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

LNW Route Report - November 2019

Contents

1. Introduction

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

The review was structured in two phases. Review phase 1 assessed the Scotland and Wessex routes and a phase 1 report was issued in July 2019. A Stage Gate meeting was held after completing phase 1 to review the findings and lessons learnt. It was agreed to alter the emphasis for review phase 2, within the purpose of the original mandate, as follows:

For renewals:

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

For efficiencies:

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

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

This is a review phase 2 report that sets out the Reporter's assessment specifically for the LNW 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 and follows a 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) – Expectation is the workbank plan is being actively measured through Stage 1 Workbank management and Stage 2A Authorisation and project development.

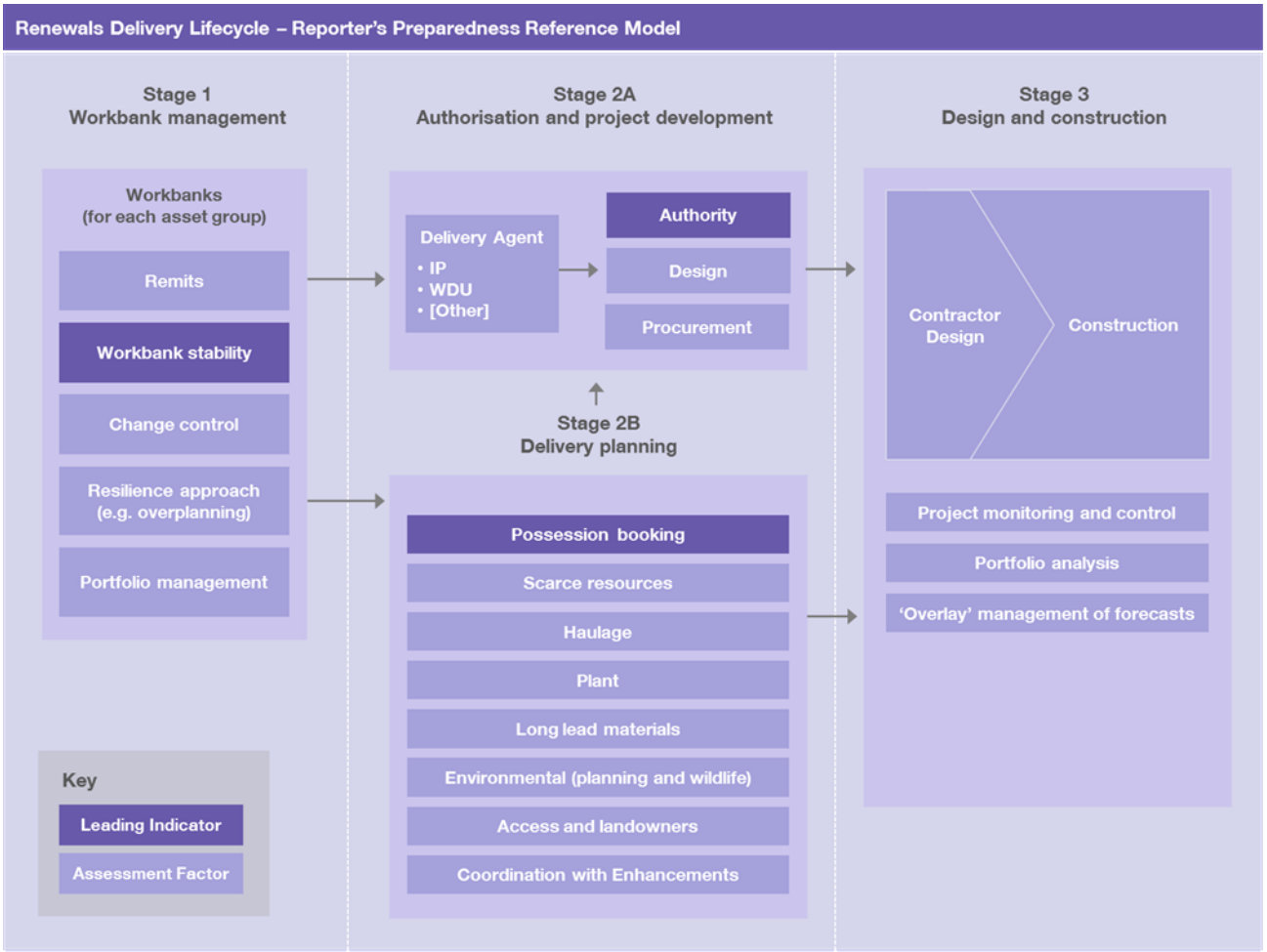

Figure 1: Renewals Delivery Reference Model

Assessment of Leading Indicators in phase 1

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

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

Assessment methodology for phase 2

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

1. Workbank planning. 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 LNW route in Crewe during the week commencing 26 August 2019. The meetings had been well organised, were attended by appropriate representatives of the route and 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 ore emerging findings was held on 1 October 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.

LNW 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	150.6	154.7	146.0	157.1	150.2	758.7
Signalling (inc. LC)	79.8	179.1	279.3	266.0	203.8	1,007.9
Structures	83.0	95.4	99.7	84.3	85.2	447.6
Earthworks	46.1	40.3	37.1	39.2	34.4	197.0
Buildings	45.9	52.8	87.1	54.9	35.8	276.4
Electrification & Fixed Plant	34.3	38.8	38.7	32.9	30.5	175.2
Drainage	26.9	31.4	23.3	24.2	18.1	124.1
Telecoms	-	-	-	-	-	-
Other Renewals (Route Only)	-	-	-	-	-	-
Total	**466.5**	**592.5**	**711.2**	**658.6**	**558.0**	**2,986.8**

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

LNW route uses a slightly different allocation of the budgets between track, earthworks and drainage to that in the standard table above. The route's management accounts refer to DOT (drainage and off-track) which combine the off-track elements of track renewals with the drainage portfolio, in year 1, this has the effect of moving £11.9m from track to DOT. The revised control budget for year 1 is shown in Table 2.

Asset group	19/20 (£m)
Track	139.7
Signalling (inc. LC)	79.8
Structures	83.0
Earthworks	46.7
Buildings	45.9
Electrification and Fixed Plant	34.2
DOT	37.2
Telecoms	-
Others	-
Total	**466.5**

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

Similarly, 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	161.82	251.87
S&C	S&C unit	113.00	151.00
Signalling	SEU	19.00	21.34
Underbridges	m^2 deck area	6,632.10	10,828.63
Conductor Rail	km	-	3.60
Earthworks	No	444.00	446.00
Wire runs	No	-	16.00

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

2.3 Assessment scope

To assess LNW 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 (29% of years 1 and 2 renewals budget)
- Signalling (24%)
- Structures (17%)
- Earthworks (9%)

Together these four asset group portfolios cover 79% of the budget for renewals in years 1 and 2 of CP6.

Selecting a sample of projects for review

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

Project	Asset	Year 1 (£m)	Year 2 (£m)	Stage
OP 142080 Acton Grange	Track	10.2	-	3 Design and construction
OP 154341 LNW Sth-PL-ROW-19/20	Track	26.7	2.1	3 Design and construction
OP 154339 LNW Nth-PL-ROW-19/20	Track	22.8	-	3 Design and construction
OP 151897 Birmingham New Street Phase 7	Signalling	13.4	41.6	3 Design and construction

Project	Asset	Year 1 (£m)	Year 2 (£m)	Stage
OP 151661 Trafford Park Re-signalling	Signalling	4.0	14.7	2A Authorisation and project development
OP 152528 Shugborough Tunnel	Structures	0.3	4.4	2A Authorisation and project development
OP EEPH87 Boulderstones	Structures	0.7	2.2	2A Authorisation and project development
OP 137234 Northampton MDU Stores	Buildings	1.5	2.0	2A Authorisation and project development
OP 137218 Harrow & Wealdstone Footbridge	Buildings	3.7	-	3 Design and construction

Table 4: Summary of the sample of projects reviewed

2.4 Assessment findings

We assessed a substantial body of evidence provided on the planning, management and delivery of the route's renewals workbank, primarily focused on years 1 and 2 of CP6, with good evidence of detailed knowledge, ownership of and commitment to delivery across Route Asset Manager (RAM), 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.

In our initial meeting with the Director Route Asset Management (DRAM), we were briefed on the route's Integrated Management System (IMS). This database and reporting tool has been developed within the route and is used to manage the workbank, track activities in the authorisation and project development stage and record significant events in the design and design and construction stage. As such, it provides good coverage of many significant elements of the renewals delivery reference model and appears to be well accepted and fully used by the DRAM, RAM and finance teams. As well as supporting management of the renewals programme, IMS is also used to track the delivery of efficiencies.

IMS uses Microsoft PowerApps to integrate data held in local systems and in Oracle Projects. It also provides management of workflows (such as the change control process) and interactive reporting tools. The level of functionality demonstrated to us was impressive and IMS represents a major improvement on the ad-hoc spreadsheet-based systems we have seen being used as the core management tools in other routes. (We did see use of similar technology as a high-level management information tool in Wales.)

LNW is working to extend the coverage of IMS and to increase use of this approach beyond the asset management team. We think that this represents very good practice and, subject to technical review and appropriate planning, this approach should be used in preference to existing systems across all routes. The integration of reports and databases into this system has, however, limited the availability of off-line supporting detail to corroborate our findings.

Management and delivery of the renewals workbank is overseen by the DRAM using data and reports from the IMS and supported by three layers of governance reviews. These are:

Level 1 – Monthly Business Review (MBR) meeting between DRAM and Route Director

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

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

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

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

Model Stage 1 – Workbank management

Renewals workbanks are developed following Network Rail's asset management and business planning processes and, once agreed, are held in the IMS. The current year's workbank is locked and subject to change control. The workbank for the subsequent year (currently CP6 year 2) is locked at Rolling Forecast 8 (RF8).

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

Asset group	Year 1 (FY20)			Year 2 (FY21)		
	Business plan (£m)	Net change (£m)	Current (£m)	Business plan (£m)	Net change (£m)	Current (£m)
Track	150.6	(9.3)	141.3	154.7	(1.9)	152.8
Signalling (inc. LC)	79.8	(3.0)	76.8	179.1	(13.2)	165.9
Structures	83.0	(2.7)	80.3	95.4	0.4	95.8
Earthworks	46.1	(5.2)	40.9	40.3	(4.1)	36.2
Buildings	45.9	0.5	46.4	52.8	3.0	55.8
Electrification & FP	34.3	9.0	43.3	38.8	(1.5)	37.3
Drainage	26.9	10.5	37.4	31.4	9.7	41.1
Telecoms	-	-	-	-	-	-
Others	-	21.8	21.8	-	-	-
Total	**466.5**	**21.6**	**488.2**	**592.5**	**(7.5)**	**585.0**

Table 5: LNW route targets at RF4 (Source: Network Rail LNW 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 over planning and contingent renewals to provide resilience to changes

Our assessment of these four factors is discussed below:

Workbank compliance (financial and volume)

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

Within the workbanks for buildings and structures 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. At RF4, the allowances were £8.9m (19% of total annual budget) for buildings and £17.5m (21%) for structures. Such work is typically carried out by works delivery teams without significant disruptive possession or other long lead constraints and so can reasonably be assumed to be deliverable as part of the target for the overall portfolio. Indeed, we have heard that such works can be used as a useful regulator to help manage the profile of expenditure across financial years.

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

Adjustments to these budgets made during the rolling forecast business planning process are discussed in the 'Model stage 3 - Design and construction' section on page 24 of this report.

Workbank level of change

At Period 5, the Leading Indicator report puts LNW's year 1 stability at 87%, which is towards the top of the cross-route range of 79% - 91%.

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

Asset group	Year 1 (FY20)			
	Business plan (£m)	Net change (£m)	Other * (£m)	Current (£m)
Track	150.6	3.0	(12.3)	141.3
Signalling (inc. LC)	79.8	(11.1)	8.1	76.8
Structures	83.0	(0.1)	(2.6)	80.3
Earthworks	46.1	(3.7)	(1.5)	40.9
Buildings	45.9	6.0	(5.6)	46.4

Drainage	26.9	1.9	8.6	37.4
Telecoms	-	-	-	-
Others	0.0	0.0	21.8	21.8
Total	**466.6**	**(1.3)**	**22.9**	**488.2**

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

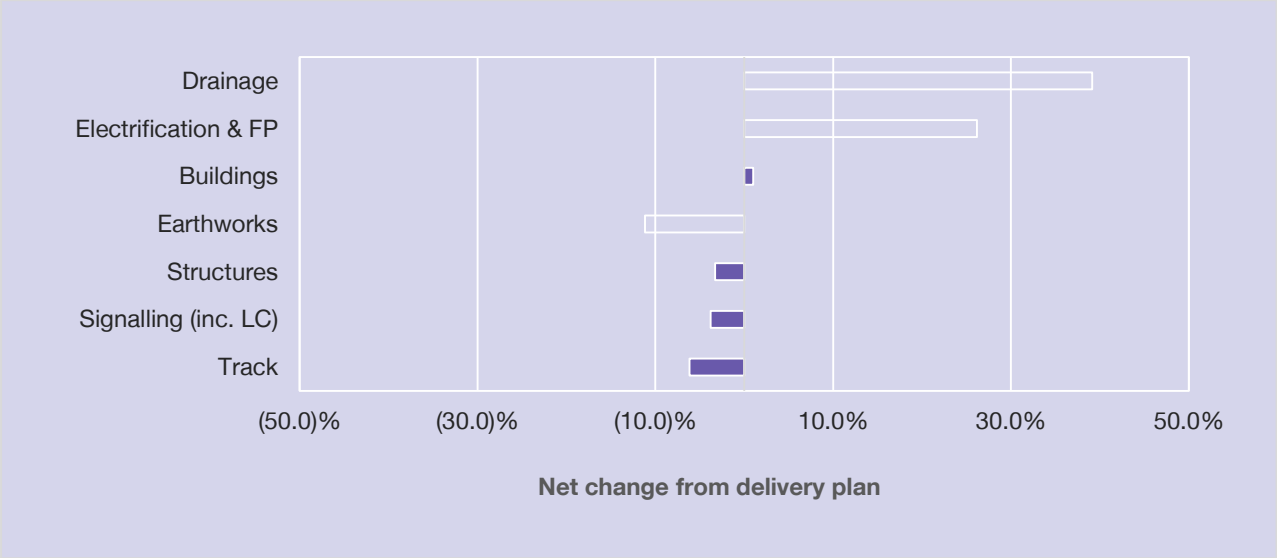

Figure 2: Workbank variance in year 1 (LNW)

The figure shows considerable variation of change across asset groups with overall net changes ranging from -11% to +39%. This implies that there is a significant level of underlying change in the workbank. We have discussed the drivers of this change with the route and they consider that much of the change can be attributed to bringing forward work from future years as well as to resolving claims and other accruals allowances brought forward from previous years. Other factors include increased costs. In addition, the dynamic nature of asset condition and its interaction with weather, railway operations and other factors means that a certain 'minimum' level of change will be 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 which flow from a stable workbank. We note that LNW's IMS requires changes to be classified by their underlying cause and this forms a good basis for further understanding of this issue. 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 documented change control process which is managed in the IMS. This involves multi-stage reviews leading to approval by the DRAM. The process operates over a 4-week cycle linked to periodic reporting dates. This appears to provide a robust process for managing change to the workbank.

We note that there is a lag between updates to change control and revision of forecasts as at RF4. Earlier, Table 5 illustrates this showing significant revisions to asset groups as well as the introduction of £21.8m of 'schemes outside target' at RF4, these are additional building schemes (mainly platform alteration works). The route has also explained that some of the RF4 changes relate to deliverability overlays which it would be inappropriate to manage through change control. We consider overlays in more detail in the 'Model stage 3 - Design and construction' section on page 24 of this report.

IMS requires changes to be classified by 'change driver', the factor which has prompted the change. This is good practice and generates data which, in the future, will be useful to analyse and improve the management of change. At present, it is not possible to extract data relating just to years 1 and 2 but preliminary analysis of what is available suggests that there is evidence of significant slippage (approx. 20%) in the change control records but that it is not possible to analyse the data sufficiently to understand the potential impact on years 1 and 2 or if this indicates a more significant planning issue. Analysis of the causes of change in LNW is illustrated in Figure 3. Further work should be undertaken to improve the analysis and understanding of this data and to facilitate similar analysis in other routes.

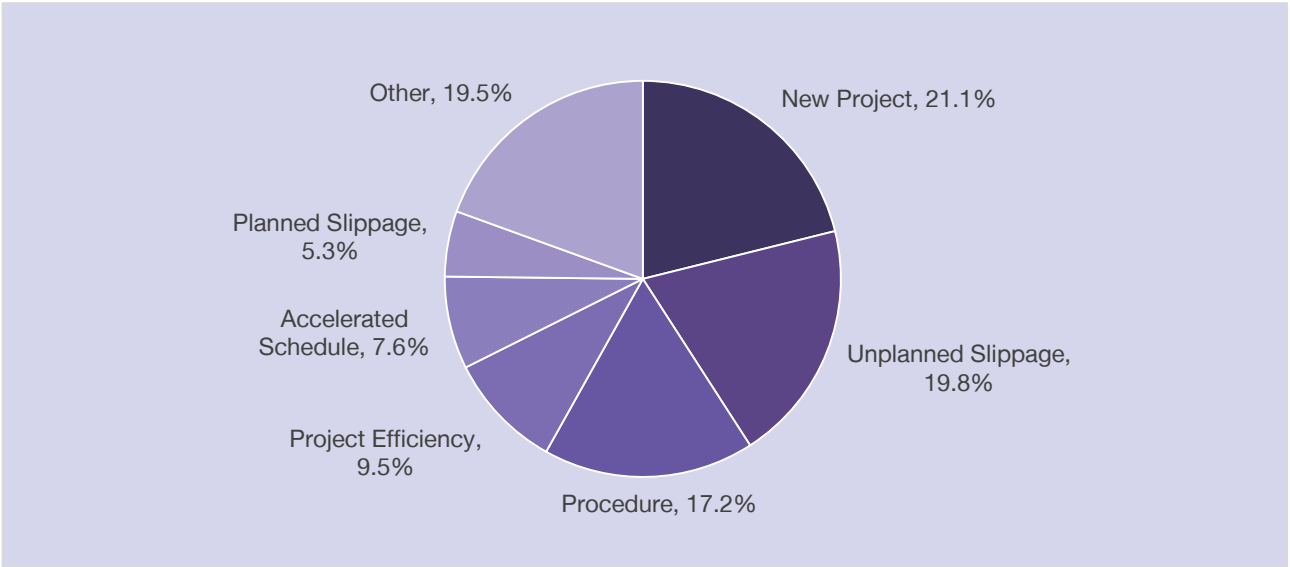

Figure 3: Preliminary analysis of change drivers (LNW route) (Source: Network Rail (LNW route))

Over planning and contingent renewals

LNW route uses both over planning and contingent renewals to support management of its programme within Departmental Expenditure Limits (DEL).

Over planning – Active planning and preparation to deliver renewals over the budget provision is used (a) for trackwork where access and logistical planning require long lead times and (b) for assets where schemes can be deferred without disrupting the same long-lead items if budget headroom does not materialise. Current over planning in LNW as represented by RF4 overlays is shown in Table 7.

Asset Group	Year 1 (£m)	Year 2 (£m)
Track	9.9	(11.0)
Signalling (inc. LC)	5.3	34.9
Structures	13.5	(20.3)
Earthworks	2.2	4.1
Buildings	(0.6)	10.0
Electrification & FP	1.1	(2.6)
Drainage	(2.0)	15
Telecoms	-	-
Others	3.3	-
Total	**32.7**	**30.2**
Over planning as% of annual budget	**7%**	**5%**

Table 7: Current levels of over planning (LNW route) (Source: Network Rail (LNW route)

Negative overlays appear in several places in Table 7. These arise in circumstances where either (a) remits have not been issued leading to there being projects missing from Oracle Projects and (b) where slippage from earlier years affects forecast outturns. The route keeps these factors under review.

Contingent renewals – The route reports that all RAMs have identified contingent renewals which can be implemented at relatively short notice if required to meet DEL expenditure targets. The strategies identified range from bringing forward work which can be completed without complex access or logistical planning (for example, lineside work, minor repairs and the like) or early implementation of design work for projects in future years. We note that ability to deploy contingent renewals will depend on early identification and approval of the need to do so. LNW route is confident that its review and authorising processes will support this if required.

In summary, the route has a robust approach to workbank management with good change control and support through the IMS. The integration of data sources in IMS has reduced our visibility of some detailed information but we do not think that this is a significant risk to our conclusions. On the contrary, IMS appears to be a strong driver to improved data and management processes and, subject to normal reviews for business-critical systems, should be considered for roll out in other routes. Our main concern in connection with the workbank is the underlying level of change and we recommend that this is monitored in the future so that more can be done to understand and reduce the drivers of this change.

Model Stage 2A – Authorisation and project development

The route uses a number of Delivery Agents from within IP and works delivery to service its portfolio and these are all involved with the authorisation and project development stage for relevant schemes. Each has slightly different processes and reports progress in different format of status reports. This makes aggregation of the overall position difficult for an ad-hoc review. (LNW route aspires to work with the new Capital Programme Director to extend the use of the IMS system so that it encompasses all levels of reporting). We agree that this would be a positive move.

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

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

Remit status

Issue of a remit by a route sponsor or asset manager and acceptance by a Delivery Agent marks the start of the project development process. Where a scheme is complex, remits may be updated at several points in the project lifecycle, typically for initial development and then for detailed design and implementation. Using remit status tracking as a Leading Indicator would therefore need to be based on the value of work remitted rather than the existence of a remit on any given project. LNW route tracks the issue of remits in IMS and this is summarised in Table 8 and in Figures 4 and 5. This data shows a high proportion (by value) of remits are issued and accepted for year 1 and that there is good progress with year 2. This data corresponds to that used in the Leading Indicator report.

Remit status	Year 1 (£m)	Year 2 (£m)
Accepted	367.0	373.3
Issued (not yet accepted)	82.9	148.6
Not issued	40.8	66.0
Total	**490.7**	**588.0**

Table 8: Remit status at Period 5 (LNW route) (Source: Network Rail (LNW route))

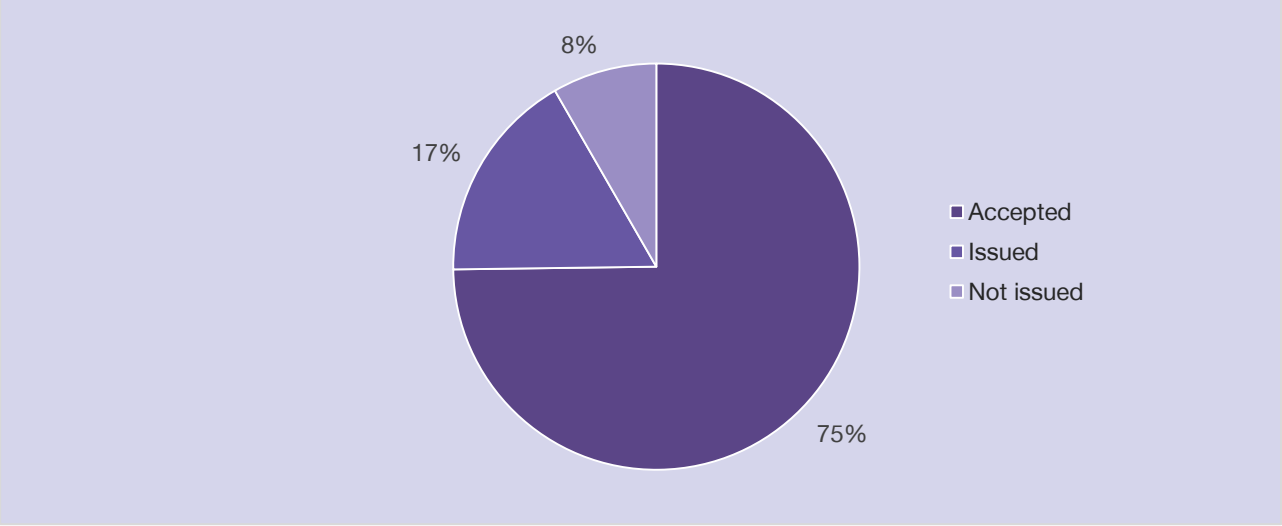

Figure 4: Remit status for year 1 (LNW route)

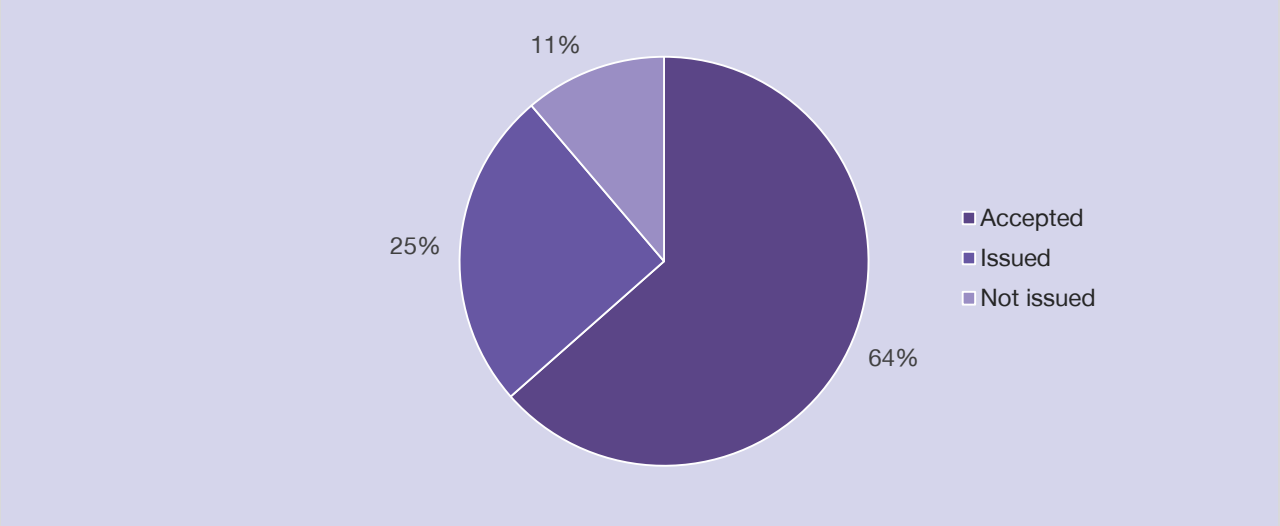

Figure 5: Remit status for year 2 (LNW route)

Within the year 2 figures there is a significant shortfall in the acceptance of track remits (73% issued but not yet accepted). We understand that this position is related to mobilisation of the new alliance arrangements and is expected to be resolved without impact on delivery. This situation should be kept under review.

Project controls and governance

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

Our focus has been on the project controls and governance implemented by LNW 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 65% of the portfolio is managed by IP and this organisation has well established management and reporting processes. Works delivery units on the other hand appear to be less consistent in their reporting. 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.

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

The three tiers of review are:

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

DRAM's Periodic Business Review (PBR) meeting with RAMs – This is the key governance meeting where financial performance, volumes, delivery issues and efficiencies are reviewed using a common format report which draw together information from the RAM review meetings, Oracle Projects and other sources. In LNW, the IMS is used as a principal tool for collating and presenting this data. This forum also manages the change control process.

Route Director's Monthly Business Review (MBR) meeting with the DRAM – The focus of this meeting is high level performance against financial and volume measures based on the finance and commercial report.

Whilst we have not observed the meetings within this process, we consider that the overall approach is what we would expect and is likely to provide a good basis for active management of the renewals programme.

Investment authority

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

Year 1 – 76% authorised at Period 3

Year 2 – 19% authorised at Period 5 (compares with 37% at this point last year)

The latest updated year 1 position provided to us is in Table 9. This shows 99% of the year 1 workload is authorised with individual asset groups ranging from 89% to 106% (figures over 100% indicate that over planned work has been authorised. Excluding over planned work, 97% of the year 1 target has been authorised).

Asset group	Target at RF4 (£m)	Current authority (£m)	Current authority %
Track	141.3	149.6	106
Signalling (inc. LC)	76.8	68.4	89
Structures	80.3	79.5	99
Earthworks	40.9	41.7	102
Buildings	46.4	44.3	95
Electrification & FP	43.3	42.5	98
DOT	37.4	35.1	94
Telecoms	-	-	-
Others	21.8	22.7	104
Total	**488.2**	**483.7**	**Average 99**

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

The route has confirmed that outstanding authorities relate to design and development schemes, implementation of schemes starting on site in the last quarter of the year. The route advises that the unauthorised signalling schemes relate to the rolling programme undertaken by in-house maintenance teams and that this will continue without risk to delivery.

The route's strategy for year 2 authorities is to confirm the workbank by RF8 and to obtain authority to at least GRIP stage 4 by Period 11. As a broad strategy, this appears to be reasonable and performance against this objective should be monitored via the Leading Indicator report.

Scheme Design

Progress of projects through scheme design (GRIP 4) is reviewed at the RAMs' progress meetings with their Delivery Agents. We did not see evidence to support this in the material provided to us, however we understand that issues are generally raised verbally as exception reports and that, for IP delivered projects, this is based on tracking GRIP stages as standard milestones in their P6 planning system. The route has confirmed that no material issues are currently identified.

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). Minor renewals works by Works Delivery are supported by existing labour and materials contracts.

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

Structures – All IP and works delivery frameworks are in place.

Buildings – All works are undertaken through framework arrangements. Minor works and works delivery can use frameworks with 2 – 3 years left to run and so there is limited procurement risk for this element of the portfolio. The major renewals framework has been extended to cover the early years of CP6 and tendering for a replacement contract is underway. As with signalling, this introduces some uncertainty over pricing for future years.

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

Model Stage 2B – Delivery planning

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

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

Disruptive possessions

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

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

Year 1 – 94% booked at Period 3

Year 2 – 36% booked at Period 5. This broadly compares to 40% booked at Period 5 last year

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

Disruptive possessions are a fundamental requirement for track and signalling renewals. They are used by other asset groups but work such as preparation for major renewals, lineside earthworks and drainage can often be undertaken either in Engineering Access Statement ('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) system. 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. Building on experience from the Birmingham New Street remodelling scheme, the route has enhanced its possession management capability with a dedicated team based in IP Signalling.

Track – All disruptive possessions for years 1 and 2 were reported to be in hand and expected to have been confirmed shortly after our review with the exception of January – March 2021. We understand that all year 1 possessions are booked but that 19 year 2 possessions remain to be booked within standard planning timescales.

Signalling – All disruptive possessions are booked.

Structures – All disruptive possessions are booked.

Buildings – No significant requirement for disruptive possessions.

However, it must be noted that:

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

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

Scarce resources

The major area of concern for scarce resources is signalling testers with peak requirements falling at Christmas and Easter when extended possessions allow major renewals to be undertaken. Resource planning is managed through a cross-route signal test diary which identifies times when demand may exceed availability. The route gave an example for year 1 at Edge Hill work being moved to ensure that testers will be available. The route has confirmed that it has secured testing resources required to support the Birmingham New Street works scheduled for Christmas 2020.

Haulage, plant and long lead materials

The planning of these three factors is managed centrally by SCO through its established processes and the overall status is not presented in the reports provided to us by LNW route. We did not identify any risks or concerns in our review of LNW route.

We also saw evidence of the management of obsolescence in long-lead lift components within the buildings asset group.

Environmental issues

These matters are managed through routine management processes within the project teams. We saw evidence of issues being identified and managed as follows:

Track – Evidence of survey and identification of protected species. Some risks to progress on individual sites identified and being managed.

Buildings – Planning consents.

Access and landowners

Temporary access is typically required to support track and civil engineering works. We understand that 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. LNW route has the following enhancement schemes currently being planned or implemented:

HS2 – Works at Euston, crossings at various points between London and Birmingham, works to the main line north of Handsacre Junction.

EWR Phase 2 – A new route from Oxford to Cambridge via Bletchley.

Mersey Rail PSU – Power supply upgrades to support the introduction of new rolling stock.

Future Third Party Opportunities – Potential third party funded enhancements. These remain to be defined.

Platform extensions – Year 1 works to support new rolling stock in the north of the route.

Our review indicated that the most significant of these is HS2 and we saw evidence of this affecting planning of track renewals across the route at multiple locations between Wembley and Crewe. HS2 considerations have also influenced the timing of signalling work in the Rugeley/Colwich area. Whilst we have not identified any concerns that these factors represent a significant risk to the programme for years 1 and 2, it will be important to keep this under review if any major changes to the HS2 programme emerge from the current government review.

In overall terms, we consider that LNW 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 other than the ongoing uncertainty associated with the HS2 programme.

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 SRAM Review Renewals financial report. The reported financial position is summarised in Tables 10 and 11.

Asset group	Actual (£m)	Budget (£m)	Variance (£m)	Variance %
Track	68.4	64.1	4.3	7%
Signalling (inc. LC)	13.4	23.7	(10.3)	(43%)
Structures	24	29.4	(5.4)	(18%)
Earthworks	10.8	13.8	(3.0)	(22%)
Buildings	10.7	21.3	(10.6)	(50%)
Electrification & FP	10.6	12.8	(2.2)	(7%)
DOT	8.9	13.8	(4.9)	(36%)
Telecoms	-	-	-	-
Others	5.7	-	5.7	n/a
Total	**152.6**	**178.8**	**(26.2)**	**(15%)**

Table 10: Performance year-to-date at Period 5 (Source: SRAM Review Renewals P05.pptx)

Asset group	Forecast £m	Budget £m	Variance £m	Variance %
Track	141.3	139.7	1.6	1%
Signalling (inc. LC)	71.9	79.8	(7.9)	(10%)
Structures	80.2	83.0	(2.8)	(3%)
Earthworks	41.0	46.7	(5.7)	(12%)
Buildings	47.1	45.9	1.2	3%
Electrification & FP	43.3	34.2	9.1	27%
DOT	37.4	37.2	0.2	1%
Telecoms	-	-	-	-
Others	26.7	-	26.7	n/a
Total	**488.9**	**466.5**	**22.4**	**5%**

Table 11: Full year forecast (LNW) (Source: Network Rail (LNW routes))

We make the following observations:

- The year to date performance shows overall under expenditure of £26.2m (15%) with considerable variance across asset groups (range 50% under to 7% over). The route has provided an analysis of the main drivers of this variance and they can be summarised as a combination of accruals reductions, forecasting errors, efficiencies and slippage. Of these, the largest adjustment is £13.2m of accruals releases which can be expected to be a one-off factor in the year.
- The full year forecast indicates performance £22.6m over budget with this being mainly due to the introduction of 'Schemes outside target'. Ignoring these schemes, the full year forecast shows under expenditure of £4.3m (1.0%) with a reduced variation across asset groups (range 12% under to 27% over). The route has described factors which give confidence that the full year forecast will be achieved due to anticipated increases in work levels during the latter part of the year and the position with over planning. The position should be monitored to verify that these improvements are shown in future year-to-date performance.
- We have not investigated the background to the reported over accruals and so are unable to comment on whether these arise from the transition between Control Periods or from regular year end accounting. This should be considered further in light of DEL rules to ensure that reported compliance at year end does not change as final costs are agreed in later periods.

Overlays

LNW route uses two overlays to manage its outturn reporting. These are:

Emerging costs overlay (ECO) – The standard adjustment mechanism used to ensure that the Financial Performance Measure (FPM) is not adversely affected by additional works which emerge during the year.

Deliverability overlay – This represents a judgement by the DRAM and route financial controller over the difference between work planned in Oracle Projects and what will actually be delivered (this includes a balancing provision for the ECO). As such, the net difference is indicative of the level of over planning by the route. The current overlays at the start of year 1 and at RF4 are shown in Tables 12 and 13.

Asset group	Year 1		
	Deliverability (£m)	Emerging Costs (£m)	Net (£m)
Track	(19.6)	5.0	(14.6)
Signalling (inc. LC)	(9.2)	14.0	4.8
Structures	(33.2)	12.0	(21.2)
Earthworks	(2.9)	8.0	5.1

Electrification & FP	(21.7)	12.0	(9.7)
Drainage	(7.1)	3.0	(4.1)
Telecoms	-	-	-
Others	-	-	-
Total	**(114.3)**	**64.0**	**(50.3)**

Table 12: Overlays at commencement of Year 1 (Source: Network Rail LNW route)

Asset group	Year 1			
	Deliverability (£m)	Emerging Costs (£m)	Net (£m)	Movement to P4 (£m)
Track	(9.9)	0.0	(9.9)	4.7
Signalling (inc. LC)	(5.3)	0.0	(5.3)	(10.1)
Structures	(13.5)	0.0	(13.5)	7.7
Earthworks	(2.2)	0.0	(2.2)	(7.3)
Buildings	0.6	0.0	0.6	11.2
Electrification & FP	(1.1)	0.0	(1.1)	8.6
Drainage	2.0	0.0	2.0	6.1
Telecoms	-	-	-	-
Others	(3.3)	0.0	(3.3)	(3.3)
Total	**(32.7)**	**0.0**	**(32.7)**	**17.6**

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

We make the following comments:

- The net deliverability overlay represented approximately 11% of budget at the start of the year. At Period 4 it had reduced to approximately 7%. This is proportional to the passage of time and also maintains the overlay at approximately 11% of spend to go which appears prudent.
- If the overlay proves too conservative, the route will need to cancel or defer schemes unless it is able to bring forward expenditure from future years (to cover under expenditure in year 1 in other routes) or if contingency is released. We understand that decisions about this will be taken at RF8.

- There are small negative overlays in buildings and drainage. This indicates that contingent renewals will need to be brought forward to maintain spend in these asset groups.
- We note that the ECO provision has been exhausted at Period 4. The implications of this are that further emerging works will either need to be deferred or will effectively increase the overlay. In the case of buildings and drainage, emerging works are likely to effectively take the place of contingent renewals.

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

Volumes

Variations between business plan budgets and forecast volumes (based on the 7-Key volume measures) for years 1 and 2 are shown in Tables 14, 15 and 16.

Asset Group	Unit	Actual	Budget	Variance	Variance %
Plain Line	Linear track km	68.77	74.00	(5.23)	(7)%
S&C	S&C unit	41.00	27.88	13.12	47%
Signalling	SEU	-	-	-	-%
Underbridges	m^2 deck area	3,813.00	3,656.92	156.08	4%
Conductor Rail	km	-	-	-	-%
Earthworks	No	15.00	26.40	(11.40)	(43)%
Wire runs	No	-	-	-	-%

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

Asset Group	Unit	Actual	Budget	Variance	Variance %
Plain Line	Linear track km	161.82	161.82	-	-%
S&C	S&C unit	113.00	113.00	-	-%
Signalling	SEU	19.00	19.00	-	-%
Underbridges	m^2 deck area	6,632.10	6,632.10	-	-%

Earthworks	No	444.00	444.00	-	-%
Wire runs	No	-	-	-	-%

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

Asset Group	Unit	Actual	Budget	Variance	Variance %
Plain Line	Linear track km	223.41	251.87	(28.46)	(11)%
S&C	S&C unit	140.16	151.00	(10.84)	(7)%
Signalling	SEU	5.59	21.34	(15.75)	(74)%
Underbridges	m^2 deck area	22,742.96	10,828.63	11,914.33	110%
Conductor Rail	km	3.58	3.60	(0.02)	(1)%
Earthworks	No	640.28	446.00	194.28	44%
Wire runs	No	5.00	16.00	(11.00)	(69)%

Table 16: Budget and planned volumes for year 2 (LNW) (Source: Network Rail (LNW route))

We make the following comments:

- We note that the route has maintained its forecast volumes for year 1 notwithstanding the variance to forecast expenditure shown in Table LNWJ (Full year forecast at Period 5) and the variance in year to date performance. The route has indicated that it has recovery plans for all asset groups apart from earthworks where the full year volumes will be reviewed at RF8. We have not examined these plans and the emerging position should be monitored via future year to date reports.
- There is significant variance between budget and forecast volumes for year 2 (-74% for signalling to +110% for underbridges) and these movements do not correlate with the changes to forecast expenditure at RF4 as illustrated by Figure 6. The route has partially explained these variances but intends to review them again at RF8. We recommend that further work be done to fully reconcile expenditure and volume forecasts and budgets across the Control Period at RF8.

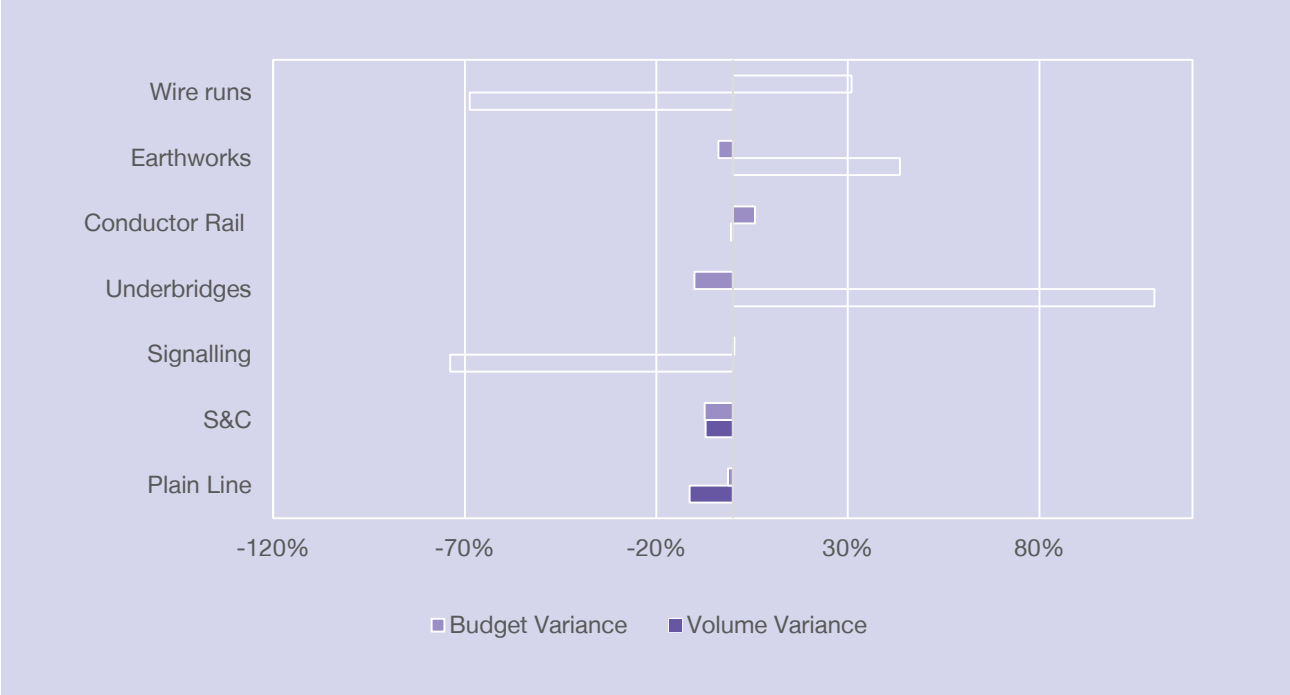

Figure 6: Comparison of variances to year 2 budget volumes and expenditure at RF4 (LNW route)

We note our concern that the causes of these variances are not fully clear and that there may be a risk of material adjustments to years 1 and 2 being introduced at RF8. Whilst these would seem more likely to affect volumes (and possibly efficiencies) if they materialise, if the variances in volumes and expenditure to date are not corrected there may be implications for full year expenditure.

Updates at RF4

Tables 17 and 18 summarises the changes to the business plan proposed by the route at RF4.

Asset group	Year 1			
	Business plan (£m)	Change control (£m)	Other * (£m)	Current (£m)
Track	150.6	3.0	(12.3)	141.3
Signalling (inc. LC)	79.8	(11.1)	8.1	76.8
Structures	83.0	(0.1)	(2.6)	80.3
Earthworks	46.1	(3.7)	(1.5)	40.9
Buildings	45.9	6.0	(5.6)	46.4

Asset group	Year 1			
	Business plan (£m)	Change control (£m)	Other * (£m)	Current (£m)
Electrification & FP	34.3	2.6	6.4	43.3
Drainage	26.9	1.9	8.6	37.4
Telecoms	-	-	-	-
Others	-	-	21.8	21.8
Total	**466.6**	**(1.3)**	**22.9**	**488.2**

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

Asset group	Year 2			
	Business plan (£m)	Change control (£m)	Other * (£m)	Current (£m)
Track	154.7	0.3	(2.2)	152.8
Signalling (inc. LC)	179.1	(11.0)	(2.2)	165.9
Structures	95.4	19.7	(19.3)	95.8
Earthworks	40.3	9.8	(13.8)	36.2
Buildings	52.8	7.4	(4.4)	55.8
Electrification & FP	38.8	1.2	(2.6)	37.3
Drainage	31.4	(2.5)	12.3	41.1
Telecoms	-	-	-	-
Others	-	-	-	-
Total	**592.5**	**24.8**	**(32.4)**	**585.0**

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

Tables 17 and 18 show how the numbers baselined in the business plan have been amended by the change control system, reflecting the judgements concerning overlays and other factors applied during the rolling forecast 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 IMS system and heard comprehensive descriptions of the RAM progress review meetings which support the DRAM PBR reporting. Variances to plans are identified and managed by the route although changes to cost and volumes are not always correlated. 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, LNW 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 consider that the IMS is a good innovation which may have benefits for other routes if it was developed as a national tool.

Overall management of renewals

- The overall process for managing renewals is complex with a combination of formal and informal processes all of which rely on the skills, experience and professionalism of those involved.
- We consider that the process being followed in LNW 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.
- IMS appears to be a strong driver to improved data and management processes. There may be further opportunities to build on this approach as IP and Works Delivery processes become more closely integrated under the regional capital programmes director.

Stage 1 – Workbank management

- 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.
- IMS provides a good discipline for managing change control and, in particular, the use of standard classifications to identify the cause of change is a useful facility to support analysis and future management of the underlying causes of change. However, it is not currently possible to analyse the causes of change within each financial year.

- 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, this 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 the aspiration for stable workbanks.

Stage 2A – Authorisation and project development

- The approach to securing project authority varies across asset groups with some (such as track) obtaining pre-authority for all stages early in the development cycle and others (such as structures) following a staged approach with option selection decisions made only after site investigation and initial design work has been completed. The timing of authorisation can also vary according to the planning lead times associated with the work (track and signalling schemes typically having the longest lead times). It is therefore important that this is reflected when setting glide paths for the authorisation Leading Indicator and assessing performance against it.
- Issue and acceptance of remits is an important milestone in the project delivery process. LNW are able to track progress through the IMS system and reports provide good confidence that the pipeline is being managed well. Remits (like authority) may need to be refreshed at later stages of project development and so any development of remit data to a Leading Indicator would require significant effort to develop a meaningful glide path.
- The route has a procurement strategy which can be expected to support delivery of its renewals plans. Nevertheless, there will always be risks of supplier failure and/or increases in rates if expected delivery or commercial arrangements are disrupted.

Stage 2B – Delivery planning

- The Leading Indicator is a useful guide to the delivery of signalling and track schemes which rely heavily on disruptive possessions. It does not reflect availability of the 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.

Stage 3 – Design and construction

- There is significant variance in year to date performance against budget across the asset groups and this is forecast to improve across the remaining periods up to the end of year 1. This applies both to financial performance and to volumes. We have not been able to conclusively identify if this is due to deficiencies in forecasts or variable performance as the causes of these variances are not fully clear and there is a risk of material adjustments to years 1 and 2 being introduced at RF8. Whilst these would seem more likely to affect volumes (and possibly efficiencies) if they materialise, if the variances in volumes and expenditure to date are not revised there may be implications for full year expenditure.
- Adjustments to accruals made at the end of CP5 appear to have affected performance in the year to date. We have not investigated the causes of these changes, but it is important that, under DEL rules, year-end accruals or made to a good level of accuracy.

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 –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:

- 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 – IMS should continue to be developed as a comprehensive system to improve management, reporting and analysis of the route's renewals programme.

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

- 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 – A review of the approach to making year end accruals should be undertaken by the route to identify any lessons to be learned from CP5 year 5 and provide assurance that post year-end adjustments will not impact compliance with DEL or plans for year 2 and future years.

Recommendation R5 – The RF8 forecast should provide assurance that there is a good correlation between changes to expenditure and volume forecast for years 1 and 2.

Recommendation R6 – 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 R7 – 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 R8 – 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 R9 – 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 R10 – 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 PM 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 Optimisation 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 Table 19 below, we have defined our expectations of planning and management features at both a 'project level' and 'initiative level' for each of the four categories A to D. Routes overall efficiency plans will comprise all four categories and therefore we have also defined our expectations of features at 'portfolio level' as common to all four categories. If an initiative is comprised of sub-initiatives, then the category can be applied at the lower level. When we are examining our samples of different efficiencies for a route, we will seek evidence of these features and that they are being used appropriately.

Efficiency Management System feature	Capex		Opex	
Category degree of enabling and implementation complexity	**(A) Low**	**(B) High**	**(C) Low**	**(D) High**
Project level:				
1. Efficiencies delivery plan (note 1)				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
Renewals Initiative level:				
5. Initiative delivery plans (note 3)				

Efficiency Management System feature	Capex		Opex	
Category degree of enabling and implementation complexity	**(A) Low**	**(B) High**	**(C) Low**	**(D) High**
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
9. Assurance function to assess project/initiative efficiency level delivery	YES	YES	YES	YES
10. Portfolio Management / Change Management support (note 6)	YES	YES	YES	YES

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

Notes on the table:

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

4. Initiative forecast plan. We would expect to contain forecast calculation with underpinning detail, assumptions, rationale and time phasing.

5. Feature 7 is required to ensure that all the change management enablers are being delivered at the 'initiative level'. These enablers will be used at project level to underpin their change management plans, Feature 4. Where required, change plans should be supported with adequate resources to assist implementation.

6. Change management support for the project level to implement common changes across their portfolio, including owning and disseminating good practice, organising training and knowledge sharing.

3.2 Route review context

Our review was undertaken during August to October 2019 and led for the route by its Route Financial Director (RFD), DRAM, Financial Controller (FC) and evidenced through meetings and documentation from RAMs (for capex efficiencies) and initiative owners (for opex efficiencies). For key reference forecast data, we reviewed the route's Period 4 2019/20 (RF4) efficiency forecast relative to the 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	Improved Contracting Strategies / Rates (Category A)	Signalling	0.8	5.0	10.1	0.0	3.6	19.5	5%
Capex	Improvement in Commercial Frameworks* (Category B)	Civils	4.1	3.3	4.0	3.5	3.6	18.4	7%
Capex	S&C and PL Work mix/scope efficiency (Category A)	Track	9.0	7.9	10.3	8.6	8.8	44.7	16%
Opex	Intelligent Infrastructure (Category D)	Maintenance	0.0	2.1	3.2	5.4	6.7	17.4	4%
Opex	Headcount Controls (Category D)	Maintenance	7.3	5.9	6.1	6.3	6.5	32.1	26%
Opex	Supply Chain Operations (Category C)	Maintenance	1.5	3.8	4.6	5.9	7.4	23.3	10%

Table 20: Sample route efficiency forecasts at RF4

*Note – the Improvement in commercial frameworks initiative has since been separated into five line items in the centrally report fishbone tracker in P6.

3.4 Assessment findings

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.

In our selected sample of efficiencies for this route there were one Category B and two Category D initiatives which require, or potentially require, business change and therefore need descriptions of that business change and how it will generate efficiency. The following are findings on the quality of business change description focussing on these Category B and D initiatives from our sample:

- **Civils' Improvement in Commercial Frameworks (Category B).** This initiative was a holding line assigned during the SBP/RF11 baseline that has since been developed by the route's Delivery Agent (IP) into five items. The route was not able to provide us with descriptions or plans for how they will generate the efficiencies from these items. We have therefore categorised this initiative as Category B as it could potentially have enabling or change management implications when the sub-initiatives have been further developed. The five items are:

  Negotiate revised T&C during CP6 Supplier Meetings (Main Contracts) – This represents the majority of savings

  Challenge Target Cost Build Ups and Methodologies – New initiative

  Enforcement of Competition when Budget Award CRITERIA not met – New initiative

  Set up Value Engineering Panel – New initiative

  Improvement in Commercial Frameworks – Remaining as a holding line for the route

  IP Central have provided a single one-page high-level description for all of the initiatives that includes inputs required by IP to deliver the benefits, however these are general comments which are not expressed as SMART (Specific, Measurable, Achievable, Realistic and Time bound) actions and so do not provide a good basis for managing delivery of the sub-initiatives.

- **Intelligent Infrastructure (Category D) is the most significant initiative in terms of business change we reviewed but more detailed plans remain to be developed.** This initiative represents the central Intelligent Infrastructure Programme's rollout of new technology in CP6, in particular the release of new track and signalling technology in years 1 and 2 of the Control Period. The route has not developed an implementation plan to deliver the new technology pending the central Intelligent Infrastructure Programme competing a proof of concept.
- **Headcount Controls (Category D) involves a combination of opex change controls and governance panel restricting non-critical recruitment and delaying the hiring process by two to three months to achieve year 1 savings.** As part of setting annual resource budgets, each cost centre completes a detailed spreadsheet of their staff establishment and includes any planned recruitment for the year. This will provide a baseline to which headcount is managed with any additional recruitment requiring executive, HR and Financial approval. The savings allocated for year 1 do not require significant enabling activity, however we have classified this as Category D as our view is that the savings in later years will require change management enabling activities that will need to be described and forecasted.

In our selected sample of efficiencies there were also Category A and Category C initiatives which have less or no reliance on business change in the route:

- **Track efficiency is a scope efficiency (Category A).** A scope efficiency is an efficiency found through a reduced amount of work in or reduced scope or complexity but with the same output. This initiative is the largest efficiency for LNW, valued at £44.7m for CP6 and is derived by specifying work with lower specifications and/or less restricted access compared to the project mix underpinning the 2016/17 unit rates, which formed the basis of the CP6 SBP submission. There is no enabling business change required to achieve this efficiency, it relies on delivering the workbank as specified.
- **Monitoring of SCO efficiencies (Category C).** From a route perspective, this does not rely on their enabling activity or significant implementation effort and therefore we have classified it as Category C. However, the SCO programme has enabling activity, for example, supply chain and logistics (project Atlanta), that is required to achieve their reduced rates.

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'.

Capex initiatives in our samples were primarily estimated 'top down' for SBP/RF11. The route has subsequently been working with the Delivery Agents (IP and Works Delivery) to validate achievability of their allocated targets through a review of efficiency forecasts developed on a project by project basis. Each asset group is at different point in this process and any adjustments identified will be made as part of the rolling forecast process at RF8 and RF11.

We found examples of different approaches being used across asset groups for this project by project efficiency forecasting and validation:

- **Signalling's Improved Contracting Strategy.** The year 1 forecast has been achieved through resolution of a dispute arising from Liverpool Lime Street (which as an aside raises consideration of whether commercial claims are an actual efficiency or should be reported elsewhere). However, year 2 efficiencies are still being identified and IP Signalling's Efficiency Plan-on-a-Page (EPOP) is being developed.
- **Civils' Improvement in Commercial frameworks.** Analysis since the SBP by IP Central has led to a re-profiling of 'project level' forecasts at P6 and has resulted in a year 1 shortfall (£1.73m) and Year 2 increase (£840k) against the SBP top-down target. Calculations have been requested from IP Central and not received, however it appears from the plan-on-a-page that only the main contracts re-negotiation sub-initiative has been developed into an efficiency forecast and therefore the other sub-initiative are still undeveloped 'top down' targets.

Opex initiatives in our sample were primarily 'plan based' and therefore responsibility for the forecast efficiencies has stayed at the 'initiative level' with a better line of sight between enabling business change activity and the forecast efficiencies. We saw a reasonable degree of detail in the approach to the forecast calculations in the labour savings sample initiatives we reviewed, which is appropriate given the nature of these business change programmes. Examples of different opex forecast calculations include:

- **Intelligent Infrastructure.** The forecast used for the SBP/RF11 baseline was calculated using a well-structured model developed by the central Intelligent Infrastructure Programme using route specific labour rates. The route and central programme team undertook best/worst case scenario analysis regarding the degree of benefits that could be achieved through the introduction of CP6 technology. Being more cautious, the route then took a mid-point estimate and re-phased the forecast profile based on its assumed implementation timeline.
- **Headcount Controls was a stretch target devolved to cost centres which is validated through the annual budgeting process.** The year 1 forecast is confirmed and underpinned by a detailed resource plan for each cost centre that reflects the year 1 budget. Following resource planning for year 2, the route will validate the SBP year 2 target at RF8 and RF11 then allocate efficiencies within the year 2 budget at P12.

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.

We found that monitoring of capex efficiencies focuses on projects achieving their allocated post-efficient savings derived from a 'top down' process, with little emphasis on monitoring of delivery of change management enabling actions at 'initiative level' or business change planning at 'project level'.

The route followed a 'top down' approach to allocating their capex efficiency savings. The route's approach appears to be that delivery of efficiencies can be assumed if the anticipated final cost (AFC) of the portfolio achieves the post-efficient target, based on an assumption that each scheme is remitted to Delivery Agents at post-efficient prices. LNW have largely devolved responsibility of achieving post efficient targets to Delivery Agents, with efficiencies against pre-efficient budgets being allocated across Works Delivery, IP Central, IP Signalling, IP Track and others.

Monitoring of delivery of efficiencies allocations at 'portfolio level' is part of the periodic governance meetings between Delivery Agents and RAM teams and reported through PBR/MBR packs. Risks and issues related to achieving efficiency allocations are also reviewed at 'project level'. We have seen some documented examples of enabling actions required to realise efficiencies, however these have not been in an appropriate format, for example, with milestone dates. We were looking for evidence of sufficient progress monitoring of completing efficiency enabling actions, for example, change management enabling

products. We have seen documents belonging to IP Signalling and IP Central that describe their approach to efficiencies, however we have not seen sufficient monitoring by the route of business change implementation required to enable Category B and D efficiencies.

The route monitors benefit realisation retrospectively and adjusts efficiency targets as part of the rolling forecast process. To validate efficiencies realised and claimed, the route reviews a sample of completed projects to identify how efficiencies have been achieved. Each source of efficiency identified is then categorised into a fishbone grouping category to monitor/assess whether the efficiency forecast at initiative level is still realistic or will require adjustment as part of the rolling forecast process. For signalling, efficiencies allocated to Works Delivery are accrued each reporting period and later confirmed via post completion reviews of schemes. Likewise, Civils and route finance teams retrospectively analyse IP Central's efficiency delivery with a future checkpoint to evidence their commercial efficiencies scheduled for Period 10 of year 1.

IP Signalling's Efficiency EPOP align efficiencies against the GRIP process. This enables progressive tracking of efficiency forecasts through the project lifecycle and we consider this to be good practice. IP Signalling's EPOP template captures efficiencies identified for a given scheme, categorises it within a fishbone reporting category and assigns a GRIP stage of when the efficiency should be realised. We have also seen a version of the template that provides tracking of actions, responsible owners and dates of when benefits should be realised. While we have only reviewed a small number of EPOPs (with varying quality of documentation) we are encouraged by the development of IP Signalling's planning approach to efficiencies. The EPOP is one of the best practices we have seen with respect to forward planning of efficiency enabling activities that allow active monitoring of efficiency delivery.

Opex initiatives are managed at an individual 'project level' rather than at a 'portfolio level'. Delivery of opex efficiencies are the responsibility of budget owners, with the route having assigned efficiencies to budget holders by a 'top down' process to drive accountability to achieve financial targets. However, the route has not established an overarching efficiency change programme or regular governance meetings at a route level to assure itself that activities required to enable change management are being progressed.

Of the efficiencies in our sample:

- Monitoring of Headcount Controls (Category D) is done through the cost control panels and is not reliant on enabling change management activities for year 1.
- Intelligent Infrastructure (Category D) has established governance meetings with the central Intelligent Infrastructure Programme.
- Monitoring of SCO efficiencies (Category C) is through regular contact with the SCO team.

While individually projects may be delivering to their plans, without having some basic programme level reporting to monitor implementation milestones and risks to delivery, the route has limited visibility to assure itself that opex efficiencies have been planned sufficiently throughout the whole Control Period to achieve targeted savings. Specifically, where enabling activities are required to be completed, for example, change management enabling deliverables.

Clear financial monitoring of opex efficiencies through variance reporting. With opex efficiencies assigned to cost centres, each period Management Accountants complete variance analysis trackers identifying the key drivers behind any variance to post efficient budgets for the period. The variance analysis tool allows the route to separate between efficiency, inefficiency, headwind and tailwind with more granularity as well as monitor the financial performance of opex initiatives.

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.

Renewals has comprehensive risk controls to manage project delivery but not specifically for achieving efficiencies. The route provided detailed examples of project risk logs with treatment actions and residual risks scored. These focus on project delivery risks, including commercial or scope risks that may impact AFC, but they did not include any risks specifically related to the delivery of efficiencies. Likewise, the route provided extracts from Active Risk Management (ARM) that showed project cost impacts, which support managing to the post-efficient budget but not explicitly linked to individual efficiency initiatives.

Risk associated with renewals efficiencies is managed at a portfolio level with ongoing discussions between route and deliverers to achieve targets. When shortfalls occur, efficiencies are sought elsewhere, and appropriate adjustments are made as part of the rolling forecast process. Through our review of sample capex efficiencies, we noted the following risk:

- **Signalling's Improved Contracting Strategies.** The initiative's year 1 forecast has been achieved, however the Year 2 forecast of £5m is at risk due to extended negotiation of Birmingham New Street Phase 7. To recover this shortfall IP Signalling have started to identify other efficiencies and have found £340k at the time of writing. The route will not adjust the year 2 forecast at RF8 and will await IP Signalling's identification of other efficiencies over the next 18 months.

The newly developed IP Signalling's efficiency process includes risk checkpoints aligned with GRIP in which efficiencies are confirmed. The CP6 Signalling Process (May 2019) has incorporated stage gates into the GRIP process to monitor risks of non-delivery of efficiencies. The Stage Gates involve:

- GRIP 0-1. IP review and acceptance.
- GRIP 2. Agree SEU breakdown with client and remit to GRIP 3.
- GRIP 3. Go/no-go assessment – have we met the post-efficient rate?
- GRIP 4. Go/no-go assessment – have we included agreed efficiencies?
- GRIP 5. Go/no-go assessment – what further efficiencies are included? What are the implementation plans? Must have plans to be accepted.
- GRIP 6. Measure efficiency benefits, identify best practice, disseminate best practice.

While we have not seen evidence of this process in action, this systematised methodology appears to be a good approach to with the potential to provide benefit to other deliverers and asset groups.

There was no evidence of risk documentation provided for two of the sample opex efficiencies. We did not see any documented risks associated with the Headcount Controls or SCO initiatives. We understand the route monitors Headcount Controls using the opex variance tracker tool and other HR trackers retrospectively, however we did not see any forward-anticipated risks documented.

Likewise, there were no risk related documents provided for SCO. The route has advised that it maintains regular contact with SCO and would receive an early warning of any risks or issues that arise. We understand the route has reassured itself of the current forecasts provided by SCO for year 1 and will verify year 2's forecast at RF8 and at RF11 after SCO has undertaken a view on year 2 following a national assessment of rates.

The route has adopted a more conservative forecast for Intelligent Infrastructure by adjusting the centrally developed calculator, however risk to achieve targets from year 2 onwards remains. The route's Intelligent Infrastructure forecast is a 60% mid-point estimate between the best/worst case scenario analysis, which derived a £17.3m target for CP6. While maintaining this overall target, the route has re-phased the forecast generated by the central Intelligent Infrastructure Programme's forecasting model from a five-year profile, starting in year 1, to a four-year profile commencing in year 2. However, risk of year 2 delivery remains in the absence of detailed plans and validation of savings. The route needs to develop an implementation plan and then develop benefits profiles for the introduction of the new technology. This can be done once the central Intelligent Infrastructure Programme completes the route's proof of concept. This risk is known and documented as part of the joint route and central Intelligent Infrastructure Programme governance.

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

Forecast limitations

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

- **Signalling's Improved Contracting Strategies.** IP Signalling commented that the estimates applied at the time of SBP/RF11 baseline was a result of insufficient time to do detailed planning. The Route FD has acknowledged engagement with deliverers should have been earlier and efficiency planning with deliverers is an area they are working to improve.
- **Track's S&C and PL Work Mix/Scope Efficiency.** The forecast calculation that has compared high CP5 exit rates against lower cost CP6 work has artificially produced a major 'efficiency' of £45m. We note that this is classified under the central finance reporting as an activity/scope efficiency, however it does raise consideration of whether a new/different reporting category could be used to adjust items where the baseline cost base used was unsuitable for the upcoming Control Period.

Lessons learnt incorporated into efficiency plans

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

- **All opex efficiency owners are budget holders.** In CP5 not all efficiency owners were budget holders, which resulted in a reduced level of accountability and focus on efficiency delivery. In CP6 all efficiency owners are budget holders and all efficiencies have been embedding within Delivery Unit cost centres, including stretch targets. The route noted this approach has already improved opex efficiency delivery in CP6.
- **Headcount Controls.** The route has advised that the establishment of the Opex Change, People, Land and Accommodation Panels has driven cultural change with respect to recruitment. The route is learning to do more with less resources through better analysis, and managers expectations regarding recruitment have changed through the increased scrutiny of staff hiring.
- **IP Signalling's EPOP.** IP Signalling's EPOP template and approach has now been adopted by Scotland, LNE and LNW routes. We continue to see evidence of this process evolve and improve with increased usage. Going forward, the EPOP efficiency data gathered has the potential to provide valuable information to inform future efficiency action planning and improved forecasting.

3.5 Conclusions and recommendations

This section draws together our conclusions from our review of efficiencies at LNW 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 Categories B (capex) and D (opex).

Our conclusions from our review of a sample of initiatives are:

- There is some evidence of good quality plans to monitor and track efficiency delivery at a 'project level', notably IP's EPOPs, although not consistently applied across asset groups.
- We found little evidence of planning of change management or their enablers at 'initiative' and 'project' level for Categories B (capex) and D (opex).
- We note that IP Signalling and IP Central have efficiency strategies, however we found little evidence of proactive efficiency planning at the route 'portfolio level', for example, to plan and monitor the implementation of initiatives across the route for either opex or capex efficiencies. The route's approach is that deliverers are responsible for capex efficiencies, route budget owners are responsible for opex efficiencies and finance teams retrospectively monitor financial performance. Missing from this arrangement is a whole-of-route view to ensure forward planning of efficiency enabling actions and the active management of implementing business change. We understand the route is preparing a headwinds and efficiencies briefing document that will detail the roles/responsibilities and reporting arrangements of efficiencies to provide a more integrated approach particularly with deliverers. The route developing its own efficiency approach will be an important step to manage their efficiencies portfolio in a more structured and proactive manner.

Our high-level conclusion is that LNW needs to improve the quality of its planning and monitoring, when considered in the context of an overall 'Efficiency Management System', to achieve its efficiency targets for the Control Period. This should be done in a proportional way and focus on initiatives with the most complexity and risks to delivering their efficiencies.

In addition to an overarching strategy document at route 'portfolio level', the route would benefit from improving project management and documentation of change management at 'portfolio', 'initiative' and 'project' levels. The Quad spreadsheets and reporting process developed by Western route's Change Management Office is a useful example of appropriate templates to plan and manage the more complex efficiency initiatives (particularly capex Category B initiatives). It allows for milestones and risks be managed at a RAM or initiative owner level and then consolidated to provide a route level view for portfolio governance.

Recommendation E1 – The route should develop its overall 'Efficiencies Management System' and make improvements in planning at 'portfolio', 'initiative' and 'project' level focussing on the more complex and higher risk efficiency initiatives (Categories B and D). This would include milestone tracking and risk management.

Recommendation E2 – The route should establish more transparent efficiency governance as part of developing its 'Efficiencies Management System'.

Efficiencies are managed by responsible owners/RAMs without support from a dedicated change management or special projects teams as seen in other routes. Other than finance teams, the route does not have resources dedicated to supporting the planning and delivery of opex and capex efficiencies at 'portfolio level'. We have seen in other routes that have Change Management and or Special Project teams (supporting both opex and capex efficiencies) a greater maturity in their efficiency planning and delivery. We understand the route is appointing a Programme Manager to help establish an efficiency programme which will assist, although additional support may also be helpful.

Recommendation E3 – The route should review approaches to resourcing and efficiency management at 'portfolio level' in other routes, such as Western's Change Management Office and Wales' Special Projects team to consider what is the most appropriate resourcing model to support implementation of efficiencies.

Reasonableness of savings forecasts based on efficiency plans

Further work is needed to verify that capex forecasts, derived from a 'top down' allocation process to Deliverers and Projects, can be delivered through bottom-up development of 'project level' delivery plans containing efficiency calculations and action plans.

While the deliverers have been allocated their efficiency targets, they are still developing their 'project level' efficiency plans and identifying savings to confirm how they will achieve their targets. This is an evolving process with more clarity forming at each rolling forecast.

The route's approach to forecasting efficiencies at a 'portfolio level' is largely retrospective and reliant upon deliverers reporting identified efficiencies achieved. To improve forecasting and to provide the route more assurance of deliverers' efficiency plans, the route should consider using a model such as the CP6 Workbank and Efficiencies Tool that Western route are developing. The tool breaks down each assets workbank by project and allocates efficiencies across all elements of the centrally reported fishbone initiatives. Western then plan to introduce change control to efficiencies as part of the investment paper authorisation process. Such an approach would give LNW's RAM teams good visibility of deliverers efficiency targets and allow the FD and DRAM a complete view of its efficiency portfolio. We note that Western's approach is still underdevelopment, however it appears to provide a line of sight of between baseline efficiency forecasts, 'initiative level' forecasts and 'project level' forecasts and could assist LNW

Recommendation E4 – The route should review approaches/tools being developed by other routes to provide improved monitoring of efficiency forecasts at 'portfolio level', such as Western's CP6 Workbank and Efficiencies Tool.

There is more confidence in Opex forecasts for Year 1, however forecasts for more complex initiatives (Category D) for Years 2 onwards need to be developed. Of the opex efficiencies reviewed in our sample, the route has assured itself of achieving opex efficiencies in year 1 (noting there is no year 1 target for Intelligent Infrastructure). With opex efficiencies providing a better line of sight between initiative efficiency forecasts and project forecasts, it is reasonable to expect that the Year 2 targets are within an achievable range based on year 1 results. However, both SCO and Headcount Controls will reconfirm year 2 forecasts at RF8 and RF11 based on better information. Intelligent Infrastructure's year 2 forecast currently remains an estimate and will be validated when benefit profiles are developed. However, until the route implementation plan is known it is difficult to provide certainty of the current year 2 forecast.

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. Overall the route holds total efficiencies consistent with the CP6 at £592m as at RF4. As the table below shows, there is a 6% reduction in year 1 that is redistributed into years 2 to 4. The route has advised this movement is due to efficiencies associated with rail milling work (an initiative outside of our sample) being rescheduled, where sites planned in year 1 were subsequently deemed unsuitable. The route seeks to identify future sites for rail milling in the following years to achieve this efficiency.

	FY20	FY21	FY22	FY23	FY24	CP6
RF11 £m	**69.4**	**89.5**	**134.1**	**146.0**	**153.1**	**592.1**
Capex	46.6	60.6	100.3	105.6	107.7	420.9
Opex	22.8	28.9	33.7	40.4	45.4	171.2
P4 £m	**66.9**	**90.4**	**134.9**	**146.8**	**153.1**	**592.2**
Capex	44.0	61.5	101.2	106.5	107.7	420.9
Opex	22.9	28.9	33.7	40.4	45.4	171.3
% Change	**(4)%**	**1%**	**1%**	**1%**	**0%**	**0%**
Capex	(6)%	1%	1%	1%	0%	0%
Opex	1%	0%	0%	0%	0%	0%
P4 yearly profile	**11%**	**15%**	**23%**	**25%**	**26%**	**100%**
Capex	10%	15%	24%	25%	26%	100%
Opex	13%	17%	20%	24%	26%	100%

Table 21: 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 by Network Rail at the mandate Steering Group.

Programme

There is limited evidence of a programme approach to efficiencies in LNW. There are no dedicated change management or special project resources to support efficiencies. This may contribute to the inconsistent approaches to planning and monitoring of efficiencies by RAM teams. For LNW, deliverers are considered largely responsible for the delivery of capex efficiencies (IP Central and IP Signalling have their own plans and processes). Governance of capex efficiencies is predominantly managed through periodic deliverer reporting (for example, PBRs and MBRs). Overall the route's efficiency planning and delivery is not as mature as it needs to be. Better planning and management of actual business change and improvement will be increasingly important from year 2 onwards when stretch targets apply. In the later years of the Control Period, the yearly efficiency forecasts show more of an increase for capex (mirroring workbank) than in the opex yearly profile.

Forecasts

Capex forecasts are generally top-down targets with further work required to validate and replace them with bottom-up project plans and forecasts and provide more certainty that capex forecasts can be achieved. There is limited line of sight between capex calculations reviewed in our sample and the initiative line items reported centrally. The route acknowledges that better engagement with their deliver agents during SBP/RF11 baseline would have improved forecasts and they are working to improve planning and forecasting arrangements with deliverers.

The year 1 forecast of the Civils efficiency has been reforecast down in P6 after further review by IP Central and this shortfall will be sought through alternate efficiencies. Year 2 includes a signalling efficiency that is currently at risk and IP Signalling are continuing to identify efficiencies to achieve the target forecast.

Documentation

We did not see any evidence of consistent templates or approach to route efficiency project documentation. Capex efficiencies are mainly reported through periodic delivery agent reporting, managing to the post-efficient budget, rather than tracking efficiency delivery actions. The route has good variance tracking of opex efficiencies from a financial perspective (but less monitoring of business change implementation). There was no evidence of formal or structured assurance to efficiency documentation or risk management specifically for efficiency delivery.

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