often be undertaken either in Engineering Access Statement (EAS) ('rules of the route') access or by taking advantage of disruptive access booked for other works. Therefore, the Leading Indicator is not a complete indicator that all engineering access will be available.

Within the route, possession planning is coordinated by a central team supported by the Possession Planning System (PPS). The process is managed on a process basis (as opposed to project by project) and project specific issues are dealt with by exception at the governance meetings between RAMs and Delivery Agents. The route supplements this process with its 'OnePlan' visualisation tool which assists in coordinating access planning across the route and which plays an important role improving possession utilisation and the management of changes.

It is noteworthy that a major timetable change is planned for December 2019 when Elizabeth Line trains start to run to Reading and significant changes will be made to Great Western services. This additional traffic will increase pressure on access planning for future years of the control period.

Track – All disruptive possessions for years 1 and 2 are reported to be confirmed with the exception of January – March 2021. We understand that the route is currently working on its year 3 possession requirements for track.

Signalling – All disruptive possessions are booked. The programme is highly dependent on delivery of axle counter works in the Paddington area during major possessions at Christmas 2019 and 2020.

Structures – All disruptive possessions are booked for year 1. The route does not anticipate any issues with completing booking of its requirements for year 2.

Buildings – No significant requirement for disruptive possessions.

However, it must be noted that:

1. Disruptive possessions do not represent all access necessary to undertake the renewals programme. Non-disruptive access must also be planned and booked in the shorter windows provided by the EAS.
2. The granting of access does not mean that the works can proceed. Complex logistical and operational planning is also necessary. For example, how engineering trains and on-track plant can transit to and from site. This planning can be disrupted by changes in other routes' arrangements. An example being the decision by LNE&EM to move a major track project at Kings Cross from Christmas 2019 to Christmas 2020 and how this introduced planning risk to work in Western route in year 2.

We conclude that the route has well established processes for managing its disruptive possession requirements and appear appropriate to manage risks to delivery in years 1 and 2 provided that the workbank remains stable.

Scarce resources

The major area of concern for scarce resources is signalling testers with peak requirements falling at Christmas and Easter when extended possessions allow major renewals to be undertaken. Western route's programme for years 1 and 2 is described as comprises more small and discrete schemes meaning that commissioning can be spread over the year rather than relying on peak periods. Notwithstanding this, resource planning is managed through a cross-route signal test diary which identifies times when demand may exceed availability.

Another risk identified by the route is a loss of signalling contractor capacity across the route and wider areas as the Bristol Area Re-signalling contractor (Alstom) demobilises from this major project. This could be further exacerbated if any signalling contractor) chose to exit the UK market.

Haulage, Plant and Long lead materials

The planning of these three factors is managed centrally by SCO through its established processes and the overall status is not presented in the reports provided to us by Western route.

Haulage for year 1 track – There was a planning error which resulted in an excess of over 10,000 hours of haulage being reserved for Western route. Western route has told us that there is no loss of efficiency at route level as a result of this error. We understand that any abortive costs arising from this situation will be carried by SCO and presumably will be reported as an inefficiency in central reports.

Haulage for track at Christmas 2020 – The route reported that the rescheduling of a major scheme at Kings Cross from Christmas 2019 to Christmas 2020 has resulted in a potential shortfall in engineering trains. This creates a risk for two plain line renewals in the Paddington area. As this issue appears to have the potential to affect multiple routes, it is important that work continues to find an early resolution.

Long lead lift and escalator equipment – The buildings team demonstrated that the two-year lead times for these items are identified and managed to avoid delay.

Long lead signalling equipment – Axle counters have been pre-ordered to secure supply for the Paddington train detection project.

Environmental issues

These matters are managed through routine management processes within the project teams. We saw evidence of this in the track portfolio where a risk of fly tipping on access points had been identified.

Access and landowners

This is managed through the project teams and we did not identify any risks or issues which may affect delivery of the programme.

Interfaces with enhancement projects

Changes to assumptions about the volume or timing of enhancement works have the potential to disrupt renewals programmes. Western route has the following enhancement schemes currently being planned or implemented:

Exmouth Junction and Abbey Wood – Track enhancement schemes in years 1 and 5 respectively. No risks to the renewals programme have been identified.

HS2 – The project is planning to construct a new station adjacent to Western route infrastructure at Old Oak Common. This will affect the route's renewals and other activities in this area and to help facilitate this, HS2 is contributing to the Paddington train detection project. The route has told us that it could cover this funding (with or without any de-scoping) in the event that HS2 is delayed or modified.

Bristol East – Track works in year 3. Possession planning for other track work is being based on the timing of this scheme. Any slippage has the potential to require rescheduling of the linked work.

Our review indicated that these schemes do not impose any significant risk to the renewals programme in years 1 and 2.

In overall terms, we consider that Western route is adopting a reasonable approach to delivery planning and we have not identified any significant risks to its plans for years 1 and 2.

Model Stage 3 – Design and construction

This section considers financial and volume reporting across the whole renewals portfolio as well as any specific works related issues identified during our review of the sample asset groups.

Overall financial position

The route provided its Period 5 DRAM PBR report. The reported financial position is summarised in Tables 10 and 11.

Asset group	Actual (£m)	Budget (£m)	Variance (£m)	Variance %
Track	40.2	19.0	21.2	111%
Signalling (inc. LC)	14.4	2.4	12.0	512%
Structures	6.5	5.9	0.6	10%
Earthworks	3.4	4.8	(1.4)	(29%)
Buildings	4.0	1.0	3.0	298%
Electrification & FP	5.1	5.0	0.2	4%
Drainage	1.1	0.4	0.6	146%
Telecoms	-	-	*	*
Others	-	-	-	-
Total	**74.8**	**38.5**	**36.3**	**94%**

Table 10: Performance year-to-date at period 5 (Western) (Source: Network Rail - DRAM PBR report)

Asset Group	Annual forecast (£m)	Year 1 budget (£m)	Variance (£m)	Variance %
Track	94.1	87.9	6.3	7%
Signalling (inc. LC)	47.6	59.4	(11.8)	(20%)
Structures	29.2	28.6	0.6	2%
Earthworks	23.2	24.7	(1.5)	(6%)
Buildings	15.6	15.2	0.4	3%
Electrification & FP	18.8	14.1	4.7	34%
Drainage	5.0	4.0	1.0	24%
Telecoms	-	-	-	-

Asset Group	Annual forecast (£m)	Year 1 budget (£m)	Variance (£m)	Variance %
Others	-	-	-	-
Total	**233.4**	**233.8**	**0.4**	**0%**

Table 11: Full year forecast (Western) (Source: Network Rail - DRAM PBR report)

We make the following observations:

1. The year to date performance shows overall over expenditure of £36.3m (94%) with considerable variance across asset groups (range 29% under to 512% over). Approximately 90% of the variance lies in the track and signalling asset groups and the route describes this as arising from 'incorrect phasing of alignment overlay' whereby the annual budgets for these asset groups were incorrectly profiled across the financial year with expenditure in the early part of the year being understated. We understand that overlays have a role in managing reported performance, but we consider that a discrepancy of this magnitude illustrates the risks associated with subjective adjustment of forecasts which would normally be expected to be generated from detailed, cost loaded schedules prepared by the Delivery Agents.
2. The full year forecast indicates an underspend of approximately £11.8m in signalling which is compensated for by overspending in track and the other asset groups.(apart from earthworks which also has a small shortfall).
3. The shortfall in signalling arises from the following:
    - Reduction in minor works to offset cost liability held in track (£3.5m)
    - Exeter life extension efficiency moved to year 3 to allow additional works to be planned (£2.5m)
    - Deliverability overlay (£5.7m)

We have not reviewed these items in any further detail, but they are, perhaps, indicative of the type of changes associated with managing a complex portfolio. In particular, they illustrate the importance of operating a good change control system.

Overlays

Western route uses three overlays to manage its outturn reporting. These are:

Emerging costs overlay (ECO) and Financial Performance Metric (FPM) overlay – ECO is the standard adjustment mechanism used to ensure that FPM is not adversely affected by additional works which emerge during the year. The FPM is a counterpart to this which is used to hold the budget for the emerging works. Note that this is more transparent than the practice seen in some other routes of holding the FPM overlay within the deliverability overlay.

Deliverability overlay – This represents a judgement by the DRAM and route financial controller over the difference between work planned in Oracle Projects and what will actually be delivered. As such, the difference is indicative of the level of overplanning by the route.

The level of these overlays at the start of year 1 and at RF4 are shown in Tables 12 and 13.

Alignment overlay – The route has also indicated that it uses an alignment overlay to manage the profiling of work across the financial year, however, details have not been provided. We have commented on the alignment overlay in connection with the year to date performance above and we have not examined how it is assessed in any further detail.

Asset group	Overlays at start of Year 1		
	Deliverability (£m)	ECO (£m)	FPM Overlay (£m)
Track	(9.8)	8.0	(8.0)
Signalling (inc. LC)	(0.9)	6.8	(6.8)
Structures	(5.2)	3.7	(3.7)
Earthworks	(0.4)	2.5	(2.5)
Buildings	(0.6)	1.5	(1.5)
Electrification & FP	(7.5)	1.0	(1.0)
Drainage	-	0.4	(0.4)
Telecoms	-	-	-
Others	-	-	-
Total	**(24.4)**	**23.8**	**(23.8)**

Table 12: Overlays at commencement of year 1 (Western) (Source: Network Rail (Western route))

Asset group	Overlays for year 1 (2019/20) @ RF4			Movement by RF4	
	Deliverability (£m)	ECO (£m)	FPM (£m)	Deliverability (£m)	ECO (£m)
Signalling (inc. LC)	(6.6)	6.8	(6.8)	(5.7)	-
Structures	(3.2)	3.7	(3.7)	1.9	-
Earthworks	(0.8)	2.5	(2.5)	(0.5)	-
Buildings	(1.5)	1.5	(1.5)	(0.9)	-
Electrification & FP	(1.7)	1.0	(1.0)	5.8	-
Drainage	(0.6)	0.4	(0.4)	(0.6)	-
Telecoms	-	-	-	-	-
Others	-	-	-	-	-
Total	**(25.2)**	**23.8**	**(23.8)**	**(0.8)**	**-**

Table 13: Overlays for year 1 at Period 4 (Western) (Source: Network Rail (Western route))

We make the following comments:

1. The net deliverability overlay represented approximately 10% of budget at the start of the year. At RF4 it had increased by £0.8m to £25.2m, approximately 11% of the full year budget and 16% of spend to go. The route has advised us that this adjustment has been made to counter an increase in over planning for year 1 so as to maintain the forecast outturn in line with the budget for the year and to reflect concerns over resourcing risks. Western route has also told us that this approach was in line with corporate business planning guidance and discussed at the RF4 review.
2. If the overlay proves too conservative, the route will need to cancel or defer schemes unless it is able to bring forward expenditure from future years (to cover under expenditure in year 1 in other routes) or if contingency is released. The route has advised us that it anticipates being able to fund work in excess of its current forecast and we would expect clarity on this to increase by RF8 when options for further investment are considered.
3. We note that the ECO provision has not been changed at Period 4. We have seen reference to emerging works in several asset groups and a pending change control for £1.5m of emerging building works in the DRAM PBR report.
4. Overlays are reviewed and adjusted each period by finance. The DRAM is involved in this process at the quarterly review. We think it is important that the process takes account of the views of staff in the front line of delivery so that updates are timely and reflect emerging events and we have been told that delivery risk is considered as part of the discussions at the PBR meetings

We have seen three potential issues in Western route which indicate that overlays, whilst useful management tools may warrant further review and monitoring by ORR across all routes:

Lags in updating the ECO overlay position pending change control and agreement with Network Rail centre.

Use of the deliverability overlay to constrain expected outturns within agreed budgets. This contrasts with other routes where we have seen overlays applied to generate a view on the likely full-year outturn. Where this shows that overplanning may lead to over expenditure against budget this is clearly flagged.

Significant variances in year to date performance against budget due to issues with the alignment overlay.

We recommend that ORR and Network Rail undertake further work to satisfy themselves that all routes operate their overlays consistently and transparently within agreed parameters so that their effect on reported figures is clear. Consideration should be given to whether overlay management could be improved by further application of quantified risk analysis techniques.

Volumes

Variations between business plan budgets and forecast volumes (based on the 7-Key volume measures) for years 1 and 2 are shown in Tables 14, 15 and 15.

Asset group	Unit	Actual	Budget	Variance	Variance %
Plain Line	Linear track km	36.5	32.6	3.9	12%
S&C	S&C unit	10.0	16.0	(6.0)	(38)%
Signalling	SEU	80.0	80.0	0.0	-
Underbridges	m^2 deck area	1,022.0	483.0	539.0	112%
Conductor Rail	km	-	-	-	-
Earthworks	No	86.0	50.0	36.0	72%
Wire runs	No	-	-	-	-

Table 14: Budget and planned volumes to date for year 1 (Western) (Source: Network Rail (Western route))

Asset group	Unit	Actual	Budget	Variance	Variance %
Plain Line	Linear track km	73.7	67.6	6.1	9
S&C	S&C unit	21.0	21.0	0.0	0
Signalling	SEU	80.0	80.0	0.0	0
Underbridges	m^2 deck area	4,210.0	3,155.0	1,055.0	33
Conductor Rail	km	-	-	-	-
Earthworks	No	413.0	364.0	49.0	13
Wire runs	No	-	-	-	-

Table 15: Budget and planned volumes for year 1 (Western) (Source: Network Rail (Western route))

Asset group	Unit	Actual	Budget	Variance	Variance %
Plain Line	Linear track km	n/a*	77.8	n/a	n/a
S&C	S&C unit	n/a*	48.0	n/a	n/a
Signalling	SEU	n/a*	27.0	n/a	n/a
Underbridges	m^2 deck area	n/a*	6,709.5	n/a	n/a
Conductor Rail	km	n/a*			
Earthworks	No	n/a*	360.9	n/a	n/a
Wire runs	No	n/a*		n/a	n/a

Table 16: Budget and planned volumes for year 2 (Western) (Source: Network Rail (Western route))
* Year 2 forecast data was not available at the time of our review

Figure 6 compares forecast variances to volumes and costs for the corresponding asset group for year 1.

Figure 6: Comparison of variances to year 1 budget volumes and expenditure at RF4 (Western)

We make the following comments:

1. For the asset groups in our sample, there is generally a correlation between budget and volume movements forecast for year 1. The exception to this is signalling where a budget reduction of approximately 20% is not reflected in forecast volumes. This is not an issue for year 1 because signalling volumes lag behind expenditure and are only recorded when a scheme is commissioned. All of the year 1 commissioning took place in May as part of the Bristol Area Signalling Renewal Enhancement (BASRE) scheme.
2. S&C renewals show an underperformance of 6 units (38%) in the year to date but with a forecast recovery by year end. The route has confirmed that this work has slipped to later in year 1 and that access arrangements are in place for its delivery. The route has advised us that a delivery overlay of 4 units has been applied to this item which suggests that there is significant overplanning to back-up the delivery plans.
3. Underbridges (part of the structures asset group are showing a significant increase in volumes (33%) compared to a small (2%) increase in costs. The route has demonstrated how this has been achieved through good management of the workbank to achieve greater efficiencies.

4. The route has not provided us with forecast volumes for year 2. The RF4 forecast suggested a 1% increase in the overall budget for year 2 and within this there are small (single figure) percentage adjustments across most asset groups. The exception is electrification and fixed plant which shows a 41% increase. It is not clear if these budget changes will affect the 7-Key Volumes and this will need to be confirmed when the year 2 workbank becomes fixed at around RF8.

Updates at RF4

We summarise below the changes to the business plan proposed by the route at RF4.

Asset group	Year 1			
	Control budget (£m)	Change control (£m)	Other (£m)	Current (£m)
Track	87.9	1.3	5.5	94.6
Signalling (inc. LC)	59.4	-2.4	-9.6	47.3
Structures	28.6	5.5	-4.0	30.1
Earthworks	24.7	4.5	-4.8	24.4
Buildings	15.2	3.1	-3.2	15.1
Electrification & FP	14.1	2.5	0.6	17.1
Drainage	4.0	1.5	-0.6	4.9
Telecoms	-	-	-	-
Others	-	-	-	-
Total	**233.8**	**15.8**	**-16.0**	**233.6**

Table 17: Changes to year 1 forecasts against business plan at RF4 (Western) (Source: Network Rail (Western route))

Asset group	Year 2 (2020/21)			
	Business plan (£m)	Change control (£m)	Other (£m)	Current (£m)
Track	76.1	0.0	(2.0)	74.1
Signalling (inc. LC)	75.6	(3.9)	2.8	74.5
Structures	39.9	0.9	(1.3)	39.5
Earthworks	19.6	0.1	0.3	20.0
Buildings	44.8	2.3	(0.7)	46.4
Electrification & FP	13.2	(1.9)	7.2	18.6
Drainage	4.1	0.0	0.1	4.2
Telecoms	-	-	-	-
Others	-	-	-	-
Total	**273.3**	**(2.5)**	**6.6**	**277.3**

Table 18: Changes to year 2 forecasts against business plan at RF4 (Western) (Source: Network Rail (Western route))

Tables 17 and 18 show how the numbers baselined in the business plan have been amended by the change control system, reflecting the judgements concerning overlays and other factors applied during the RF process.

In overall terms, the route has established processes for monitoring progress and identifying issues with the delivery of its renewals programme. We saw clear and comprehensive reporting and review through the DRAM PBR reporting pack and heard comprehensive descriptions of the RAM progress review meetings which support the DRAM PBR reporting. Variances to plans are identified and managed by the route and, broadly speaking, there are logical links between changes to forecast outturn expenditure and to the associated key volumes. Our main concern is the overlay process and, in particular, its transparency and the potential for it to delay (rather than just smooth) reporting of significant trends in overall delivery.

2.5 Conclusions and recommendations

In our opinion, Western route is operating a mature project delivery model which can be expected to identify and control risks to delivering planned renewals volumes and expenditure within reasonable forecasting tolerances in years 1 and 2 of CP6.

We found that top level reporting was clear, however, we consider that improvements could be made to the consistency of lower level reporting and management systems to make comparison and analysis of performance clearer.

Overall management of renewals

- The overall process for managing renewals is complex with a combination of formal and informal processes all of which rely on the skills, experience and professionalism of those involved.
- We consider that the process being followed in Western route is comprehensive and can be expected to support the identification, discussion and mitigation of significant risks or issues likely to threaten delivery of the route's renewals programme.
- We saw a number of different spreadsheet-based systems in use across the different asset teams to manage and track their portfolios. Whilst we did not identify any specific issues, we believe that there would be benefits in terms of improved consistency of data, reporting and analysis if the route adopted a standard tool such as the IMS developed in LNW route.

Stage 1 – Workbank management

- In overall terms, the route has a good approach to workbank management with all work for years 1 and 2 identified (albeit that, as is reasonable, some items are provisional allowances for minor emerging works).
- The workbank stability Leading Indicator is a useful broad guide to the level of change in the portfolio but it operates at too high a level to show significant movements in individual asset groups.
- The route operates a detailed, spreadsheet-based change control system. Whilst this has a classification to identify the cause of change, it is used inconsistently across the asset groups making detailed analysis difficult.
- The available analysis indicates significant levels of change within the workbank. Whilst some of this may be attributed to positive factors which may be expected to improve delivery and/or efficiency, it is not the case for all changes. In particular, there are indications that around 22% of change may arise from slippage of projects which is of concern against an aspiration for stable workbanks.

Stage 2A – Authorisation and project development

- The approach to securing project authority varies across asset groups with some (such as track) obtaining pre-authority for all stages early in the development cycle and others (such as structures) following a staged approach with option selection decisions made only after site investigation and initial design work has been completed. The timing of authorisation can also vary according to the planning lead times associated with the work (track and signalling schemes typically having the longest lead times). It is therefore important that this is reflected when setting glidepaths for the authorisation Leading Indicator and assessing performance against it.
- Issue and acceptance of remits is an important milestone in the project delivery process. Western route does not have a combined record of the status of remits with each RAM team managing this through its local governance processes. Approaches are inconsistent, the buildings team maintain a tracker whilst other teams manage through exception reporting. We noted a potential shortfall in remitting for building projects and we consider that a more systematic approach would improve assurance that the remitting process is proceeding to schedule.
- Up to date data on the status of investment authority for year 1 (at the same level of detail as for the year 2 Leading Indicator) was not readily available in the route. Whilst the teams managing the sampled asset groups were able to talk about the authorisation position for their portfolios, we consider that the absence of central tracking illustrates the importance of improving data capture and reporting processes in general.
- The route has a procurement strategy which can be expected to support delivery of its renewals plans. Nevertheless, there will always be risks of supplier failure and/or increases in rates if expected delivery or commercial arrangements are disrupted.

Stage 2B – Delivery planning

- The Leading Indicator is a useful guide to the delivery of signalling and track schemes which rely heavily on disruptive possessions. It does not reflect availability of the EAS access necessary for less disruptive work. Whilst this is managed through the route's planning and review processes, its status and any risks associated with it are not readily visible.

Stage 3 – Design and construction

- In overall terms, the route has well established processes for monitoring progress and identifying issues with the delivery of its renewals programme. We saw clear and comprehensive reporting and review through the DRAM PBR reporting pack and heard comprehensive descriptions of the RAM progress review meetings which support the top-level reporting. Variances to plans are identified and managed by the route and, broadly speaking, there are logical links between changes to forecast outturn expenditure and to the associated key volumes. Our main concern is the overlay process and, in particular, its transparency and the potential for it to delay (rather than just smooth) significant trends in overall delivery.
- Western route, in common with other routes, uses overlays to adjust performance projections reported by its delivery teams. This is reasonable but we have seen three examples which indicate that overlays may warrant further review and monitoring by ORR to ensure that they are applied consistently and accurately.
- At RF4, overlays operated to maintain projected outturn costs at the level of the year 1 control budget with the deliverability overlay increasing both in cash terms and as a percentage of work to go. This contrasts with the position seen in other routes where potential over-performance in renewals is reported and discussed at quarterly reviews. We are concerned by the apparent inconsistency in the approach to reporting across routes that this highlights.

Overall risks

The main areas of risk which we have identified are:

Volume of change – The level and nature of changes to the workbank and the timing of its delivery could exceed the management team's ability to manage within DEL limits and/or threaten efficiencies related to stable workbank and early contractor involvement.

Deltas between forecast and actual delivery – That the route is able to improve its planning and delivery against plan such that the level of variance seen in year to date reports is managed out over the remaining periods.

External factors – External or exceptional factors such as severe weather, enhancement schemes or operational incidents could impact the route's delivery plans either to an extent or at a time in the year when it was unable to mitigate their effects.

Management of overlays – That the route is able to maintain a high level of accuracy and objectivity when setting and adjusting overlays to the forecasts made by responsible managers and their Delivery Agents.

Leading Indicators

We have considered the route's position as reported in the Leading Indicator reports in the relevant sections above. We consider that the existing indicators are useful and should be maintained. However, we believe that the complexity and dynamic nature of the delivery environment means that the indicators should not be regarded as providing comprehensive assurance of route preparedness.

Recommendations

The following recommendations are made to the route comprising:

- Recommendations presented in the Draft Report based on the route specific conclusions discussed above.
- Changes arising from a cross-route consistency check that also apply to this route.

General improvements to renewals preparedness

Recommendation R1 – The route should consider adopting a unified reporting and management system such as the IMS developed in LNW route. We understand that this is under consideration in the Wales route. Using a common tool to improve data quality, consistency and analysis can be expected to support future improvements in the delivery of renewals.

Recommendation R2 – The route should undertake further work to improve the consistency and detail relating to change control so as to:

- Implement a standard set of change categories to facilitate better analysis of the drivers of change
- Identify a benchmark for 'normal acceptable' levels of change in a renewals portfolio
- Identify and address the drivers of changes which have the potential to disrupt the efficient planning and delivery of the portfolio
- Learn lessons from changes introduced to improve delivery so that these can be better embedded in future plans

Preparedness to deliver in year 1

The findings and conclusions, discussed above, indicate a number of areas of risk to delivery in year 1 and we make the following recommendations:

Recommendation R3 – The route should undertake further monitoring to provide assurance that the variances seen in year to date financial and volume performance against budget are managed out consistently to meet year end targets.

Recommendation R4 – The route should enhance the process to set and review overlays to ensure that RAMs and Delivery Agents have an appropriate level of input and full visibility of the adjustments made.

Recommendation R5 – The route should work with Network Rail centre to clarify whether funding will be available to cover potential over expenditure in the event that its overlays prove to be too conservative in the run-up to RF8. We think that improved clarity of this would assist managers in working to the required year end position.

Recommendation R6 – The route closely monitors, and informs ORR by exception, on the following strategic threats that are likely to be outside the tolerance of risks they can mitigate and therefore would impact on achievement of year 1 targeted levels of renewals:

- Supply chain issues given the uncertain economic situation
- Impact of the completion of the IP transition into the routes, specifically IP Track
- Severe weather

Preparedness to deliver in year 2

The findings and conclusions, discussed above, indicate a number of areas of specific risk to delivery in year 2 and we make the following recommendations:

Recommendation R7 – The route should improve its monitoring of remit development and acceptance so that the overall position can be reported, analysed and managed accordingly.

Recommendation R8 – The route should improve its management information to provide a consistent collated picture of:

- The design status of projects
- Progress in obtaining environmental and other consents

- The procurement status of projects (i.e. a tender event schedule)

Recommendation R9 – The route closely monitors, and informs ORR by exception, on the following strategic threats that are likely to be outside the tolerance of risks they can mitigate and therefore would impact on achievement of year 2 targeted levels of renewals:

- Continuation of supply chain issues given the uncertain economic situation
- Impact of changes arising from development activity on enhancement programmes approved through the enhancements governance
- Delays to awarding the remaining framework contracts needed to support CP6 works and any possible impact on unit rates and/or efficiencies of the awarded contracts

Leading and route progress Indicators

We have recommended to Network Rail centre further enhancements to the Leading Indicators in our overall phase 2 review summary.

Recommendation R10 – The route develops progress indicators for their own use in the following areas:

Change control

- Volume of change managed by the change control process for each asset group (this could supersede the workbank stability Leading Indicator).
- Analysis of change into a limited number of standard categories. Feedback from this may assist in differentiating between positive reasons for change (for example, to deliver efficiencies) and negative reasons (for example, slippage). Over time, this may assist in setting benchmarks for improved performance.

Deltas between forecast and actual delivery

- An index of year to date performance against plan for each asset group expressed in terms of volume and expenditure. This would be intended to drive improvements in planning and to provide assurance of delivery within each year by demonstrating that performance is converging on the year end targets.

Management of overlays

- An index based on the level of delivery (and possibly other) overlays for each asset group relative to the forecast outturn. This should provide greater visibility of this aspect of financial reporting and would support comparison across the routes.

- Tracking the size of overlays over the financial year. This would provide assurance that overlays are reducing as forecasts are progressively being replaced by actual costs. This would focus on financial overlays but could also be extended to volume overlays.

Other ideas have been considered such as the number of projects which have started on site over each year (planned versus actual). Or tracking of key milestones within the IP planning system. Whilst these may have some value, they are likely to prove difficult to implement due to the diversity of records and databases which we have seen in our review.

Recommendation R11 – With the appointment of a Regional Capital Programme Director, the opportunity is taken to review and improve the quality and consistency of management data across all Delivery Agents, for example, a dashboard report for the status of renewals programmes. Work to do this should be coordinated with the other recommendations in this report.

in the meantime, it may be more practical for ORR staff to gain direct assurance about the status of delivery by receiving DRAM periodic PBR reports and attending regularly a sample of DRAM review meetings.

3. Efficiencies delivery assessment

3.1 Efficiencies preparedness assessment approach

Introduction

In March 2019, ORR confirmed its assessment that Network Rail was better prepared to deliver efficiency improvements in CP6 than it was at the start of CP5. Our Independent Reporter mandate was commissioned to further assess preparations and progress being made to deliver these plans at route level.

The mandate for the Reporter set out a high-level scope:

"The reporter should assess the preparedness of the route to deliver efficiency savings in the first two years of CP6. This should consider whether the routes have credible efficiency plans both in terms of the estimates of savings that will be achieved and plans for delivery."

To assess the preparedness of a route to deliver efficiency savings, the Reporter took a similar approach to the renewals assessment and examined the reasonableness of the route's management system of planning, monitoring and controls of efficiency delivery. We interpreted reasonableness as meaning proportionate to the challenges and risks associated with efficiency delivery. We found in review phase 1 that efficiencies varied in terms of the scale of challenges and risks, therefore we concluded that a 'one size fits all' approach to an efficiency delivery management system should not be the expectation.

For simplicity, we sought to characterise efficiencies into a small number of categories to reflect different points on a scale of size of challenges and risks to delivery. We did this so that we could define our expectations of what is reasonable for each of the categories i.e. the further up the scale then our expectations of the Efficiencies Management System being higher.

Efficiency delivery landscape

To explain this further, it is necessary to describe the landscape surrounding delivery of efficiency plans and some of the inherent challenges and risks.

As part of the Strategic Business Planning (SBP) process for CP6, each Network Rail route committed to efficiency savings. Network Rail centre provided a 'fishbone' framework of categories to provide consistency in the articulation of efficiency initiatives. The routes were responsible for forecasting cost savings from each initiative which were either derived as:

1. A 'top-down' estimate. Largely based on asset manager expert engineering adjustments to pre-efficient costs, which were the subject of financial analysis of workbanks, in some cases supported by external expertise and modelling. The estimates may also have been subject to discussion and agreement with the relevant Delivery Agents (IP or Works Delivery).
2. A 'plan-based' estimate. Derived from an early understanding of a delivery and change approach which may be supported by an outline plan and assumptions.

'Top down' estimates in the SBP efficiencies plan were therefore effectively 'initiative targets' to be developed subsequently with implementation plans. The initiative targets were then aggregated and apportioned as post-efficient cost targets:

- For capex, to asset groups, initiatives and then deliverer agents based on the amount of work (and work type) they planned for CP6. Delivery agents subsequently and continue to assign post-efficient cost targets to projects.
- For operational expenditure (opex), where this estimating approach has been used the targets were allocated across departments/units in the organisation structure which are effectively the projects that will deliver the efficiencies.

The consequence of the top-down process is that responsibility for efficiency delivery planning moves to 'project level' and, with a very large number of projects to deliver at route level, it is inevitable that this brings additional challenges:

- Each project has to plan for how it will deliver its allocated post efficient savings target. That may require the project to implement multiple different efficiency initiatives, each requiring its own implementation plan i.e. the number of implementation plans required to deliver the original SBP 'initiative target' has multiplied.

  In contrast to other efficiency initiatives where responsibility stays at a programme/deliverer/delivery unit level that will require one implementation plan to deliver one initiative.

- Efficiencies forecasts are developed at project level on an emergent basis as projects are developed.
- On-going reconciliation of project level emergent efficiency forecasts is required with the original 'top down' targets and fishbone categories, in order to reconcile against the Efficiency Tracker and provide assurance that efficiencies will be realised.

The risks to delivering the efficiencies plan are also greater due to:

- The responsibility for delivery of efficiencies has effectively been delegated and distributed across the route's Delivery Agents (IP or Works Delivery) and their project managers i.e. it is now dependent on more people to achieve
- A project manager could now be responsible for embedding several efficiency initiatives to achieve their overall target cost savings i.e. their understanding and competence required has now also increased.
- The level of complexity of embedding an initiative into a project varies:

  'Simple' – The efficiency initiative has already been enabled by others and there is minimal activity or change required to implement it in a project.

  'Not simple' – The efficiency is still to be enabled by the team or others and requires explicit activity or change by the project to implement it, for example, 'challenge standards', 'change scope' is up to the project manager to deliver and enable.

- The efficiency forecasts emergent from developing project efficiency delivery plans may not aggregate up to achieve the overall efficiency targets.

Efficiency categories

Building on an understanding of the challenges and risks set out above, and for the purpose of setting out our expectations of a proportionate Efficiencies Management System, we have defined the following categories of initiatives:

(A) – Capex, minimal (or completed) enabling activity, for example, contract rate reductions.

(B) – Capex, requires considerable enabling activity to implement in a project, for example, Possession Utilisation efficiencies.

(C) – Opex, minimal enabling and implementation activity, for example, SCO Rate Card efficiencies, Haulage.

(D) – Opex, requires considerable implementation effort, for example, Organisation Restructure.

Efficiency management system expectations

We see routes' Efficiency Management Systems as comprising attributes at three levels:

- 'Project level'. A project is the means by which efficiencies are realised. For example, savings achieved by an individual Oracle Project.
- 'Initiative level'. Where changes necessary to realise efficiencies are designed, developed and change enabling outputs (enablers) are delivered. Projects use enablers to make their changes to realise efficiencies. For example, where an efficiency initiative can be applied to multiple projects such as Optimisation of Access.
- 'Portfolio level'. Where overview, coordination and assurance of multiple projects and initiatives happens.

Our expectation is that the level of planning and management at 'project level' and 'initiative level' is proportionate to the size of the challenge and risk associated with delivering efficiency targets. We defined efficiency categories A to D above to reflect varying levels of challenge and risk associated with different initiatives. In the following table we have defined our expectations of planning and management features at both a 'project level' and 'initiative level' for each of the four categories A to D. Routes overall efficiency plans will comprise all four categories and therefore we have also defined our expectations of features at 'portfolio level' as common to all four categories. If an initiative is comprised of sub-initiatives, then the category can be applied at the lower level. When we are examining our samples of different efficiencies for a route, we will seek evidence of these features and that they are being used appropriately.

Efficiency Management System Feature	**Capex**		**Opex**	
Category degree of enabling and implementation complexity	**(A) Low**	**(B) High**	**(C) Low**	**(D) High**
Project level:				
1. Efficiencies delivery plan (note 1)	Minimal	YES	Minimal	YES
2. Efficiencies forecast documentation (note 2)	YES	YES	YES	YES
3. Post implementation review of actual efficiencies achieved (benefits realisation)	YES	YES	YES	YES
4. Change management plans (note 5)		YES		YES

5. Initiative delivery plans (note 3)	Minimal	YES		
6. Initiative forecast plans (note 4)	YES	YES		
7. Initiative change management plans (note 5)		YES		
Portfolio level: (asset group, Delivery Agent, route)				
8. Validation of emergent efficiencies with forecast targets (traceable to fishbone tracker line items)	YES	YES	YES	YES
9. Assurance function to assess project/initiative efficiency level delivery	YES	YES	YES	YES
10. Portfolio Management / Change Management support (note 6)	YES	YES	YES	YES

Table 19: Proportionate planning and management of efficiency delivery by initiative category

Notes on the Table:

1. Efficiency delivery plan for each project, for every initiative should include (as a minimum):
   - Description of efficiency initiative (granular level of business change) and rationale
   - Description of how it will generate efficiency
   - Action plan/implementation plan with milestones and dates for enabling efficiencies
   - Identified risks with corresponding mitigations
2. Efficiency forecast documentation for each project. We would expect to contain forecast calculation with underpinning detail, record of assumptions, rationale and time phasing.
3. Efficiency enabler delivery plan. We would expect to see resources assigned, and should include (as a minimum):
   - Description of efficiency initiative (granular level of business change) and rationale
   - Description of how it will generate efficiency
   - Action plan/implementation plan with milestones and dates for enabling efficiencies
   - Identified risks with corresponding mitigations
4. Initiative forecast plan. We would expect to contain forecast calculation with underpinning detail, assumptions, rationale and time phasing.

5. Feature 7 is required to ensure that all the change management enablers are being delivered at the 'initiative level'. These enablers will be used at project level to underpin their change management plans, Feature 4. Where required, change plans should be supported with adequate resources to assist implementation.
6. Change management support for the project level to implement common changes across their portfolio, including owning and disseminating good practice, organising training and knowledge sharing.

3.2 Route review context

Our review was undertaken during August to October 2019 and led for the route by its Route Financial Director (RFD), DRAM, Financial Controller (FC) and evidenced through meetings and documentation from RAMs (for capex efficiencies) and initiative owners (for opex efficiencies). For key reference forecast data, we reviewed the route's Period 4 2019/20 (RF4) efficiency forecast relative to the RF11 baseline efficiencies agreed as a result of the final determination.

To assess the preparedness of the route to deliver efficiency savings in the first two years of CP6, the Reporter considered the route's latest opex and renewal (capex) efficiency plans. We reviewed the overall quality of these plans, whether the efficiency forecasts appear reasonable based on those plans, and whether they are consistent with the route's agreed allocation within the £3.1bn total of efficiencies within the ORR's final determination.

3.3 Assessment scope

Our review focused on 'material efficiencies' as per the mandate and for consistency of our approach across all routes we adopted the sampling principles of selecting the:

- Top three unique capex initiatives from different asset groups by value for years 1 and 2.
- Top three opex efficiencies, including Intelligent Infrastructure and SCO where they existed, by value for years 1 and 2.

Note for Western, the route requested that Intelligent Infrastructure was included within the review despite there being no efficiencies forecast for years 1 and 2.

The following table shows the initiatives in our sample with the forecasts shown as at RF4 in year 1 of CP6. We have also referenced our efficiency categories, as described in section 3.1 of this report.

Type	Initiative	Asset / Delivery Group	£m						% of year 1 + 2 opex / capex
			FY20	FY21	FY22	FY23	FY24	CP6	
Capex	Scope efficiency due to Sustainability Fund (Category A)	Signalling	1.1	1.6	6.0	9.0	11.0	28.7	5%
Capex	Early contractor involvement (Category B)	Civils	1.4	0.9	0.9	0.9	0.8	4.9	5%
Capex	Optimisation of access (Category A)	Track	0.4	6.8	5.9	10.7	0.0	23.9	15%
Opex	Better Every Day/Continuous Improvement (Category D)	Operations	0.2	0.7	1.3	2.1	2.9	7.3	5%
Opex	Maintenance Restructuring (Category D)	Maintenance	0.0	4.1	4.2	4.4	4.5	17.2	21%
Opex	Supply Chain Organisation Initiatives (Category C)	Maintenance	1.1	2.1	2.7	3.5	4.3	13.7	16%
Opex	Intelligent Infrastructure (Category D)	Maintenance	0.0	0.0	3.8	3.9	4.0	11.7	0%

Table 20: Sample route efficiency forecasts at RF4

3.4 Assessment findings

We have set out our findings using the structure of the mandate:

a. Quality of the description of business change and how it will generate efficiency

b. Calculation of the forecast efficiency

c. Arrangements for monitoring progress in implementing business changes

d. Approach to risk identification and management

e. Identification and documentation of limitations in forecasting and lessons learnt in efficiency plans

a. Quality of the description of business change and how it will generate efficiency

In assessing the quality of business change descriptions, we took into consideration the proportionality principle recognising that some initiatives rely on business change to realise efficiencies and others do not. For example, a new contract framework (Category A) has minimal reliance on business change compared with implementing new maintenance technology and associated work practices (Category D). However, our review still sought evidence of documentation for all initiatives as to how each will generate efficiencies and what actions are required to enable and release efficiency benefits.

Quad reports provide a good structure and support initiative and portfolio level management of renewals efficiencies. Western's Change Management Office (CMO) have developed a comprehensive suite of spreadsheets for capex and opex efficiency initiatives which is maintained on the intranet. For capex, the documents are called Quad reports and opex equivalent documents are known as George reports. Each RAM maintains a Quad report, which includes a RAID (Risks, Assumptions, Issues and Dependencies) log, milestones and descriptions of each initiative and calculation that make up the capex fishbone efficiencies.

Amongst other information, for each initiative the Quad template captures responses to the following details:

- How are we going to achieve the efficiency (what are the packages of work and/or workstreams)?
- What is planned and expected to be different in CP6?
- What is the financial impact?
- What needs to happen?

Capex examples of business change descriptions are more generic with less specifics details regarding enabling actions to generate efficiencies that would assist Category B initiatives. Documentation of capex efficiencies developed as part of the SBP tended to describe the areas where efficiencies could be sought with less detail regarding specific actions the route will take to implement new business practices and achieve savings.

Descriptions of the sample initiatives reviewed include:

- **Signalling's Scope efficiency due to Sustainability Fund (Category A).** As a scope efficiency, the initiative finds savings through delivering the same output (in terms of specification or volume) at a lower price. The Western description details how this will be achieved on the Cornwall life extension scheme with a minor re-signalling planned with a more efficient budget for renewals.

- **Track's Optimisation of Access (Category B).** This initiative is a common initiative across all asset groups, with the main action being to ensure that the OnePlan integrated access planning spreadsheet is maintained in advance for all assets to aid the booking of possessions (and achieve the maximum discount rate).
- **Civils' Early Contractor Engagement (Category B).** The route has applied the initiative description developed as part of the DRAM cross-route efficiency working groups at the time of the SBP. This describes a number of actions that should be undertaken by RAM teams and sponsors as part of the project scoping and early stages of GRIP. These actions could be further developed into an initiative change plan to support implementation across Civils projects.

The route has good Opex examples of business change descriptions and how efficiencies will generate efficiency. In addition to the George report (opex version of the Quad spreadsheet) the Change Management Office (CMO) team provided well documented project templates that included a Projects Dossier, Benefits Profiles and plan-on-a-page (POAP).

Examples of the opex initiatives reviewed include:

- **Better Every Day / Continuous Improvement (Category D).** The CMO has produced comprehensive documentation describing the Fleet and Training sub-initiatives, the business changes required, and the milestone actions needed to implement the initiative and realise the benefits.
- **Maintenance Restructuring (Category D).** This initiative is the most significant in business change terms of the initiatives within the sample and had showed evidence including detailed action plans, consultation schedules and documentation of the future operating environment.
- **Intelligent Infrastructure (Category D).** The route has developed a funding submission for CP5 Intelligent Infrastructure technology that it is targeting to implement throughout years 1 and 2 in order to start realising benefits in year 3.

b. Calculation of the forecast efficiency

We assessed the calculation of forecast efficiencies for our sample of initiatives, including the definition and justification of inputs to estimates, assumptions, methods and, where appropriate, the consistency of these with the approach agreed by Network Rail's cost benefit working group. Consideration of the uncertainty and risk within these forecasts and their delivery is covered in section (d) on 'approach to risk identification and management'.

As discussed earlier the responsibility for forecasting efficiencies is undertaken at 'project level' on a project by project basis where the SBP efficiency was derived 'top down' and at 'initiative level' if it was 'plan based'.

High-level estimates were applied for SBP/delivery plan capex forecasts. As part of the SBP planning, cross-route working groups were formed to identify efficiency areas within the fishbone categories. From the initiatives identified, each route then derived efficiency forecasts based upon its workbank plans for CP6. Depending on the asset group, the level of granularity of the forecast has been variable. Examples of different approaches to forecast calculations include:

- **Signalling Scope efficiency due to Sustainability Fund.** Signalling have estimated efficiencies across their workbank at project level with an estimate between 1% and 5% dependent upon the development status of the project with larger efficiencies at the end of control period associated with the Cornwall scheme.
- **Civils' Early Contractor Engagement.** Civils' has estimated an absolute savings amount based on professional judgement for each project within their workbank for all fishbone initiatives. The workbank and efficiencies are also identified by Delivery Agent so that IP and Works Delivery can see the efficiencies being targeted at a project level.
- **Track Optimisation of Access.** Track provided the spreadsheet calculations undertaken as part of the SBP that estimated track unit rate efficiencies based on a series of assumptions of where improvements could be achieved within the categories of CP6 work types. However, from these efficiency forecasts the RAM team did not provide clear line of sight to the current fishbone forecasts for the Optimisation of Access initiative specifically. We understand that the Finance team has allocated efficiency forecasts to individual track efficiencies reported to the central team.

There are good examples of bottom up Opex forecast calculations developed at the project level. As part of the SBP/delivery plan baseline the Better Every Day/Continuous improvement forecast was a high-level estimate. The CMO have since redefined the scope of the sub-projects and developed bottom-up forecasts with easy to follow calculations and assumptions made. There is clear line of sight between the project milestones and forecast yearly profile. The CMO are continuing to plan and define projects that will support the delivery of forecasts beyond years 1 and 2.

Route has applied SCO forecasts for SBP but have yet to verify and reforecast if required at next rolling forecast. At the time of the SBP/delivery plan baseline the route incorporated the efficiency forecast provided by the central SCO team without full visibility of the calculations. The route has subsequently been working with the SCO team to understand opex/capex breakdown, baseline data and to receive regular reporting to ensure efficiencies are being achieved. The route has held the baseline forecasts but will take a view on whether this will be revised in RF8 and particularly in RF11 after SCO have revised their rates after assessing national volumes.

Intelligent Infrastructure calculations estimated in years 3 to 5 for SBP with detailed planning and scheduling still being undertaken to validate forecasts. The currently centrally reported forecasts for Intelligent Infrastructure for years 3 to 5 are high-level estimates. The route has developed bottom-up calculations, which it continues to refine in line with the detailed planning and scheduling based specifically on the technology that it will be implementing throughout the control period. The route's calculations were developed before the central Intelligent Infrastructure calculator was developed, however the route's calculations will be verified by the Intelligent Infrastructure Programme team as part of the quality gate process.

c. Arrangements for monitoring progress in implementing business changes

We assessed the arrangements for monitoring progress in implementing efficiency plans at 'project level' and also delivery of business change enablers at 'initiative level', to consider if there is clearly documented evidence of appropriate governance and oversight. Our focus was not on monitoring progress in achieving just cost efficiency savings targets at 'project level'.

Portfolio Periodic Business Review (PPBR) is the forum through which the route oversees the performance of its efficiency portfolio and intervenes if individual initiatives are not delivering. The four weekly PPBR meeting is chaired by the Route FD (however this has been delegated to a deputy for all periods in CP6) and the CMO is the secretariat. The meeting has a standing agenda that reviews the whole efficiency portfolio (opex and capex) as well as having a deep dive into an individual project initiative. The meeting has a comprehensive suite of project management documentation (risks, actions, decisions,

project statuses and milestone reporting). This appears to be a good governance framework to oversee the route's efficiency management system as descripted in the introduction to this chapter.

Having resources in the CMO to drive efficiency planning and delivery is good practice. With routes being responsible for the development and delivery of their own efficiency plans in CP6, having a dedicated team to ensure progress is essential. At Western, the CMO team provides a project delivery focus and challenges RAM teams and efficiency initiative owners to improve the quality of their efficiency planning and execution. Being separate from the Finance team also provides the CMO a degree of independence to critique the deliverability of forecasts.

Self-assurance undertaken by the route 'deep-dives' has identified opportunities to improve that will also benefit other routes. As part of the PPBR agenda, the CMO conducts project deep-dive assurance reviews on its major efficiency initiatives to ensure they are set up to successfully plan and deliver. These reviews have been undertaken for two of the opex initiatives in the sample we have reviewed, the maintenance re-organisation and SCO. As a result of these reviews a number of actions have been undertaken to improve the health of these efficiencies. The SCO deep dive identified a number of areas to improve the quality and regularity of the information the route received from the SCO team. This has since resulted in improved efficiency reporting and interaction between the SCO team and all routes.

Of the sample reviewed there was less evidence of implementation plans for business changes for renewal efficiencies. Given the nature of the sample capex initiatives we reviewed (Category A), we would not to expect to see the same degree or type of business change planning and scheduling as we would for some of the opex projects (Category D projects, such as the Better Every Day/Continuous improvement or the Maintenance Restructure). The capex Quad reports contain milestones of enabling activity to support efficiency delivery that are reported up through to the PPBR. This is good practice, however there did appear to be some variability in the Quad milestones recorded across initiatives and asset groups. Efficiencies are also reported by deliverers through period reporting with RAMs and we noted milestone reporting in DRAM PBR materials of varying level of detail depending on asset and initiative.

We saw evidence of varying approaches to identifying efficiencies as well as recording of efficiencies that have been realised. The Civils' RAM team have developed efficiencies trackers with deliverers and record efficiencies by project throughout its lifecycle. This looked like it was potentially a useful resource for recording benefits realisation and lessons learnt for future projects. However, it did appear to be still being developed as part of validating/identifying year 1 efficiencies across the workbank.

The route acknowledges that there is still further work to do on the planning and delivering of capex efficiencies and it will be appointing a Programme Manager to support capex efficiencies, similar to how the CMO team have support opex projects. Likewise, the route has developed a new tool that breaks down asset workbank by fishbone efficiencies for the whole control period. This appears to be a positive step to provide greater transparency of efficiency allocation and tracking, however this tool is intended to help with the financial reporting of efficiencies rather than monitoring of business change implementation.

Opex projects have particularly good project documentation to support the monitoring of business change implementation. The CMO team have good project documentation/methodologies including a Project Journey approach, Benefits Profiles, Project Remits and eight key milestones that provide a good basis for monitoring change. While not all of this documentation would be suitable to use on all opex and capex efficiencies (i.e. Category A and C) however, there appears an opportunity for this to be further adopted across the route's efficiency projects.

d. Approach to risk identification and management

We looked for evidence of the route's approach to the identification and management of risks to its efficiencies plans, including its assessment of uncertainty in forecast savings.

Good RAID (Risks, Assumptions, Issues and Dependencies) log templates with mixed quality of completion for the sample initiatives. The route has good risk log templates as part of their efficiency management system. The Quad and George spreadsheets contain RAID logs that are extracted out of the individual files and imported into a master George spreadsheet. The consolidated RAID log then provides a single reference for efficiency governance meetings and is reviewed at the portfolio level (PPBR meetings).

We saw good examples of well populated risks with mitigation actions, owners and due dates for Better Every Day/Continuous Improvement and Intelligent Infrastructure. However, we saw less populated examples of RAID logs in signalling and track Quad reports with risks not scored or mitigation actions not noted. There was no RAID log in the structures Quad. However, we also note that some capex efficiency risks are flagged through PBR packs as part of periodic governance of delivery.

Forecasts tend not to have a risk adjustment explicitly applied – particularly those that were top-down estimates (notably renewals). Many of the forecasts in the efficiencies sample we reviewed are high-level estimates, based on a professional judgement of the level of savings that could be achieved, and these do not factor in an explicit risk adjustment. We understand that risks of achieving efficiency forecasts are managed at a portfolio level and are scrutinised with increasing detail at each cycle of the RF process. Where individual initiatives are underperforming the route will seek to make up the shortfall from other initiatives within the portfolio that may be overachieving its forecast.

Risk adjustments feature in opex forecast calculations to reflect delivery confidence and implementation timings. We did see some initiatives that applied a deliverability risk factor to their forecast (40% for Better Every Day/Continuous Improvement and 75% for Organisational Restructuring). Likewise, Intelligent Infrastructure has not forecast any benefits within years 1 and 2 of the control periods to allow adequate time for implementation. While this review focuses on year 1 and 2 forecasts and

efficiency plans, we do note that Intelligent Infrastructure has yet to develop detail plans and benefits profiles required to achieve the forecast £11.6m savings in CP6 and until then remains at risk.

Maintenance restructuring has been re-profiled since delivery plan baseline and pushed back the year 1 forecast savings. An extended industrial relations consultation has delayed the maintenance reorganisation resulting in the year 1 forecast of £3.9m being removed with benefits now commencing in year 2 and reducing the CP6 savings from £21m to £17m. Risk remains for this initiative however, as the forecast assumes that there will be a reduction in 100 staff to realise savings. The route has noted that in order to achieve this a national industrial relations strategy is required, otherwise the cost of this displaced headcount will remain. The route has risk adjusted forecast savings down by 25% (i.e. a 75% confidence factor), however the risk may prove to be more binary and future maintenance budgets may come under pressure if staffing levels cannot be reduced.

e. Identification and documentation of limitations in efficiency forecasts and lessons learnt in efficiency plans

Forecast limitations

During our discussions with the route, we noted the following examples of limitations to their approach to forecasting efficiencies:

- **Structures Early Contractor Engagement.** The structures RAM team commented that it can be difficult to know where best practice is across all routes with respect to early planning and delivery and would be interested to know whether there are practices other routes are doing that would benefit them.
- **Forecasting capabilities within the route.** The CMO team noted that not all initiative owners have estimating experience of how to calculate efficiencies and what are appropriate assumptions to apply. This emphasises the importance of validating forecasts both within the route and using central teams.
- **Maintenance restructuring.** The maintenance restructuring forecast is based on a headcount reduction based on a point-in-time view of the future organisation model at the time of the SBP/delivery plan baseline. Since the time of forecast there has been refinement of the optimal headcount / organisational structure, and this continues, however, the headcount appears to be within range of original estimate.

Lessons learnt incorporated into efficiency plans

The route has noted the following examples of lessons learnt that have been incorporated into their efficiency planning:

- **Signalling's Scope efficiency due to Sustainability Fund.** Signalling noted that the tracking of efficiencies is new in CP6 and has been on an ongoing process to determine how best this can be achieved.
- **Maintenance Restructure.** With undertaking the first major restructuring of the route's maintenance organisation in 20 years, the project team has since learnt the lesson regarding the time required to undertake union consultation. As a result of delays the team has had to reschedule the project timelines and forecast savings have not been updated to reflect this.
- **Intelligent Infrastructure.** The project team is aware of operational readiness lead times required to introduce new technology into operations. They have noted that this will be factoring into planning and will apply their pre-go-live checklist to ensure factors such as training are scheduled in advance (a good practice for a Category D efficiency).

Conclusions and recommendations

This section draws together our conclusions from our review of efficiencies at Western route and provides recommendations for ORR and Network Rail to consider. We have structured this section under the headings in the Reporter's mandate:

The areas addressed as per the reporter's mandate are:

- Quality of efficiency plans
- Reasonableness of savings forecasts based on efficiency plans
- Consistency of total efficiencies with final determination

Quality of efficiency plans

We defined our expectations of planning within the context of an overall Efficiencies Management System which is described in our assessment methodology at the start of this section. In answering this question, we have sought to consider proportionately and seek evidence of quality in efficiency planning where we believe it is most needed, for example, in our categorisation of efficiencies it is categories B (capex) and D (opex).

CMO team are helping to progress the quality of forecasting, planning and execution, particularly of opex efficiencies. The best examples of efficiency plans we reviewed in Western were developed by CMO (Better Every Day/Continuous Improvement – Training and Fleet projects). The level of detail describing the business change, how the initiative would generate an efficiency, implementation details and linkages to the benefits forecast profile is of a level that should be expected for these Category D projects. We saw evidence of other reasonable project management materials in projects such as Maintenance Restructure, albeit not to the same standardised/templated approach as produced by CMO. To improve the overall quality of efficiency planning across the route (opex and capex) further adoption of CMO templates, processes and increased support would assist.

Recommendation E1 – The route should expand the remit/authority of the CMO to provide more support to RAM teams to develop tools and processes to better plan and track delivery of efficiencies including implementing change into business as usual.

Inconsistent tracking of efficiencies within RAM teams and while there is some tracking of milestones at DRAM level this appears to be an evolving process. While at the DRAM/Quad level there are consistencies in the templates used, when reviewing the documentation there is a varied level of detail regarding the tracking of benefit enabling activities to provide confidence in the delivery of all efficiency initiatives. Likewise, through our meetings with RAM teams and review of their efficiency materials there is evidence of different approaches and varied quality towards the planning and tracking of efficiencies at a project level across the asset groups.

As Western continues to mature its efficiency planning capabilities and processes, developing an approach to monitor efficiency implementation actions (enabling activities as well as business improvements) that are traceable back to forecast calculation assumptions and timings should be an area of focus.

Recommendation E2 – Within its new region, Western should proactively share their best practice with Wales Routes and vice versa. This will help further develop their efficiency management system and business planning capabilities. Examples that could be shared include; Western's deep-dive assurance reviews to be adopted in Wales and Wales top-ten capex project assurance to be adopted and extended by Western.

Reasonableness of savings forecasts based on efficiency plans

More work is needed by the route to verify renewals efficiency forecasts through development of bottom-up benefits calculations and detailed delivery plans. For the purposes of the SBP, the use of the fishbone categories to identify efficiency opportunities was a reasonable approach. Also, deriving high-level forecast estimates using CP5 comparative data, professional judgement and consideration of the CP6

workbank was appropriate. However, since finalising the SBP/delivery plan baseline the development of more detailed efficiency plans to help inform whether individual initiative forecasts are achievable is considered a necessary next step in the business planning process. Western RAM teams have been using different methods of allocating and tracking efficiencies for their projects; however, this is still an evolving process.

Western is focusing on developing its approach to renewals efficiency planning and is developing a tool that will provide a more structured approach to monitoring renewals efficiencies across workbank at a project level. While this is still under development, this approach may offer the route the ability to better forecast the deliverability of individual initiative efficiencies as the control period progresses and learnings are gained through actual efficiencies saved.

What does provide some confidence to achieving capex efficiency forecasts (notably in year 1 and in part for year 2) is that the workbank is remitted to deliverers at post efficient prices. Therefore, provided delivers can complete projects within budget their capex efficiencies are considered to be achieved.

Recommendation E3 – In collaboration with deliverers (IP and works delivery), the route should develop a framework to validate workbank efficiency forecasts, plan enabling activities and monitor implementation actions at a project level. The framework would provide line of sight for each RAM team between their centrally reported fishbone initiatives and their planned projects. Efficiency milestones would be incorporated into project plans, tracked periodically as part of project governance and at stage-gate reviews and post-project reviews would confirm actual efficiencies achieved. The IP Signalling Efficiencies Plan on a Page (EPOP) process is an example of this approach.

Opex forecasts offer greater confidence through better line of sight of calculations however risks still exist. The Better Every Day/Continuous Improvement forecast for years 1 and 2 has been revalidated through bottom-up calculations supported by detailed plans for implementation. This provides confidence that the initiative is set up to achieve its forecast and or at least have early sight of project issues that might impact forecast targets. Maintenance restructuring had line of sight between the project plan and forecast savings at the time of the SBP/delivery plan baseline however after facing project delays the project has had to re-phase its forecast. The project still faces risk of not being able to realise benefits (cash benefits of reduced headcount) however the route has visibility of this issue and will adjust forecasts as required as the project progresses.

Consistency of total efficiencies with final determination

The opex and capex efficiency plans have been refined since the start of CP6 and initiative line items within the centrally reported fishbone trackers have been adjusted accordingly. As shown in the following table, the route's overall opex efficiency total has been increased by £4m in CP6. The route has advised that £2.5m of this is due to a re-classification of a negative 'efficiency' to an 'inefficiency' (associated with a shift from owned to leased vehicles), which appears in a different section of the efficiency reporting. A further £1m of the increase is due to having reserved budget for performance improvement initiatives (schedule 8 mitigation) that has not all been required. This is due to the effectiveness of the Performance Programme Manager working with Great Western Railway. Finally, the route reports a further £0.5m of minor general efficiencies in the Chief Operating Officer and Performance teams' overheads.

	FY20	FY21	FY22	FY23	FY24	CP6
Delivery plan £m	**26.4**	**45.4**	**70.0**	**81.5**	**69.9**	**293.2**
Capex	18.8	35.0	51.6	60.6	46.7	212.6
Opex	7.6	10.4	18.4	20.9	23.2	80.6
P4 £m	**27.9**	**46.0**	**70.6**	**82.1**	**70.6**	**297.3**
Capex	18.7	35.0	51.6	60.6	46.7	212.5
Opex	9.3	11.1	19.1	21.5	23.9	84.8
% Change	**6%**	**1%**	**1%**	**1%**	**1%**	**1%**
Capex	(1)%	0%	0%	0%	0%	0%
Opex	21%	6%	3%	3%	3%	5%
P4 yearly Profile	**9%**	**15%**	**24%**	**28%**	**24%**	**100%**
Capex	9%	16%	24%	29%	22%	100%
Opex	11%	13%	22%	25%	28%	100%

Table 21: Total route efficiency targets – delivery plan baseline and Period 4

Summary

We have provided below a summary of the routes preparedness to deliver its efficiency plans against headings requested at the mandate Steering Group.

Programme

Western have a programme approach to efficiencies with structured project materials for both capex and opex efficiencies. The route's CMO are progressing the quality of delivery of opex efficiency initiatives. The route has good examples of opex project plans. The CMO team have undertaken self-assurance 'deep-dive' reviews, which is a good practice. There was less evidence of forward action planning of capex efficiencies.

Overall the route's efficiency planning and delivery management is still developing particularly for capex efficiencies. Proper planning and management of actual business change and improvement will be increasingly important in future years when stretch targets apply.

Forecasts

Western's documentation of forecast calculations is of variable quality. Capex forecasts are generally top-down estimates with further work required to validate with bottom-up project level estimates to provide more certainty that the forecasts can be achieved. There are good examples of opex bottom-up calculations that match centrally reported forecasts. Of the efficiencies reviewed, the year 1 and 2 forecast profiles are modest with a notable ramp up in later years of the control period (~80% of CP6 forecast of sampled efficiencies in years 3 to 5). The route has identified uncertainty in benefits realisation of an opex initial organisational restructuring that requires a national industrial relations strategy, which remains at risk.

Documentation

The route has comprehensive project document templates including well-structured RAID logs but there is inconsistency in quality of contents (with opex having the better examples). There is good traceability of forecast changes through RF updates since delivery plan baseline and key programme documentation is mainly maintained around the RF cycle.

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