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

Wales 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 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, progress per GRIP stages.
- Review progress in developing the Leading Indicator process.
- Check risk resilience via 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/programmes to deliver these, implementation by Delivery Agents (for example, Network Rail Infrastructure Projects (IP)) and governance/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 Wales 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 includes a rough mapping of the four lifecycle stages to GRIP stages. The lifecycle-based structure 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) – The expectation is the workbank plan is being actively measured through Stage 1 Workbank management and Stage 2A Authorisation and project development.

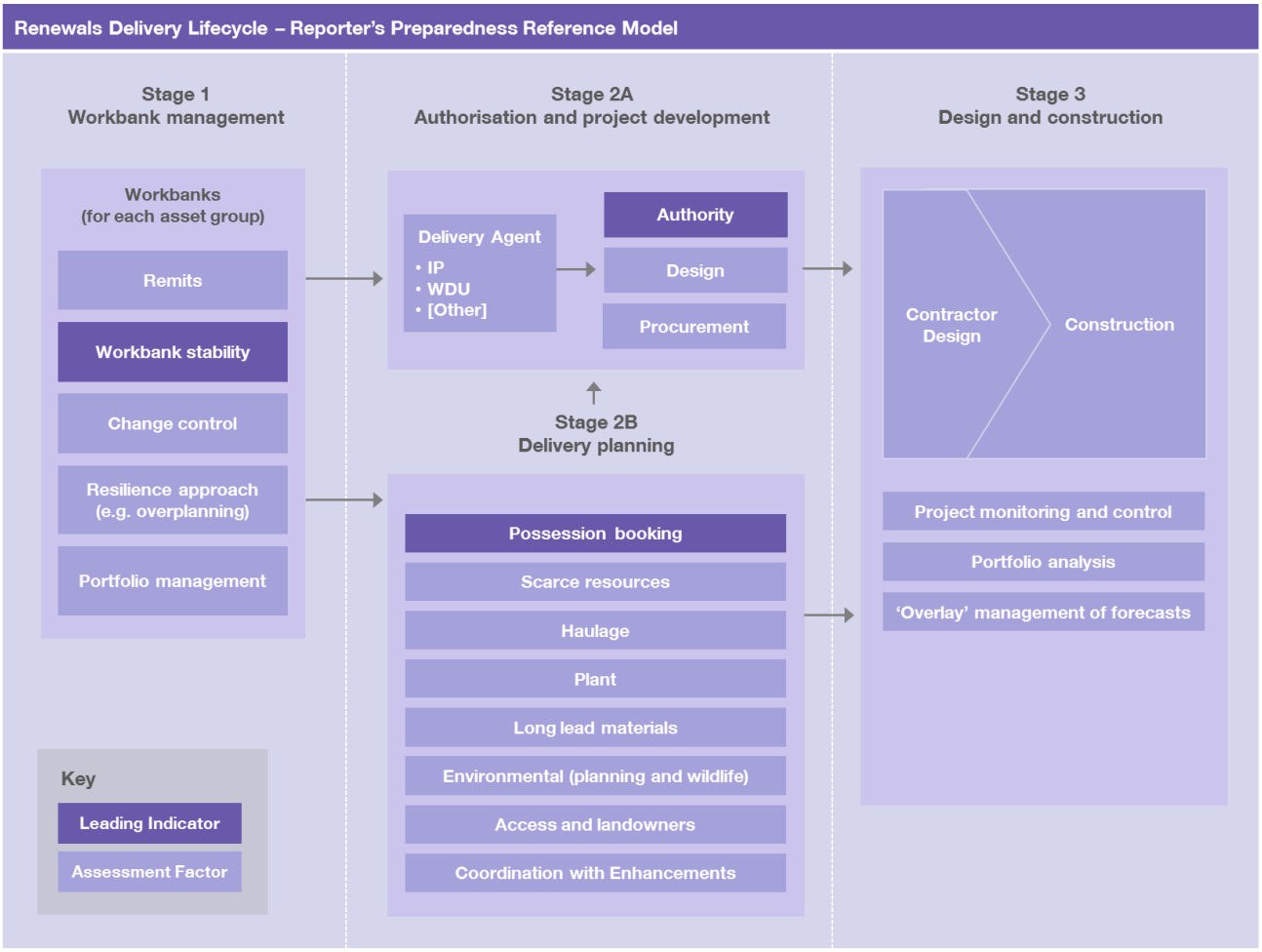

Figure 1: Renewals Delivery Reference Model

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/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 Wales route in Cardiff between 5 September and 18 September 2019. The meetings had been very well organised, were attended by appropriate representatives of the route and, in some cases, Delivery Agents (IP and Works Delivery). 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.

Wales route's targets for renewals expenditure in Control Period 6 (CP6) are set out in Table 1.

Asset Group	RF11 CP6 (cash prices, £m)					
	19/20	20/21	21/22	22/23	23/24	Total CP6
Track	49.8	62.4	54.3	59.0	43.7	269.3
Signalling (inc. LC)	22.3	59.8	69.3	80.0	37.7	269.1
Structures	29.5	38.8	49.0	36.3	28.3	181.9
Earthworks	12.1	12.2	26.1	16.1	10.3	76.8
Buildings	15.8	20.8	16.0	10.0	9.2	71.8
Electrification & FP	9.5	11.0	6.7	5.4	5.3	38.0
Drainage	3.1	3.1	3.2	3.1	3.3	15.8
Telecoms	0.0	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0	0.0
Total	**142.0**	**208.1**	**224.6**	**210.1**	**138.0**	**922.7**

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

It should be noted that Wales route currently manages and reports internally using pre-overlay costs. Wales route has indicated that it will move to reporting both pre- and post- overlay figures in the future and this is in line with what we saw in LNW route. We think that this approach provides useful transparency of the overlay process and is therefore good practice. Overlays are considered further under 'Model stage 3 - Design and construction' section on page 26 of this report.

The control budget for year 1 is shown in Table 2.

Asset Group	Year 1 (2019/20) (£m)	Adjustments (£m)	Control budget (£m)
Signalling (inc. LC)	22.3	7.9	30.2
Structures	29.5	8.5	38.0
Earthworks	12.1	11.9	24.0
Buildings	15.8	2.6	18.4
Electrification & FP	9.5	(1.3)	8.2
Drainage	3.1	(3.1)	0.0
Telecoms	0.0	0.0	0.0
Others	0.0	0.0	0.0
Total	**142.0**	**26.1**	**168.1**

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

Wales route has advised that the adjustments mainly comprise:

- £18m of slippage from CP5 (to be classified as scope increase). This included slippage arising from the failure of Carillion.
- £7m of earthworks arising from a storm event.

We saw similar items relating to slippage in LNW route, but these were reported under the 'Others' line in their business plan summary. We note that spreading these items across multiple specific asset groups in Wales route helps facilitate management reporting. Wales route advised us that they intend to reduce this over expenditure at Rolling Forecast 8 (RF8) through a mixture of slippage (both planned and unplanned) and increased efficiencies.

The 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	70,616.4	92,129.5
S&C	S&C unit	41.0	33.0
Signalling	SEU	-	-
Underbridges	m^2 deck area	5,580.0	11,994.0
Conductor Rail	km	-	-
Earthworks	No	403.0	488.0
Wire runs	No	-	

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

2.3 Assessment scope

To assess Wales 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 (23%)
- Structures (19%)
- Buildings (10%)

Together these four asset group portfolios cover 84% of the budget for renewals in years 1 and 2 of CP6.

Selecting a sample of reference projects

To supplement our review of asset group portfolios, we identified two projects in each asset 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, but 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 159540 Wales PL - ROW - Program – 1 and & OP154932 Wales-PL - ROW-Program-19/20)	Track	5.8	16.0	3 Design and construction
OP159982 Barry/VOG & OP 159981 Barry/VOG	Track	0.0	15.8	2A Authorisation and project development
OP 157757 Port Talbot West Ph2 Re-signalling	Signalling	4.5	15.5	2A Authorisation and project development
OP 156993 TILL Level Crossings	Signalling	0.7	5.4	2A Authorisation and project development
OP 161379 19/20 Structures Minor Works & 161389 20/21 Structures Minor Works)	Structures	5.8	7.3	3 Design and construction
OP 152013 Barmouth Viaduct Main Works	Structures	0.4	3.3	2A Authorisation and project development
OP 163247 & 163249 Minor Emerging Works	Buildings	2.6	2.7	3 Design and construction
OP 163273 Shrewsbury MDU	Buildings	-	2.3	2A Authorisation and project development

Table 4: Summary of the sample of projects

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. We found 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 of 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 – MBR (Monthly Business Review) meeting between DRAM and Route Director

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

Level 3 – Governance (review) meetings between RAMs and Delivery Agents (Infrastructure Projects 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 (FY20)			Year 2 (FY21)		
	Control budget (£m)	Net change (£m)	Current (£m)	Business Plan (£m)	Net change (£m)	Current (£m)
Track	49.8	1.2	51.0	62.4	0.0	62.4
Signalling (inc. LC)	22.3	0.4	22.7	59.8	0.0	59.8
Structures	29.5	3.8	33.3	38.8	0.0	38.8
Earthworks	12.1	4.1	16.2	12.2	0.0	12.2
Buildings	15.8	(2.4)	13.4	20.8	0.0	20.8
Electrification & FP	9.5	(4.6)	4.9	11.0	0.0	11.0
Drainage	3.1	1.5	4.6	3.1	0.0	3.1
Telecoms	-	-	-	-	-	-
Others	-	-	-	-	-	-
Total	**142.0**	**4.0**	**146.1**	**208.1**	**0.0**	**208.1**

Table 5: Wales route targets at RF4 (Source: Network Rail (Wales 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 certain asset groups 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 year 1, the budgets are shown in Table 6. 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 between approximately 6% and 14% of the annual renewals budget at the start of each year for relevant asset groups. 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.

Asset group	Year 1 (2019/20)		
	Business plan (£m)	ECO (£m)	ECO %
Track	49.8	3.0	6%
Signalling (inc. LC)	22.3	2.8	13%
Structures	29.5	3.6	12%
Earthworks	12.1	1.7	14%
Buildings	15.8	0.0	0%
Electrification & FP	9.5	0.0	0%
Drainage	3.1	0.0	0%
Telecoms	-	-	-
Others	-	-	-
Total	**142.0**	**11.2**	**Average 8%**

Table 6: Wales route Emerging Cost Overlay (ECO) provision (Source: Network Rail (Wales route))

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 3 earlier in this report.

Adjustments to these budgets made during the 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 Wales route's year 1 stability at 84% which is in the middle 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. For year 1, these changes are summarised in Table 7 and shown graphically in Figure 2 below.

Asset group	Year 1 (FY20)			
	Business plan (£m)	By Change Control (£m)	Outside Change Control (£m)	Current (£m)
Track	49.8	(1.5)	2.7	51.0
Signalling (inc. LC)	22.3	(3.0)	3.4	22.7
Structures	29.5	(2.1)	5.9	33.3
Earthworks	12.1	1.3	2.8	16.2
Buildings	15.8	-	(2.4)	13.4
Electrification & FP	9.5	(0.3)	(4.2)	4.9
Drainage	3.1	-	1.5	4.6
Telecoms	-	-	-	-
Others	-	-	-	-
Total	**142.0**	**(5.7)**	**9.7**	**146.1**

Table 7: Analysis of Wales route changes levels in year 1 (Source: Network Rail (Wales route)

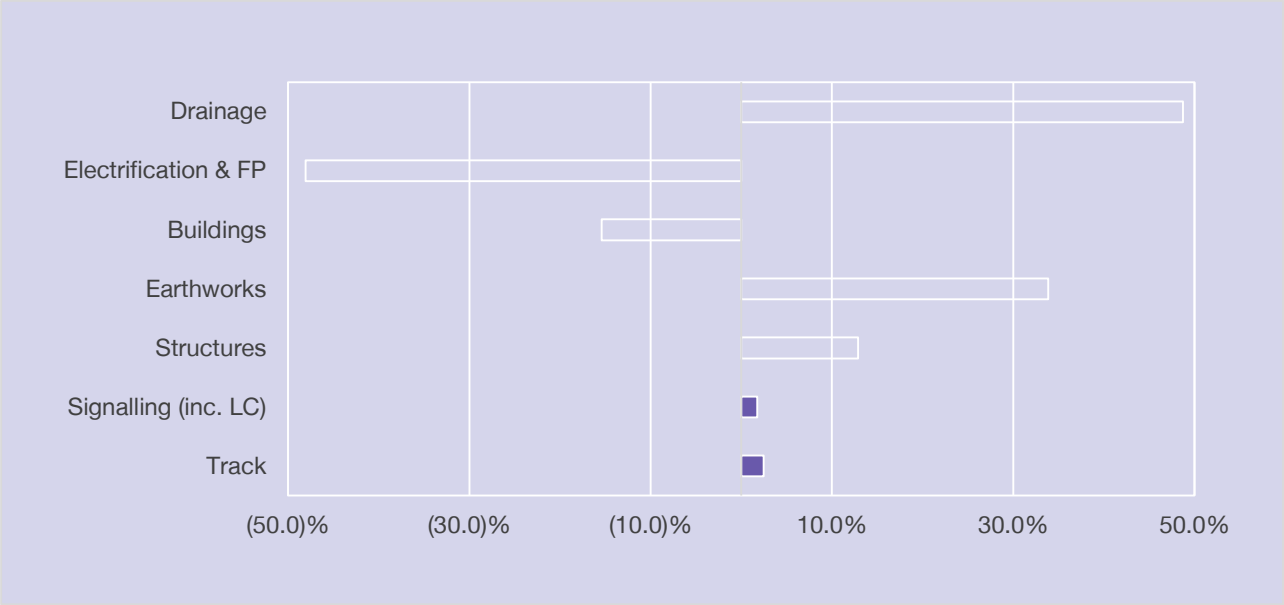

Figure 2: Workbank variance in year 1 (Wales)

The figure shows considerable variation of change across asset groups with overall net changes ranging from -48% to +49%. This implies that there is a significant level of underlying change in the workbank although we note that change is less in the higher value asset groups which comprised our sample.

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 that records the drivers of change 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 7 above illustrates this showing significant revisions to asset groups outside change control at RF4. Wales route has confirmed that these items relate to deliverability overlays which it is 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' these are organised into standard categories although (as we have seen in other routes), these are a local classification. A summary representation of the net changes in each classification used by Wales route is shown in in Figure 2. We note that 20% of change appears to be linked to deferral (slippage) of projects (c/f 22% in Western and 25% in LNW) but 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.

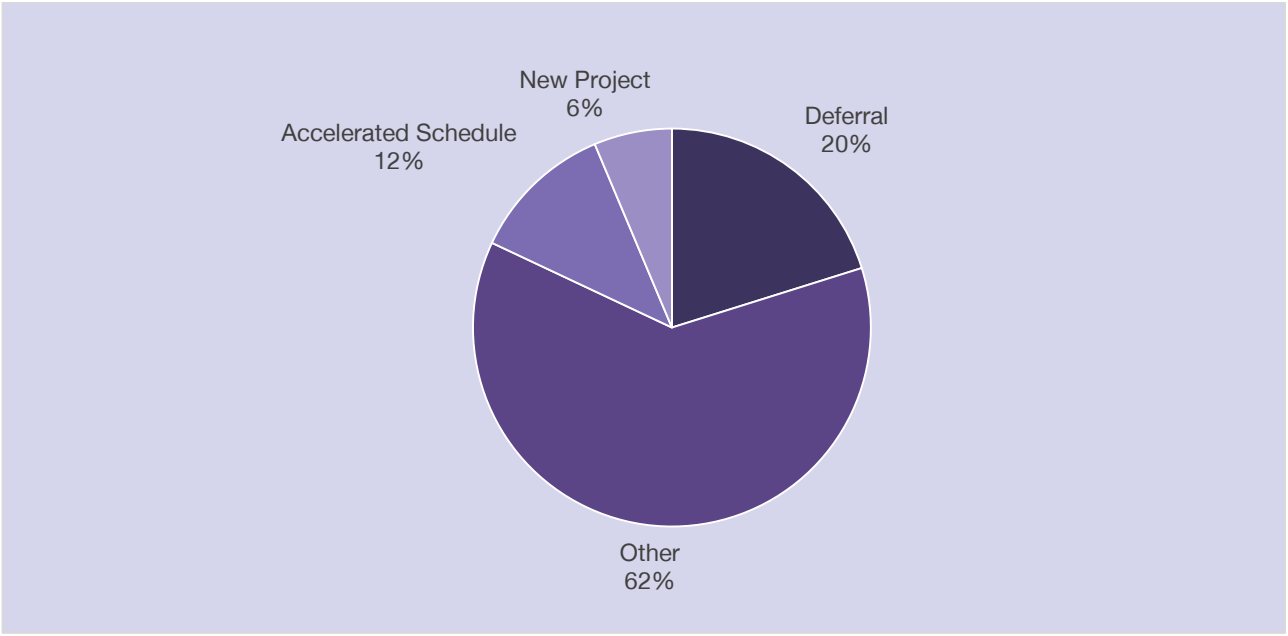

Figure 3: Preliminary analysis of change drivers in year 1 (Wales route) (Source: Network Rail (Wales route))

Overplanning and contingent renewals

Wales route uses overplanning 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 Wales to provide assurance that work is available to replace any potential slippage or cancellation. Wales route identifies overplanning as a separate overlay (other routes combine overplanning and deliverability) and we consider that this is good practice which provides increased transparency. Overplanning provision at the start of year 1 is shown in Table 8 below.

Asset Group	Year 1 (£m)	Year 2 (£m)
Track	2.2	3.0
Signalling (inc. LC)	0.0	0.0
Structures	0.4	4.3
Earthworks	7.0	0.0
Buildings	1.9	0.0
Electrification & FP	1.2	0.7
Drainage	0.0	0.0
Telecoms		
Others		
Total	**12.6**	**7.9**
Overplanning as a percentage of annual budget	**9%**	**4%**

Table 8: Levels of overplanning (Wales route) (Source: Network Rail (Wales route))

Overplanning overlays were re-assessed by Wales route at RF4. The year 1 allowance was reduced to £7.9m (7% of spend to go) and year 2 was increased to £22.7m (11% of the year 2 budget). This indicates that Wales route is actively managing the overlays as year 1 progresses and as the year 2 workbank is developed.

Contingent renewals – We did not identify any significant level of contingent renewals in the plan for year 1, the route basing its management of the budget on the use of overplanning together with the option to accelerate design work for projects in future 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 Workbank Stability Leading Indicator (84%) and the more detailed analysis presented above. Our concern is that, without this understanding, 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 and thus threaten efficiencies linked to stability and early supplier involvement.

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/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.

Wales route track the status of remits for year 2 and this is summarised in Table 9 and Figure 4. Data for Year 1 is not available, but we did not identify any significant risks associated with progress at this stage of the year.

Remit status	Year 1 (£m)	Year 2 (£m)
Accepted	n/a	151.8
Issued (not yet accepted)	n/a	17.2
Not issued	n/a	29.3
Remits not tracked	n/a	9.9
Total	**n/a**	**208.12**

Table 9: Remit status (Wales route) (Source: Network Rail (Wales route))

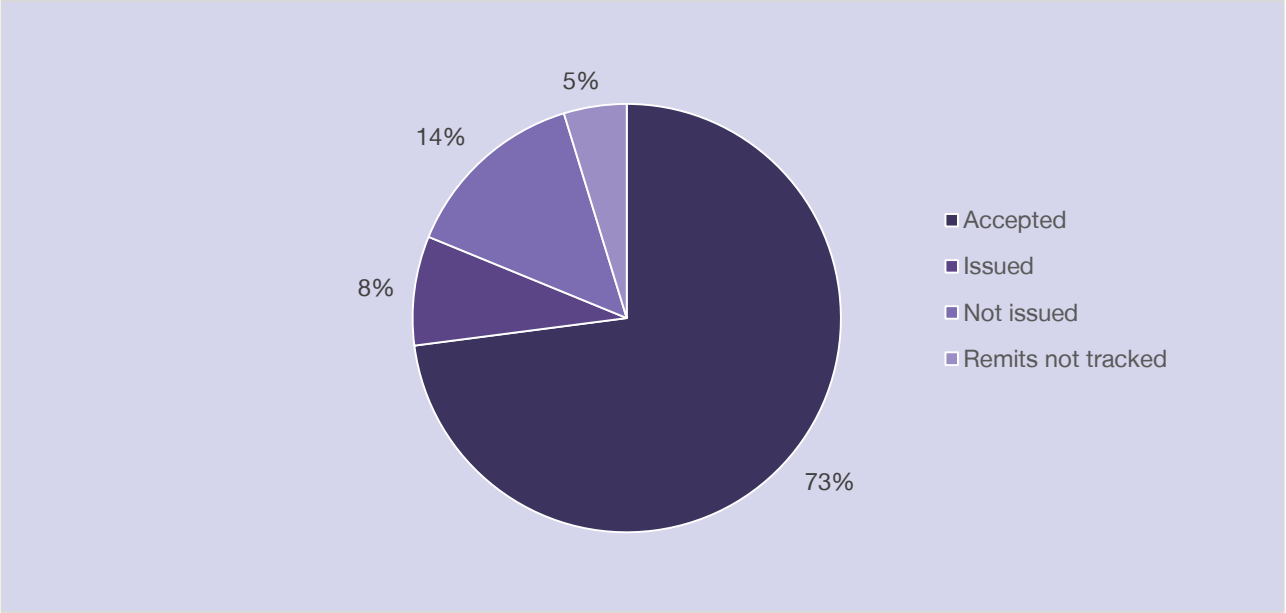

Figure 4: Remit status for year 2 (Wales route)

The 'remits not tracked' category relates to works which have a very quick turnaround time due to their like for like replacement, and smaller intervention nature. The route has advised us that it is planning to make improvements to the tracking of remit status from Period 7 of year 1.

Project controls and governance

Effective project controls and governance are essential for both the project development and design & 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 Wales 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 63% 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 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.

Wales route follows the current cross-route practice of reviewing the status of its renewals programme through three tiers of meetings which operate on a four-weekly periodic cycle. 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 four-weekly review meeting. For these meetings each Delivery Agent provides a progress report, with status update, 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.

DRAMs PBR meeting with RAMs – This is the key governance meeting where financial performance, volumes, delivery issues and efficiencies are reviewed using a spreadsheet-based RAM Business Review Pack which draws together information from the RAM review meetings, Oracle Projects and other sources. This forum also manages the change control process.

Route Director's MBR 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 focussed on year 1 with the emphasis switching to year 2 at Period 4. The latest reported position is:

Year 1 – 98% authorised at Period 3.

Year 2 – 22% authorised at Period 5 (compares with 7% at this point last year).

Year 1 – Work is substantially authorised, and the position does not appear to have any significant risk to delivery plans. Our review identified that the new Ebbw depot building (a large component of the year 1 buildings budget) remains to be fully authorised but the route has confirmed that the risk of this project slipping to year 2 is provided for in the deliverability overlay.

Year 2 – Although the route is ahead of its position in Period 5 last year, there is considerable variation in the status of each asset group as reported in the Leading Indicator report (see Figure 5 below).

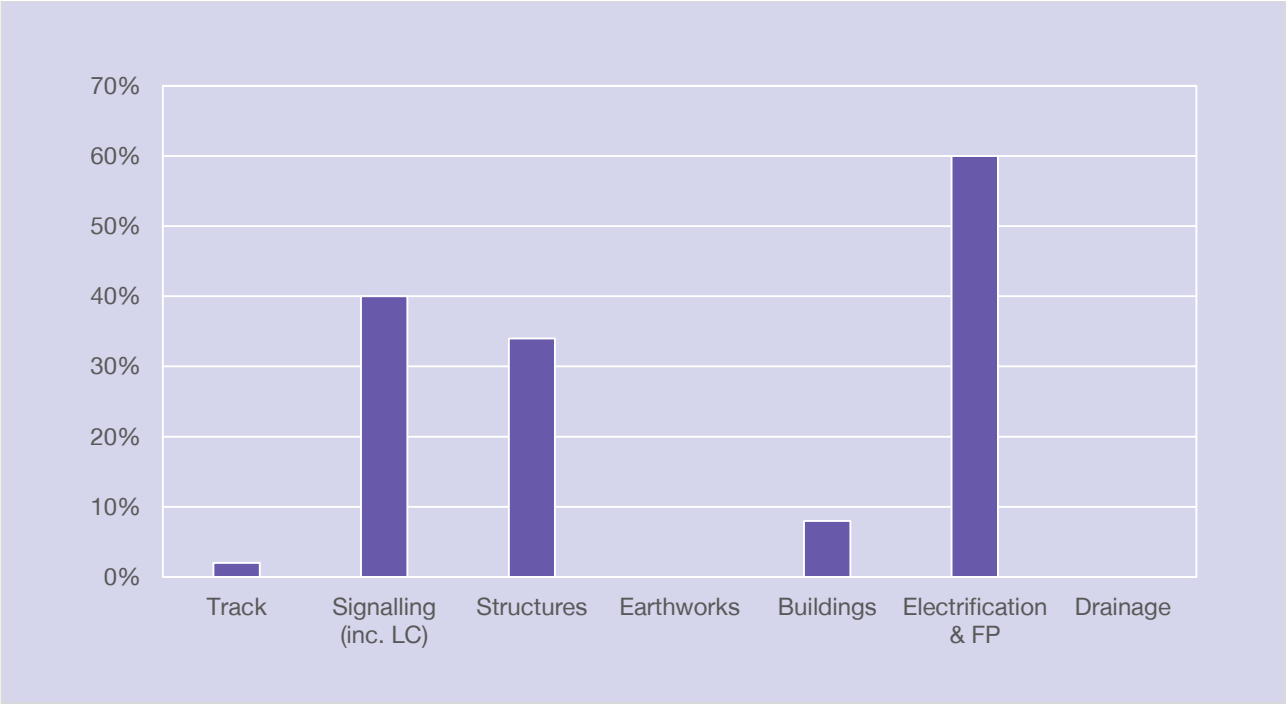

Figure 5: Authority status for year 2 (Wales route)

At present, there is not a good understanding of where authorities should be at any point in the financial year (this applies to all of the routes we have reviewed). Wales route intends to update the glidepath in the Leading Indicator report to better reflect anticipated authority dates and (through its RF8 review) to identify any areas where obtaining authority may represent a risk to delivery of the renewals programme.

Scheme design

Progress of projects through scheme design (GRIP 4) is reviewed at the RAMs progress meetings with their Delivery Agents. We understand that issues are generally raised verbally as exception reports. In other routes we have seen some evidence of detailed tracking of design status being managed in IP using the P6 planning tools and, whilst Wales route did not identify any specific risks associated with design progress, there may be merit in considering if this data can be provided to RAMs as a dashboard type report in the periodic review packs.

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 & crossing (S&C) renewals in CP6. Major materials, haulage and plant requirements are met through existing contracts held by Supply Chain Operations (SCO). We understand that the track framework contracts are based on Network Rail underwriting a base level of resources and so unit rates may be at risk if volume were to fall substantially in future years. We have not investigated the pricing mechanism and did not identify any risk of volatility in workloads, however, this point underlines the importance of maintaining stability in workbanks.

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 but progress should be monitored.

Structures – The structures team provided a copy of their project tracker document which summarises data held in IP's P6 planning tool. This identifies required contract award dates and so demonstrates a basis for exception reporting at the periodic meetings.

Buildings – All works are undertaken through existing framework arrangements. The RAM team identified some procurement risk to year 1 associated with raised tender levels and a legal challenge arising from a recent tender. These matters do not appear to pose a significant risk to the overall renewals programme.

In overall terms, 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 EU), however the route did not identify any specific concerns. We found it difficult to form an overall picture of progress towards awarding contracts (or notices to proceed under frameworks) and this could be improved by use of standard tender event schedules.

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 network-wide 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 – 87% booked at Period 3.

Year 2 – 60% booked at Period 5. This is an advance on 50% booked at Period 5 last year. This puts Wales route in the mid-range of the route-wide range of 26% to 82%.

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 ('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.

Track – Our review did not identify any risks to delivery of the track renewals portfolio associated with disruptive possessions.

Signalling – Wales route's signalling portfolio for years 1 and 2 is less dependent on major disruptive possessions than in previous years and is therefore less subject to risk in the Christmas or Easter peak periods.

Structures – All disruptive possessions are booked for year 1 and for year 2 up to December 2020. The route described how major possessions to undertake a major refurbishment of Barmouth Viaduct had been planned. The route does not anticipate any issues with completing booking of its requirements for year 2.

Buildings – Apart from one project (Swansea Platform 4), there is no significant requirement for disruptive possessions.

It should 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 Engineering Access Statement ('Rules of the Route').
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 Wales route in year 2.

3. To illustrate point (2) above, Wales route have identified risk to the Newport S&C renewal (approximately £6.3m in year 1). This is currently planned with access booked but could be affected if the electrification enhancement project is disrupted. If this were to happen, it seems probable that clashes with other planned work in the Western Route would prevent the project being undertaken until CP7.

We conclude that the route has well established processes for managing its disruptive possession requirements and these 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. As noted above, Wales route's programme for years 1 and 2 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.

Haulage, plant and long lead materials

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

Our review identified the following points:

Long lead timber requirements for Barmouth Viaduct refurbishment – The route described how a long lead time was identified and managed to secure the supply of a large quantity of special sized timber required for the Barmouth Viaduct refurbishment. This is evidence that these matters are reviewed and effectively managed through the existing processes followed by RAM teams and their Delivery Agents.

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. As this issue appears to have the potential to affect multiple routes, it is important that work continues to find an early resolution.

Environmental issues

These matters are managed through routine management processes within the project teams. Within the structures portfolio, the RAM team identified that a large proportion of the year 1 scour protection programme had been lost due to delays in securing environmental permits associated with fish stocks in the affected rivers. This is reported to have been mitigated through overplanning and advancing future years design work but is a good example of the importance of a rigorous planning process.

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. Wales route has the following enhancement schemes currently being planned or implemented:

Electrification – The remaining elements of the Great Western Electrification Programme (GWEP) are being completed on the South Wales main line in year 1. This is a high priority project which is likely to take precedence in the event of any planning clashes as illustrated in the section on disruptive possessions above.

Access for all – This programme improves disabled access to the network. Wales route see it as creating opportunities to realise efficiencies through coordinated access and packaging of these works with other renewals.

Transport for Wales (Transfer of Cardiff Valleys lines and station upgrades by TOC) – Although not an enhancement, project, the recently awarded Wales franchise and the transfer of the Cardiff Valleys lines to Transport for Wales are significant changes to Wales route's infrastructure which are not directly managed by the route. The approach being taken is:

- The buildings RAM team are coordinating planning of station works with the TOC
- Planned renewals work on the Cardiff Valleys lines is continuing pending confirmation of the transfer date

In overall terms, we consider that Wales 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 (year to date) and Table 11 (projected full year).

Asset Group	Actual @P5 (£m)	Budget Plan @P5 (£m)	Variance (£m)	Variance %
Track	14.2	14.9	(0.8)	(5%)
Signalling (inc. LC)	9.1	10.3	(1.2)	(12%)
Structures	7.5	9.0	(1.5)	(17%)
Earthworks	9.1	8.5	0.6	7%
Buildings	5.0	6.7	(1.7)	(26%)
Electrification & FP	1.1	2.6	(1.5)	(58%)
Drainage	-	-	-	-
Telecoms	-	-	-	-
Others	-	-	-	-
Total	**45.9**	**52.0**	**(6.1)**	**(12%)**

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

Asset Group	Annual Forecast @P5 (£m)	Year 1 Control Budget (£m)	Variance (£m)	Variance %
Track	51.3	49.3	1.9	4%
Signalling (inc. LC)	27.3	30.2	(2.8)	(9%)
Structures	36.9	38.0	(1.1)	(3%)
Earthworks	25.5	24.0	1.4	6%
Buildings	22.0	18.4	3.6	19%
Electrification & FP	7.9	8.3	(0.3)	(4%)
Drainage	-	-	-	-

Asset Group	Annual Forecast @P5 (£m)	Year 1 Control Budget (£m)	Variance (£m)	Variance %
Telecoms	-	-	-	-
Others	-	-	-	-
Total	**170.9**	**168.2**	**2.7**	**2%**

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

We make the following observations:

1. In management reports Wales route uses the control budget for year 1 as set out in Table 2 in an earlier section of this report. As a result of the adjustment for drainage, the route does not report a separate figure for drainage in its management reports. This is to align with the RAM teams' responsibilities and the drainage costs are distributed between the earthworks and track reporting lines. In the future, the route intends to report these items as off-track (geotechnical and drainage).
2. The year to date performance shows overall under expenditure of £6.1m (12%) with considerable variance across asset groups (range 58% under to 7% over). It is interesting to compare these variances with the larger swings seen in Western route and reduced variances in Wales arise because of the inclusion of CP5 slippage and related items in the £26m control budget adjustment for each asset group in the reports for Wales. This illustrates the difficulty in comparing the performance of routes when reporting formats are not consistent.
3. The full year forecast shown in Table 11 indicates that outturns are expected to exceed the control budget by £2.7m (2%) There are significant variances within this total (range of 9% under to 19% over). The route has explained the outliers in these variances as follows:

   Buildings (19% over control budget) – This is the result of a reduction in overlays. In effect, this asset group is delivering more work than was expected and this is compensating for under spending in other asset groups.

   Signalling (9% under control budget) – This is the result of (a) revised phasing of Porthmadog level crossing renewal and (b) realising development efficiencies on schemes at early stages of GRIP.

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 and transparent overlays.

Overlays

Wales route uses four groups of overlays to manage its outturn reporting. These are:

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

Efficiency holding Line – This overlay has two purposes. Firstly, it holds efficiency targets for buildings and structures because these could not be allocated to specific schemes by RAMs. Secondly, it holds the 'stretch' efficiency target for years 3 to 5 for all asset groups pending identification of schemes where they can be realised.

Overplanning – This provision relates to excess work which arises from (a) project slippage (including schemes in year 1 which have slipped from CP5) and (b) strategic overplanning of work to protect compliance with annual spending limits.

Deliverability – 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 delivery risk held by the route. Wales route keep overplanning separate from deliverability. This is a different approach to that seen in other routes and we think that it improves the transparency of how overlays are operated.

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

Asset group	Year 1 (2019/20)				
	Emerging Costs (£m)	FPM (£m)	Efficiency Holding (£m)	Overplanning (£m)	Deliverability (£m)
Track	3.0	(3.0)	-	(2.2)	
Signalling (inc. LC)	2.8	(2.8)	-	-	-
Structures	3.6	(3.6)	(0.6)	(0.4)	(7.9)
Earthworks	1.7	(1.7)	-	(7.0)	(2.5)
Buildings	-	-	(0.6)	(1.9)	(3.5)
Electrification & FP	-	-	-	(1.2)	-
Drainage	-	-	-		-

Others	-	-	-		-
Total	**11.2**	**(11.2)**	**(1.2)**	**(12.6)**	**(13.9)**

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

Asset group	Year 1 (2019/20)				
	Emerging Costs (£m)	FPM (£m)	Efficiency Holding (£m)	Overplanning (£m)	Deliverability (£m)
Track	2.7	(2.7)	-	(2.2)	
Signalling (inc. LC)	2.5	(2.5)	-	-	(5.0)
Structures	3.3	(3.3)	(0.6)	-	(0.7)
Earthworks	1.5	(1.5)	-	(4.8)	(1.5)
Buildings	-	-	(0.6)	(0.3)	(6.0)
Electrification & FP	-	-	-	-	(3.0)
Drainage	-	-	-	-	-
Telecoms	-	-	-	-	-
Others	-	-	-	-	-
Total	**10.0**	**(10.0)**	**(1.2)**	**(7.3)**	**(16.2)**

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

We make the following comments:

1. There has been a small change in the emerging cost overlay and its counterpart the FPM overlay since the start of year 1 and these appear to be less than would be expected 30% of the way through the year. In other routes we have seen that movements in these overlays can lag pending agreement with Network Rail centre and the position should be monitored to confirm that the figures are up to date.
2. There has been no movement in the efficiency holding overlay. This implies that there has been no progress in allocating these items to projects which can deliver them and so these efficiencies may be at risk.
3. Overplanning has reduced from £12.6m to £7.3m. As a proportion of 'spend to go', it started the year at 7% and was 6% at RF4 so the adjustment seems reasonable to maintain a consistent overplanning factor.

4. The deliverability overlay has increased from £13.9m at the start of the year to £16.2m at RF4 (an increase from 8% to 13% of 'spend to go'). This implies that the route now has more uncertainty and risk than at the start of the year which seems counterintuitive. The route has confirmed that it regards the overlay as being reasonable provision for the risks associated with its portfolio including:
   - Contract risks on earthworks and structures.
   - Programme risks associated with external consents for work on listed structures, buildings, and watercourses which are subject to legislation external to the railway.

   We have not investigated the basis for these risk allowances in any greater detail and we consider that they should be kept under review by ORR in the run-up to RF8 to provide further assurance about their appropriateness.
5. If overlays prove to be 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 may be considered.
6. Overlays are reviewed and adjusted each period by finance and the DRAM. We have not investigated the level of involvement of RAMs or Delivery Agents in assessing overlays, however 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.

We make suggestions about improving the overlay process in the conclusions and recommendation section at the end of part 2 of this report.

Volumes

Wales route monitors work volumes at a detailed level in the RAM Business Review Pack. However, it does not include reports of budget and actual performance against the 7-Key Volumes and has not provided this information to us within the review. We are therefore unable to comment on delivery of work volumes for this route.

Updates at RF4

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

Asset group	Year 1 (2019/20)			
	Business plan (£m)	Change Control (£m)	Other * (£m)	Current (£m)
Track	49.3	(1.5)	5.4	53.2
Signalling (inc. LC)	30.2	(3.0)	0.5	27.7
Structures	38.0	(2.1)	(1.3)	34.6
Earthworks	24.0	1.3	(2.8)	22.5
Buildings	18.4	-	1.8	20.2
Electrification & FP	8.2	(0.3)	0.1	7.9
Drainage	-	-	4.6	4.6
Telecoms	-	-	-	-
Others	-	-	-	-
Total	**168.1**	**(5.7)**	**8.3**	**170.8**

* Balancing item to bring to total pre-overlay [to be confirmed by route]

Table 14: Changes to year 1 forecasts against business plan at RF4 (Wales) (Source: Network Rail (Wales route))

Asset group	Year 2 (2020/21)			
	Business plan (£m)	Change Control (£m)	Other (£m)	Current (£m)
Track	62.4	2.4	4.3	69.0
Signalling (inc. LC)	59.8	1.0	2.2	63.0
Structures	38.8	(1.7)	13.8	50.9
Earthworks	12.2	2.3	3.4	17.9
Buildings	20.8	-	1.4	22.2
Electrification & FP	11.0	0.3	(2.8)	8.6
Drainage	3.1	-	-	3.1
Telecoms	-	-	-	-
Others	-	-	-	-
Total	**208.1**	**4.3**	**22.3**	**234.7**

* Balancing item to bring to total pre-overlay [to be confirmed by route]

Table 15: Changes to year 2 forecasts against business plan at RF4 (Wales) (Source: Network Rail (Wales route))

Tables 14 and 15 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 good 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) significant trends in overall delivery.

2.5 Conclusions and recommendations

In our opinion, Wales 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 of reasonable quality, but we consider that improvements could be made including to the consistency of lower level reporting and management systems to make comparison and analysis of performance clearer.

Overall management of renewals

1. 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.
2. We consider that the process being followed in Wales 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.
3. 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 Integrated Management System (IMS) system developed in LNW route.

Stage 1 – Workbank management

1. 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).
2. 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.
3. The route operates a detailed, spreadsheet-based change control system. This has a classification to identify the cause of change, but a significant proportion of items are 'unclassified' and the lack of structure at the second level of classification makes detailed analysis difficult.
4. 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 20% of change may arise from slippage of projects which is of concern against an aspiration for stable workbanks.

Stage 2A – Authorisation and project development

1. 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 glide paths for the authorisation leading indicator and assessing performance against it.
2. Issue and acceptance of remits is an important milestone in the project delivery process. Wales route does not have a combined record of the status of remits with each RAM team managing this through its local governance processes. We consider that a more systematic approach would improve assurance that the remitting process is proceeding to schedule.
3. 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. We consider that the absence of central tracking illustrates the importance of improving data capture and reporting processes in general.
4. 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

1. 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 Engineering Access Statement ('Rules of the Route') 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.
2. There is limited visibility of the status of environmental and other consents in periodic reporting packs. Delays in obtaining consents have affected delivery of structures work and we consider that improvements to management information would help to avoid this risk in the future.

Stage 3 – Design and construction

1. In overall terms, the route has well established processes for monitoring progress and identifying issues with the delivery of its renewals programme. We saw a reasonable quality of reporting and review through the DRAM PBR reporting pack and heard good descriptions of the RAM progress review meetings which support the top-level reporting. Variances to plans are identified and managed by the route. 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.
2. Wales route, in common with other routes, uses overlays to adjust performance projections reported by its delivery teams. This is reasonable and Wales use a good, transparent breakdown of their overlays into four different groupings. We have seen evidence that the route is actively managing its overlays for emerging works, overplanning and deliverability risk. Nevertheless, we suggest that the overlay process warrants further review and monitoring by ORR to ensure that they are applied consistently and accurately.
3. The route's efficiency holding overlay is a good and transparent way of managing unallocated efficiency targets. We are however concerned about the lack of movement in this overlay since the beginning of year 1 and the implied risk to achieving efficiency targets. Efficiencies are considered in Part 3 of this report but the sample which we reviewed does not cover the full extent of this overlay.

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 some consideration has already been given to this. 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:

- Implements 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 then 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 routes 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 and 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 at 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 16: 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, DRAM, Financial Controller 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 baseline efficiencies (RF11). The latter are intended to reflect the route's target for CP6 within the ORR's 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.

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	Development of Works Delivery Capabilities (Category B)	Structures	0.6	0.7	0.7	0.5	0.6	3.0	5%
Capex	Improved Contracting Strategies (Category A)	Signalling	0.4	2.5	1.2	0.7	0.5	5.4	11%
Capex	Stable Workbank (Category B)	Track	1.6	1.7	1.1	1.1	0.0	5.5	12%
Opex	Intelligent Infrastructure (Category D)	Maintenance	0.1	0.7	1.4	2.0	2.7	6.9	6%
Opex	Organisation Restructure (Category D)	Maintenance	2.3	3.4	2.7	2.1	1.2	11.6	40%
Opex	Fatigue Management (Category D)	Operations	0.6	0.6	0.6	0.7	0.7	3.2	9%

Table 17: Sample route efficiency forecasts at RF4

We have set out our findings using the structure from 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.

The opex and capex samples reviewed included good quality descriptions of business change and how they will generate efficiencies. The route has plan-on-a-page (POAP) templates that it uses to document initiative descriptions and milestone actions to generate efficiencies. Of the sample efficiencies reviewed, these templates were consistently well documented. The route reviews and updates POAPs on a quarterly basis, aligned with the rolling forecast process, and revises initiative descriptions as required to reflect any rescoping of the business change.

Descriptions of the sample initiatives reviewed include:

- **Structures Development of Delivery Works Capabilities (Category B)**. This initiative is a good example of business change that delivers efficiencies through the increased use of Planned Preventative Maintenance (PPM) work gangs and through reduced project management overheads achieved by using Works Delivery (rather than IP) with lower rates. The initiative clearly describes how efficiencies should be achieved, however it is currently underperforming against the forecast target. This is attributed to a lack of supporting metrics to better utilise Works Delivery resources and the route is now seeking to establish better management tools to monitor and optimise this initiative. This is discussed further in section (d) of this report.
- **Organisational Restructure (Category D).** This initiative represents all planned organisational changes in the route for CP6. This documentation shows the timing of scheduled headcount increases and reductions, which makes the line of sight between the business change, forecast calculation and yearly benefits profile easy to trace. The route has grouped all organisational changes into the single centrally reported fishbone line item, which simplifies alignment for finance and HR planning.
- **Fatigue management (Category D).** The Fatigue Management initiative generates £3.1m CP6 efficiencies through reduced overtime costs achieved through optimised resource rostering. The efficiency when viewed in isolation could be considered an anomaly in that it relies on a significant £6.3m CP6 headwind for increased staff, which is required to support the change to national rostering standards that are designed to reduce fatigue.

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'.

The route and the deliverers have jointly agreed capex forecasts, however some forecast assumptions made at the time of the SBP have not been realised. High-level estimates were used for capex forecasts at the time of the SBP/RF11 baseline and the route continues to validate forecasts at each quarterly rolling forecast. Assumptions made at the time of the SBP forecasts appear reasonable. However, there are two capex examples where assumptions have not been achieved:

- **Structures Development of Works Delivery Capabilities.** The forecast assumed that Works Delivery's project management overhead cost would be 8%, compared with IP's higher overhead rate of 12%. In practice however, Works Delivery's overhead in year 1 is approximately 11% and resulting in lower realised savings. Treatment of this shortfall is discussed further in section (d).
- **Signalling's Improved contracting strategies.** This initiative assumed that a national framework contract would be introduced by 1 April 2019. However, the awarding of this contract was delayed and will not be in effect until May 2020, impacting Year 1 benefits (discussed further in section (d)).

The route has clearly documented opex forecast calculations that have been validated by central teams where appropriate. Of the opex sample initiatives reviewed, the route produced documentation that clearly shows inputs, assumptions and method of calculation. The route has advised that where applicable, assumptions and methods of calculations have been validated by relevant central teams. For example, at the time of the SBP the route developed its own Intelligent Infrastructure forecast model (prior to the central calculator being developed) and has used more detailed section manager level (rather than route level) activity-based planning (ABP) input data. This approach and model have been endorsed by the central Intelligent Infrastructure Programme.

At RF4 the Organisation Restructure forecast had an unintended error in the Year 2 forecast, which has since been corrected. Calculations provided for the Organisational Restructure for Year 2 total to £2.7m rather than £3.4m. The route has advised this was a forecasting phasing error, which inadvertently formed the RF11 £3.4m year 2 baseline. However, the route has since corrected this at Period 6.

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 efficiency savings targets.

Both opex and capex have established efficiency programme governance with supporting project documentation and processes. The route has clearly defined roles and responsibilities for the planning, delivery, monitoring and assurance of efficiencies. Governance meetings for opex efficiencies include periodic; Budget Holder Review meetings, Joint Efficiency Review panels and deep dive sessions (with the Change Management Office attending); and High-level Reporting Review meetings. Capex governance meetings are tied to RAM delivery meetings that cover efficiencies and include; Investment Panels, periodic Change Control meetings, RAM PBRs; and the Quarterly Efficiency Board. Assurance and oversight of both opex and capex efficiencies is provided by the Management Team Meeting (MTM) that is attended by the route's leadership team. Week two of the MTM meeting cycle focuses on efficiency delivery and week three focuses on strategic planning including efficiencies. Meetings are supported by appropriate project documentation that includes POAPs, efficiency trackers, risk registers and action logs.

The route has implemented a two-fold approach to monitoring capex efficiencies. To monitor the financial delivery of efficiencies the route has developed a tool that calculates the variance of each capex efficiency initiative for all assets (as per the centrally reported fishbone items). The tool then RAG (Red, Amber, Green) scores each initiative based on the degree of negative variance to the forecast target. Although this is lagging indicator, it does provide a quick and impartial flag to help identify underperforming initiatives.

In addition to financial monitoring, the route monitors the implementation of enabling actions to achieve capex efficiencies at a portfolio level. This is done through a readiness assessment of the route's ten largest renewals projects (two per asset group). The assessment RAG scores each project against fourteen readiness factors that are aligned to the centrally reported fishbone categories (Access, Commercial, Delivery, Design, Technology and Workbank Planning). The assessment is intended to provide some assurance that RAM teams and deliverers are planning and monitoring actions required to deliver their efficiency initiatives. We consider this approach a positive innovation by the route to proactively monitor the implementation of capex efficiencies and has the opportunity to be further enhanced.

There is evidence of detailed implementation plans and monitoring for opex initiatives, however further planning is required to assure Intelligent Infrastructure's delivery in year 2.

Opex initiative examples of monitoring progress in implementing business changes include:

- **Organisation Restructure (Category D).** The HR team actively manages a Positive Management Action tracker that shows a detailed forward plan of all organisational changes and timings. The tracker provides a clear line of sight between implementation dates and benefits realisation.
- **Fatigue Management (Category D).** As noted in section (a), implementation of the Fatigue Management initiative is based on the recruitment and training of staff. Given the complexity of sequencing, associated with the process of cascaded recruitment (starting with recruiting the most senior positions first), a detailed schedule has been developed that includes staff consultation, training and rostering considerations. The project team have also developed a roles and responsibilities RACI (Responsible, Accountable, Consulted, Informed) matrix to assist the co-ordination of project implementation. This is particularly important given degree of staff and union consultation required.
- **Intelligent Infrastructure (Category D).** The route currently has no schedule of actions documented to monitor that the project is progressing at a rate sufficient to realise the year 2 forecast. The route intends to engage Works Delivery to project manage the implementation, and at which point a detailed project plan will be developed. However, this work cannot be remitted to Works Delivery until the route has secured funding from the central Intelligent Infrastructure Programme and funding can only occur after the route finalises and submits its investment paper. The development of a set of critical milestones dates would assist the route assure itself whether the implementation timeline is within range of the target forecast profile.

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.

The route showed evidence of a clearly defined risk management system and process of escalation from a project level through to a route/portfolio level for both opex and capex initiatives. Efficiency project management teams record efficiencies risks in the Active Risk Management (ARM) log with mitigation actions and assigned owners. ARM risks are then linked to the efficiency tracker that provides good traceability across project documentation. In addition, current risks and mitigation actions are updated and reported periodically through POAP templates. Where necessary, risks are escalated at the Efficiency Governance Board where actions are tracked and then escalated further to the MTM if senior management intervention is required. The route records route level risks related to CP6 efficiencies within the Enterprise Risk Management system.

Of the sampled initiatives reviewed there are a number of year 1 and 2 forecasts at risk, which the route is addressing. Forecast risks noted include:

- **Signalling's Improved Contracting Strategies.** Delays in the finalising the national MsSREF signalling framework has put risk on the year 1 forecast, with the route reporting ~25% below forecast at RF4. To mitigate shortfalls, IP Signalling have been packaging contracts to achieve alternate efficiencies in an attempt to hold to budgeted post-efficient prices. The route advises that it will review the initiative's forecast at RF8 and potentially reduce the forecast if required whilst offsetting any forecast reduction with increased forecasts of other, better performing, efficiencies within the capex.
- **Structures Development of Works Delivery Capabilities.** As discussed in section (b), the project management overhead rates of Works Delivery are higher than assumed for the forecast, which has put the forecast at risk. The RAM team has identified a number of mitigating actions aimed to improve engagement between the route and Works Delivery as well as to improve the quality of information available to better plan and manage resources to maximise efficiencies. The route continues to monitor this risk and will review the forecast further at RF8.
- **Fatigue Management.** The process of recruitment within Network Rail that supports the promotion of internal staff, extends the time to recruit considerably and is impacting this initiative. In addition, there is national shortage of training facilities, which will further delay the implementation of new rosters required to achieve forecast benefits. Currently, the route is behind schedule to recruit and train the twenty-six staff required for the initiative. However, the route continues to RAG score this initiative as green, as financially the route is better off due to the delayed headwind of additional staff costs. The route has advised it will adjust both the headwind and efficiency at RF8 for year 1 and at RF11 for year 2 to better align the forecast with the revised implementation timeline.
- **Intelligent Infrastructure.** As discussed in section (c), there is risk to the year 2 forecast as a detailed programme and benefits profile is still to be developed. The route has advised it will review the year 2 forecast at RF8 with a further review on progress at RF11.

e. Identification/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:

- **Signalling's Improved Contracting Strategies.** The route noted that this initiative's forecast only assumes the upside associated with a national signalling contract. However, there may be inefficiencies (or headwinds) associated with this initiative in the event that the nominated contractor is a different supplier of signalling equipment and results in retraining costs of maintenance workers. Likewise, if the selected contractor does not have the capability required for Wales' CP6 planned work types, this may lead to the route contracting outside of the national agreement and therefore not achieving the assumed initiative benefits.
- **Fatigue Management.** The route is reporting centrally the cost of the additional staff required for this initiative as a headwind, with the overtime savings reported as an efficiency. The other way this initiative could be reported is by offsetting the efficiency against the headwind and reporting a smaller net-headwind. However, whatever way this initiative is reported is of less importance than understanding that both the efficiency and headwind need to be considered together and that the efficiency can only be enabled through the recruitment of more staff and consequently incur greater costs.

Lessons learnt incorporated into efficiency plans

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

- **Structure's Development of Works Delivery Capabilities.** In CP5, the route noted the efficiencies that could be achieved through PPM gangs provided they could develop a steady pipeline of work to maximise their utilisation. From this learning, the route has increased its minor works budget by 50% in CP6 to allocate the gangs more work and generate greater efficiencies.
- **Impartial RAG scores.** The route's Special Projects team has developed a capex variance monitoring tool. The tool derives a RAG score based upon the size of the variance between forecast target and actual benefits achieved. The route has noted that having the RAG score based on a formula, rather than professional judgement, provides consistency in reporting and removes the potential for optimism bias that could influence RAG scores and associated management attention.

Conclusions and recommendations

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

- 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 Category B (capex) and D (opex).

The overall quality of efficiency plans is good, however there are still areas for improvement. The route has well-established project documentation, programme governance, risk management and reporting of efficiencies that appears to have matured since development of the SBP. Wales showed good evidence of project milestones and risk mitigation actions documentation. However, there was less evidence that initiatives were being managed to a planned schedule of dates that align to forecast efficiency targets. To enhance the planning and monitoring of efficiencies implementation further, the route could improve the clarity of project milestones dates and associated progress reporting against implementation schedules. As an example, noted previously, the route could assure itself further of the Intelligent Infrastructure forecast by developing a critical path of milestones required to achieve year 2 delivery. We suggest that milestones monitored should include the key actions required to engage Works Delivery.

Recommendation E1 – The route should enhance its milestone planning and monitoring of enabling and implementation actions to deliver capex efficiencies. This should be a scalable solution, allowing for different degrees of project complexity (Category A to B). Western's Quad spreadsheets provide a good example of such a solution, with milestones captured at an asset and initiative level then consolidated to provide portfolio and/or route level reporting.

Dedicated resources (Change Management and Special Project teams) for both capex and opex efficiencies provide a portfolio approach to efficiencies that emphasise efficiency delivery across the route. For CP6, the routes have ownership of their efficiency forecast targets and the accountability to plan

and delivery to these targets. This has created the need for the routes to develop their business planning capability and the systems and process they use to manage their efficiencies. Wales has responded to this need by employing dedicated teams to support the development of an efficiency's portfolio (for both opex and capex) and improve the quality of efficiency planning, monitoring and delivery. We understand Wales' efficiency management was slow to mobilise after setting the SBP and RF11 baseline, however we have seen evidence that the route has been making good progress in more recent periods. We also observed in Wales, that there appears to be a joined-up approach to efficiencies management between RAM teams and deliverers. We consider this to be critical, given the 'accountable-responsible' nature of the working relationship between the route (accountable) and Delivery Agents (responsible) associated with delivering efficiencies.

The route is developing its approach to monitoring of capex efficiencies, which could be further enhanced. The route's innovative Project Level Assurance approach of assessing its top ten renewals progress is an example of good practice. The approach is innovative as it is one of the few examples we have seen that seeks to develop a systematic approach to proactively plan and monitor enabling and implementation actions required to deliver capex efficiencies (we cite IP Signalling's EPOP process as another example). We believe that this approach could be further enhanced and have recommended potential improvements for consideration.

Recommendation E2 – That the route considers the following enhancements to its Project Level Assurance approach:

a. Extend the readiness assessment factors to include additional, initiative specific, custom factors that are the key actions required to enable and implement a given initiative.
b. Add a timing dimension to indicate when a project should have progressed and completed a given readiness assessment factor. This would support both the forward planning of activities as well as monitoring overdue actions.
c. Add additional projects to the sample at each period/quarter when significant projects are due to commence. Likewise, sample projects should continue to be monitored periodically until any outstanding assessment areas are complete.

Seek opportunities, working with Delivery Agents, to embed efficiency enabling and implementation actions into their standard project delivery processes.

Reasonableness of savings forecasts based on efficiency plans

The route is still validating that it can achieve capex forecasts, but this appears to be maturing. At the time of developing forecasts for the SBP/RF11 baseline the use of high-level estimates and associated assumptions are considered reasonable. However, two of the three capex sample efficiencies we reviewed had assumptions that were not being realised in order to achieve year 1 forecasts. The route is taking corrective action to review and revise these forecasts as part of the rolling forecast process at RF8 and RF11, and learnings from year 1 should provide better assumptions for which to base year 2 forecasts.

Opex efficiencies provide better line of sight between implementation plans and forecasts but still may result in changes. Due to the nature of opex efficiencies it is generally simpler to see the relationship between project-level milestones, initiative-level forecast assumptions and the timing of when benefits will be achieved than it is for capex efficiencies. The Wales opex forecasts reviewed did provide good line of sight, however each sample reviewed had factors that will likely, or has, resulted in change to year 1 and 2 forecasts. Similar to capex efficiencies, as planning progresses into the Control Period the route will be in a better position to refine its forecasts with review and revision at RF8 for year 1 and at RF11 for year 2 forecasts.

Recommendation E3 – The route should continue to refine the documentation of efficiency forecasts. In particular, the route should ensure that a clear record of assumptions is defined of the key items that influence the efficiency forecast as well as their associated timings to release benefits. This will assist risk monitoring and mitigation action planning of efficiencies.

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 table below, as at RF4 the total CP6 route efficiencies have increased by 3% since the RF11 baseline. This includes an increase of £3.4m in capex efficiencies gained through additional efficiencies achieved by track, structures and drainage RAM teams in year 1. Opex efficiency forecasts have increased by £0.8m overall, evenly spread over the Control Period from years 2 to 4. This increased forecast is associated with efficiencies assumed through reducing costs of public liability claims, to be achieved by the route's proactive treatment of Japanese Knotweed.

	FY20	FY21	FY22	FY23	FY24	CP6
RF11 £m	**15.2**	**26.0**	**35.6**	**33.8**	**28.2**	**138.8**
Capex	9.4	17.7	26.7	23.3	17.2	94.3
Opex	5.8	8.3	8.8	10.5	11.0	44.4
RF4 £m	**18.5**	**26.2**	**35.8**	**34.0**	**28.4**	**142.9**
Capex	12.8	17.7	26.7	23.3	17.2	97.7
Opex	5.7	8.5	9.0	10.7	11.2	45.2
% Change	**22%**	**1%**	**1%**	**1%**	**1%**	**3%**
Capex	36%	0%	0%	0%	0%	4%
Opex	0%	2%	2%	2%	2%	2%
RF4 Yearly Profile	**13%**	**18%**	**25%**	**24%**	**20%**	**100%**
Capex	13%	18%	27%	24%	18%	100%
Opex	13%	19%	20%	24%	25%	100%

Table 18: Total route efficiency targets – RF11 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

Wales are establishing a portfolio approach with structured project management materials for both capex and opex efficiencies. The route's Special Project team support of capex efficiencies has made a notable difference to the quality of project definition and monitoring of progress (with progress also evident in opex projects). The team's capex variance reporting approach and assurance of top ten projects is good practice. There are some milestones planned and monitored, however this could be improved particularly for capex efficiencies (with a good example seen in the opex sample of efficiencies).

Overall the route's planning and delivery of efficiencies is maturing but it is still to be well-established. Proper planning and management of actual business change and/or improvement will be increasingly important in future years when stretch targets apply.

Forecasts

There is reasonable line of sight between calculations reviewed and forecasts reported centrally. Capex forecasts are generally top-down estimates with further work required to validate targets bottom-up, to provide more certainty that forecasts can be achieved. There was good detail seen in bottom-up opex calculations. However, we note the route has some efficiencies in the sample that are at risk and may need to be reforecast down in RF8 and with shortfalls offset through alternate efficiencies.

Documentation

The route's POAP documentation is of a consistently high standard. There is evidence of good tracking of initiative forecasts between each rolling forecast cycle and key programme documents are updated as initiatives progress. The route also presented good risk management processes and documentation. The main areas related to documentation for the route to improve is the definition and tracking of enabling and implementation actions, as well as, maintaining clear records of assumptions of forecast calculations, particularly for capex initiatives.

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