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

Summary Report - November 2019

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Introduction

About this review

In October 2018, ORR published its Final Determination; the result of its 2018 Periodic Review for Control Period 6 (CP6), which runs from April 2019 to March 2024. It set out what Network Rail should deliver in operating, maintaining and renewing its network in CP6. It also set out the funding to support this work, which incorporated Network Rail's plans to deliver £3.1bn of gross efficiency improvements.

An Independent Reporter review by Nichols was commissioned in a joint mandate by the ORR and Network Rail in April 2019, to provide an assessment of Network Rail's preparedness to deliver its renewals and its efficiency plans in the early part of CP6.

The review was structured in two phases:

- Phase 1 to include an assessment of Scotland and Wessex routes. It was completed in July 2019.
- Phase 2 undertaken between August and October 2019, to assess the remaining six routes; Anglia, London North East & East Midlands (LNE&EM), London North West (LNW), South East, Wales and Western.

The objectives of the review were to provide an independent assessment of:

- The reasonableness of the routes' renewals workbank management for years 1 and 2 of CP6, and their preparedness to deliver committed renewals plans for CP6.
- The reasonableness of the routes' efficiency planning, and their preparedness to deliver committed efficiency savings in years 1 and 2 of CP6.

Review outputs

A joint steering group from Network Rail and ORR provided oversight of the delivery of the review and directed the Independent Reporter to produce six separate specific reports for each of the routes assessed in phase 2.

The purpose of this Review Summary Report is to:

- Provide a short summary at the completion of the phase 2 review.
- Provide a summary of general conclusions and recommendations synthesised from across the separate route assessments of renewals and efficiencies preparedness.
- Report on the assessment of several efficiency initiatives led by Network Rail central functions, which are not route specific.
- Report on our assessment of the further development of Leading Indicators, used to monitor renewals preparedness, since phase 1.

In total, there are eight reports containing the outputs of the review:

1. This Review Summary Report
2. Phase 1 Final Report[1] published in July 2019, containing the results of the assessments of Scotland and Wessex routes
3. Anglia Route Assessment Report
4. London North East & East Midlands Route Assessment Report
5. London North West Route Assessment Report
6. South East Route Assessment Report
7. Wales Route Assessment Report
8. Western Route Assessment Report

[1] This can be found on ORR's web site here: https://orr.gov.uk/__data/assets/pdf_file/0013/41602/interim-nichols-review-of-network-rails-renewals-and-efficiency-planning.pdf

Acknowledgments

We would like to thank all six of Network Rail's routes and also its centre team for their cooperation and support during review phase 2, providing a significant body of documents as evidence, professionally managing meetings for the review teams throughout the fieldwork phase, and responding to a series of additional clarifications on its renewals and efficiency plans; all of which was undertaken during the transition to Network Rail's new regional structure.

Renewals delivery preparedness

Introduction

A summary of general findings and recommendations for improvement of renewals workbank delivery preparedness are presented here, drawn from across the more detailed route specific assessments. There are differences across the routes and the route specific review reports should be read to understand route specific preparedness.

Review phase 1

We undertook review phase 1 at the beginning of year 1 of CP6. We reviewed the available Leading Indicators; disruptive access, project authorisation and workbank stability. The Leading Indicators are provided by each route, collated by Network Rail centre, and issued to ORR, as a high-level summary of renewals delivery preparedness. A key finding from review 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 other metrics to provide a more complete picture.

Review phase 2

We undertook review phase 2 in periods 4 and 5 of year 1, and our focus changed from assessing the use of Leading Indicators to how each route was managing, monitoring and controlling preparedness to deliver its workbanks and efficiencies. This required the Independent Reporter to assess a broader evidence base covering workbank management, authorisation of workbanks, project development, delivery planning, design and construction progress; with an emphasis on years 1 and 2 of CP6.

Assessment methodology

Our methodology for assessing preparedness uses a Renewals Delivery Reference Model (Figure 1) to provide a structure and also a series of assessment factors. It is 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

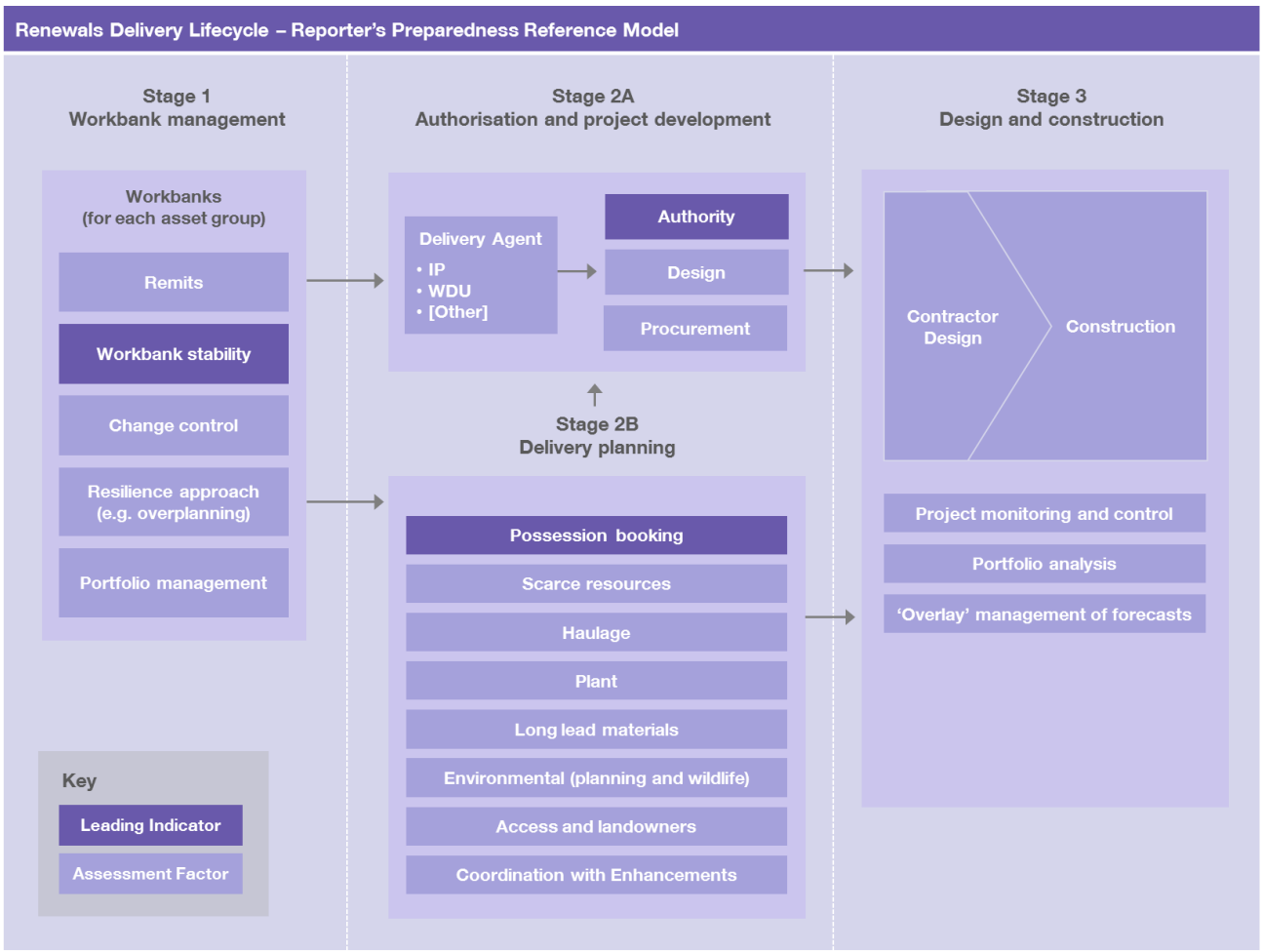

Figure 1: Renewals Delivery Reference Model

Given the scale of the expenditure on renewals, each route follows a renewals delivery management approach and organisational model that operates at and integrates between several levels:

- Route level spanning across different asset groups (track, signalling, structures, earthworks, buildings, electrification & fixed plant and drainage)
- Asset group portfolio level managed by a Route Asset Manager (RAM)
- Delivery Agent (Infrastructure Projects (IP) or Works Delivery) portfolio level
- Project level

This concept is illustrated in Figure 2 below.

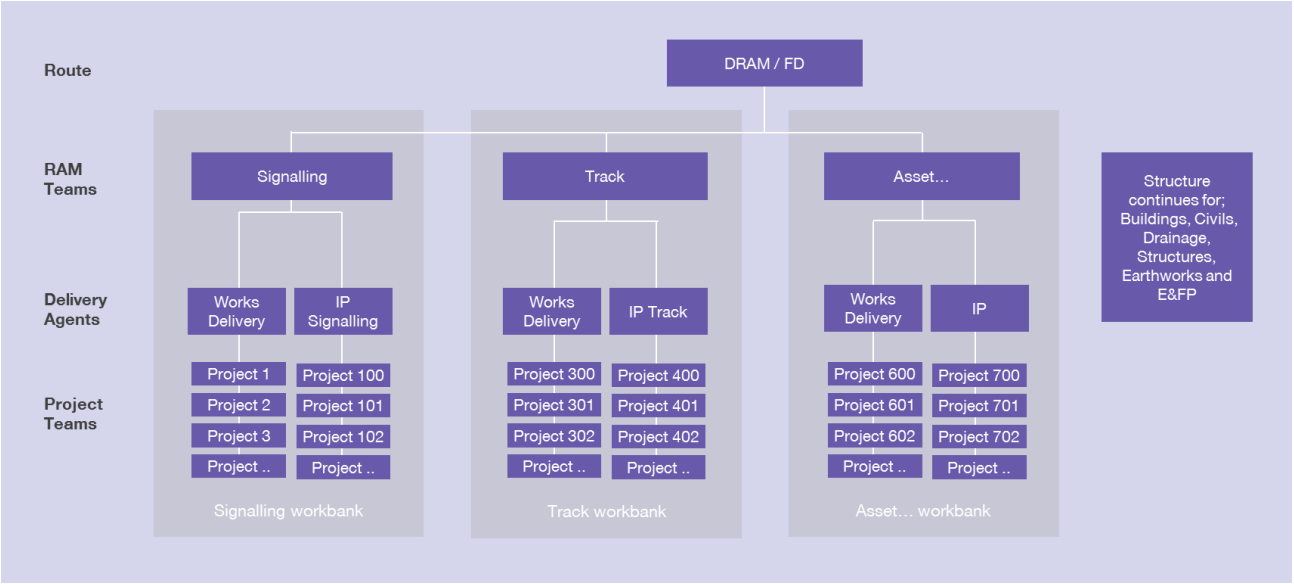

Figure 2: Renewals Delivery Organisational Architecture
Works Delivery also referred to as Network Operations within the routes

In our detailed route assessments, we wanted to ensure that we investigated all levels to get a more rounded view. We used two complementary analysis techniques to do this. We put some additional emphasis on using the first technique in three routes, and on using the second technique in the other three routes. The two techniques and their application to routes were:

- Portfolio data analysis at route and asset group level. We put an emphasis on this in LNW, Western and Wales.
- Detailed review of a sample of projects involving interviews with RAMs and project staff from the delivery agent organisations. We put an emphasis on this in LNE&EM, South East and Anglia.

Summary of findings

We have reported our summary of findings against each of the four stages of the assessment model in Figure 1. We have drawn out common themes arising from the more detailed assessments contained in the route specific reports.

Stage 1 – Workbank management

We found evidence across routes of well-defined and well-developed asset renewals workbanks in each route. These were consistent with the CP6 baseline set for each route both at asset group level and in aggregate.

We found evidence across routes of route management and control processes which demonstrated that routes are driving their plans to deliver their year 1 and 2 workbanks. The processes have a strong cost and delivery focus that spans route leadership, route asset management, sponsors and delivery agents (IP and Works Delivery).

We found evidence across routes of management processes and approaches to build resilience into workbanks, to counter potential over-optimism in delivery plans and also to mitigate the impact of projects being delayed or changed for a variety of reasons. Routes are:

- Using 'over-planning' approaches for most asset types, namely planning more work than funding will provide for, to avoid falling short on their annual cost and output commitments.
- Planning contingent renewals schemes, for some asset types that have shorter lifecycles, work which can be accelerated in response to unplanned loss of work and to balance fluctuations in performance across all asset groups. This approach is only possible with certain asset group types and was not seen in all routes.

We found evidence across routes of change management being applied to asset workbanks. However, the level of change recorded, the systems used to record it and the quality of information associated with the change record varies in each route. We reported in our portfolio analysis for several routes that there was a more significant amount of change in specific asset groups which is not evident in the overall workbank stability Leading Indicator. On further investigation, we found some inconsistency in the classification and recording of the reasons for change, which we believe is an important piece of information to detect trends in underlying slippage of projects. We also noted LNW route's development of an Integrated Management System (IMS) has led to good practice in management of change as well as having other benefits.

Stage 2A – Workbank financial authorisation

Securing financial authority to develop and to deliver renewals projects, programmes and portfolios is a key part of route governance arrangements, and is one of the centrally specified Leading Indicators of routes' preparedness. Since review phase 1 the routes generally have progressively reduced the variances between the level of work authorised and the glide-path plan for the authorisation lead indicator for year 1. We found high levels of authority had been achieved, with the shortfall we identified in review phase 1 largely reflecting inaccurate 'glide-path' forecasts based on poor quality planning assumptions. We reviewed evidence from investment papers and panel decisions, and route control room and management reports. This was corroborated by updates to Network Rail's Leading Indicator reports.

We did, however, find instances of lower levels of authority in some asset groups in specific routes. We investigated the reasons behind them to determine whether they were true indicators of lack of preparedness and some were for valid reasons. For example, pending authority for major projects planned to be delivered over multiple years that were scheduled for authorisation later in year 1. The route reports provide more specific details.

Across the routes we also saw steady progress in securing authorities for year 2.

Stage 2A – Project development

We assessed how renewals projects were being monitored and controlled through the project development stage. To do this we investigated samples of projects in each route. Project development and delivery is controlled by the issue of remits from route asset managers/sponsors and their acceptance by the route's Delivery Agents, either IP or Works Delivery teams.

We found evidence across routes of monitoring of the progress of issuing remits for their workbanks, however this was inconsistent using various different metrics, and to varying levels of detail which, while not a major concern, represents an opportunity for improvement and consistent application across all routes.

Stage 2B – Delivery planning

We looked for evidence of each route's understanding of and plans for securing disruptive access, key resources, specialist plant, haulage and materials; in addressing environmental, land and stakeholder requirements; and managing interfaces with enhancement scheme. We did not find evidence of widespread issues or risks in renewals delivery planning in the sample projects we reviewed. There were, however, instances where specific routes are managing and mitigating challenges on specific projects around booking access. Please see the route reports for more specific details.

Stage 3 – Design and construction

In review phase 2 we focused on this stage for delivery of year 1 workbanks. We sought evidence of how routes are monitoring, controlling and managing variances to baseline plans both overall and at asset group level. We found that routes are tracking performance and variances, i.e. costs and outputs forecasted below the plan, across the four-weekly reporting cycle. In general, the evidence we saw across routes indicates that progress is broadly in line with baseline plans.

From our portfolio analysis at three routes, we found examples of variances in specific asset groups in each route. There were several common causes of variances: slippage from CP5, changes to the plan earlier in year 1 or changes to the forecast timing of works completion. Some variances were balanced by over-performance in other asset groups. We have highlighted examples in the route specific reports.

Some routes are reporting significant variances against plan for specific asset groups whilst their full year forecast is to recover back to plan. Routes explained how they intend to manage this recovery through overplanning and the re-phasing of work. We recommend that their progress in doing this is monitored by ORR in future progress reports. The upcoming Rolling Forecast 8 (RF8) in November 2019 is an appropriate point for routes to validate progress and make any necessary changes to their year 1 plan. It is at this point that any over optimism on recovery plans should be identified and reconciled with budget targets.

Across the routes we found that the Director of Route Asset Management (DRAM), Route Finance Director (RFD) and Financial Controller maintain a set of 'overlays' as part of their financial reporting process, to manage and monitor delivery risk and over-planning within each financial year. We saw evidence that this process is being operated effectively albeit it relies on managing a complicated and constantly changing portfolio dataset through a periodic assessment of delivery timings and risks.

Conclusions and recommendations

We have used our review findings to provide an opinion on Network Rail's general preparedness across the renewals delivery lifecycle. Routes' preparedness to deliver their workbanks relies on delivery management systems/approaches being operated by competent people using their experience and judgement.

All the routes have well defined and developed management systems and approaches and they are being used proactively to deliver their CP6 workbanks. The detail of how each operates varies across the routes, however, they are built on similar principles. For example, all have taken steps to make their workbanks resilient by using overplanning and all have regularly periodic reporting and business reviews.

We have identified the following specific areas for improvement that are common across some or all routes:

Management of change

It is inevitable that change to baseline plans will arise on what are very large renewals investment programmes affecting complex assets in a dynamic operating environment within each route. We did not see evidence of a level of change in overall renewals plans that could indicate a threat to delivery of overall commitments. We did, however, find some instances within routes of significant levels of changes to plans at the level of individual asset groups. These changes comprised both planned change as well as unplanned slippage. It is important that underlying trends of unplanned slippage are recognised early as they are a risk to delivery of annual plans and impact on workbank stability and related efficiencies.

Recommendation 1 – We have recommended in the route report that the volume of changes to plans at asset level is a reported metric at route level, supported by a consistent analysis of the causes of changes and the risks to and mitigation of impacts on renewals and related efficiencies targets.

Overlay adjustments

A series of volume and financial overlays is used to manage delivery risk, overplanning and emerging work and to assist in reconcile forecasts from delivery agents with agreed annual budgets. Given the scale and dynamic nature of the renewals portfolio, this process needs active, systematic management leading to an objective assessment of progress, potential optimism bias, risk and changes in circumstances each reporting period.

Recommendation 2 – We recommend that Network Rail centre provides guidance to the routes to improve the consistency and transparency of overlay adjustments, so as to mitigate potential optimism bias and the risk of changes emerging late on in year 1 and in subsequent years when they could be hard to mitigate. Consideration should be given to whether overlay management could be improved by further application of quantified risk analysis techniques.

Recommendation 3 – We recommend that ORR monitors the level of change between the quarterly rolling forecast updates to better understand its causes and to satisfy itself that overlays are being used appropriately and are not masking emerging adverse trends.

Remits for development and delivery

Accurate and meaningful monitoring of the issue and acceptance of remits is a valuable forward-looking indicator of preparedness for renewals delivery in future years. This is tracked by most, but not all, of the routes, and is a useful metric to indicate progress in instigating renewals development and delivery that is not part of the current Leading Indicator process.

Recommendation 4 – We recommend that Network Rail centre provides guidance to the routes to ensure tracking of remits is undertaken routinely and consistently, as an indicator of progress in commencing development and delivery of renewals workbanks.

Leading indicators

We found in review phase 2 that the Leading Indicator process has been further developed, in line with review phase 1 recommendations. Several issues we identified in phase 1 have been resolved and there is now more emphasis on preparedness for year 2. There is also a commentary included in the Leading Indicator report to support and explain the data presented. During review phase 2 we identified some additional issues that impact on the accuracy or relevance of the indicators and the local data that underpin them. Annex B of this report contains further details.

Recommendation 5 – We recommend that Network Rail centre address these issues as part of the on-going development of the Leading Indicator process.

Threats to delivery

Across the routes we found that delivery of workbanks was also subject to a number of common threats, which were they to materialise, could be outside of the tolerance of the resilience built into routes' planning and management systems. This would impact on routes' delivery of their annual cost and volume forecasts. We saw evidence across routes of a good understanding of these risks and a focus on mitigating them.

The common threats identified during route reviews include:

- Unforeseen cross-route impacts requiring significant re-prioritisation of work, for example national prioritisation of disruptive access late in year 2, including the key Christmas 2020 period.

- Unplanned impact on renewals from major enhancement schemes. There are several concurrent schemes with interfaces to planned renewals programmes that could create problems if enhancement scheme plans slip or change.
- Loss or reduction of blockade access, causing a major project to be deferred, most notably the routes are leading a number of complex re-signalling projects, with attendant delivery risks.
- Key resource constraints or loss of expertise, impacting on ability to deliver planned work, including for example critical resource impacts and planned devolution of IP Track into the regions in year 1.
- Supply market constraints or failures, for example, the failure or exit from the market of a major supplier or contractor such as British Steel or rationalisation of the signalling supply base.
- Exceptional disruption or asset failures arising from unpredictable or severe events, for example, major adverse weather.

Year 1 preparedness

Overall renewals delivery progress to date and full year forecasts for year 1 are reported as being broadly in line with baseline plans. At the time of the review (Period 4-5), our findings as discussed above, highlight the following areas of risk that we suggest require focusing on:

- There are examples of variances in specific asset groups that are detailed in the individual route reports, i.e. costs and outputs that were tracking below forecasts at the time of our review, including planned changes early in year 1 or timing of works completion.
- The overlay process operates differently across routes and relies on the exercise of judgement each reporting period. There is a risk that forward forecasts still contain optimistic assumptions for year 1.

Recommendation 6 – We have recommended in the route reports that they heighten their monitoring of delivery plans for asset groups which show significant variance to budgets and volumes in the year to date, particularly where the full year forecast shows a recovery to meet budgets.

With reference to recommendations 2 and 3, we recommend that they are progressed as a priority to reduce the risk of late surprises in year 1.

Recommendation 7 – We have recommended in the route reports that they closely monitor, and inform ORR by exception, on several 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.

Year 2 preparedness

At in the time of the review, renewals delivery for year 2 is largely dependent on progress in Stage 2A Authorisation and project development and Stage 2B Delivery planning. Our recommendations on improving remit delivery tracking and financial authorisation Lead Indicators are relevant to routes being prepared for year 2.

Recommendation 8 – We have recommended in the route reports that they closely monitor, and inform ORR by exception, on several 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 to enhancement projects, we heard across routes about specific enhancements potentially competing for resources and needing integration into existing renewals plans.
- Impact of changes to disruptive access possessions assumed in workbank plans.

Efficiencies delivery preparedness

Introduction

A summary of general findings and recommendations for improvement of efficiencies plans delivery preparedness are presented here, drawn from across the more detailed route specific assessments. There are differences across the routes and the route specific review reports should be read to understand route specific preparedness.

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."

Review phase 1

We reviewed Scotland and Wessex routes in phase 1. We found that efficiency initiatives varied in terms of; the level of enabling activity required to release benefits, project challenges faced and risks to delivery. We therefore concluded that a 'one size fits all' approach to planning and monitoring initiatives delivery should not be the expectation. A summary of the key headlines from phase 1 are:

Planning

We found significant variations in the quality and level of detail in the documentation of business changes that are required to realise efficiencies benefits. Our expectation is that all efficiency initiative plans should set out at an appropriate level of detail of business change activity to realise efficiency benefits, including resources, schedules/key milestones, risks and monitoring arrangements. A number of good examples were provided for operational expenditure (opex) efficiency initiatives, with generally a lesser level of detail in capital expenditure (capex) efficiency plans.

Capex initiatives have been cascaded as post-efficient cost targets across many asset work plans, projects and contracts. This makes it difficult to verify the link between business change plans, implementation activity and the efficiency savings forecast for each year. It is also unclear how the routes can reliably evidence and monitor efficiency benefits realisation progress without these capex efficiency delivery plans.

In both routes, we found limited evidence of management of risks to efficiency plans, for example through appropriately scaled risk registers.

Efficiency forecasts

For both routes, our assessment of their documentation revealed varying quality and consistency in efficiency forecasts. A number of initiative forecasts are inherently uncertain, involving high level assumptions (not all of which are listed or explicitly risk-adjusted) and targets. While we acknowledge that this may be typical of benefits realisation programmes and that smaller scale and/or the nature of some initiatives means a more pragmatic top-down approach may be appropriate, forecasts for more significant initiatives (by value) should be supported by more granular calculations and assumptions.

For both routes, the majority of capex efficiency forecasts are tied to renewals workbank delivery. While the level of input data varies, forecasts are generally based on applying top-down savings assumptions to derive a 'post-efficient cost'. We did not see sufficient evidence to support the robustness of these assumptions and forecasts. There is inherent complexity and judgement involved in mapping the framework of capex efficiencies across workbanks and projects, and to forecast and track these at a granular level. This reinforces, therefore, the need for robust implementation planning for and monitoring of business changes that are required throughout CP6, to provide assurance that efficiency benefits are being realised as forecast, or to identify and correct underperformance.

Efficiency documentation

In both routes, we found that management information and documentation on efficiencies is not yet fully sufficient and consistent. Notwithstanding the fact that the required level of documentation will vary depending on the size and complexity of the initiative and whether it is a significant business change or smaller continuous improvement scheme.

Review phase 2

Following on from the findings of phase 1 about the apparent and reported complexity associated with planning and monitoring capex efficiencies, we decided to describe the complexity of the efficiencies landscape and its genesis to-date. This was needed to help the Reporter to more clearly articulate our expectations for planning and management of capex efficiencies.

Efficiencies delivery landscape

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 help identify areas of savings and 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 adjustment to pre-efficient costs, which were the subject of financial analysis of workbanks and discussion and agreement with the relevant delivery agent; predominantly 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 were 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. This is illustrated in Figure 3 below.

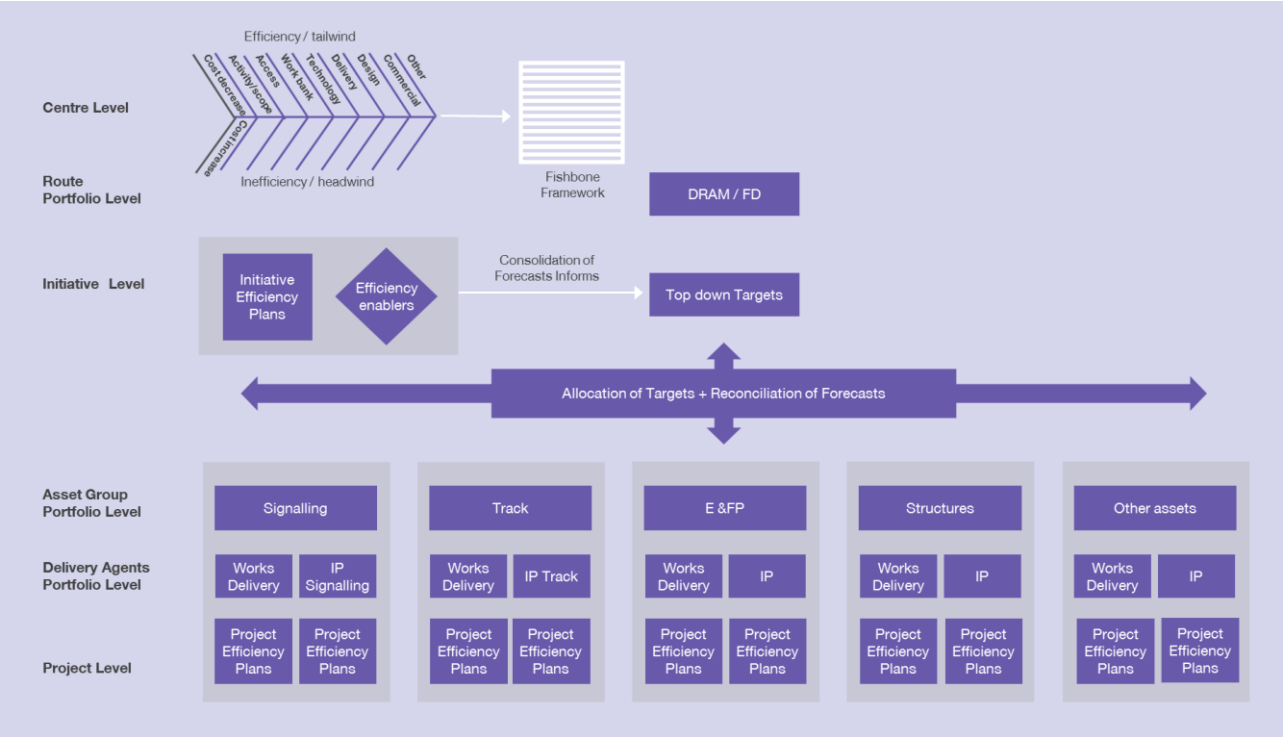

Figure 3: Top down allocation of capex efficiency targets to asset group, delivery and project level

The following are key features of the top-down capex efficiency system:

- Responsibility for planning to achieve efficiency targets is delegated to asset group, delivery agents and project levels. This expands responsibility of efficiencies delivery from a small group of initiative owners to a much larger group requiring appropriate coordination, communications and controls.
- Each project requires an Efficiency Plan to provide confidence in how it will deliver its allocated target and will normally depend on implementing several different efficiencies.
- Reconciliation of project level efficiency forecasts is required with portfolio targets and fishbone categories.

We undertook review phase 2 during periods 4 and 5 of year 1 (using RF4 data at July 2019), providing the opportunity to assess the routes' progress of planning and implementing efficiencies since the CP6 baseline.

With an understanding of the efficiencies landscape we designed our approach to review phase 2 to assess the preparedness of a route to deliver efficiency savings. We took a similar approach to the renewals assessment, and examined the reasonableness of the route's approach to planning, monitoring and delivering efficiencies at the project, initiative and portfolio levels.

Approach

We characterised efficiencies into a small number of 'Categories' to reflect different levels of complexity and risks to delivery. The categories are:

Category A – Capex, minimal (or completed) enabling activity. For example, Contract Rate Reductions.

Category B – Capex, requires considerable enabling activity to implement in a project. For example, Possession Utilisation efficiencies.

Category C – Opex, minimal enabling and implementation activity. For example, Route Services Supply Chain Operations (SCO) Rate Card efficiencies for haulage. We cover SCO in Annex A of this report.

Category D – Opex, requires considerable implementation effort. For example, Organisation Restructure.

The categories allowed us to define our expectations of what is a reasonable planning approach that is proportional to the level of complexity and risk for an efficiency. We defined our expectation that a route was operating an Efficiency Management System or efficiencies programme that integrates efficiency planning and monitoring at 'project level, 'asset group level', initiative level' and 'route level', as illustrated in Figure 3 above. Our expectation of the required features of an Efficiency Management System is set out in Table 1.

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	Minimal	YES	Minimal	YES
2. Efficiencies forecast documentation	YES	YES	YES	YES
3. Post implementation review of actual efficiencies achieved (benefits realisation)	YES	YES	YES	YES
4. Change management plans		YES		YES
Renewals Initiative level:				
5. Initiative delivery plans	Minimal	YES		
6. Initiative forecast plans	YES	YES		

Efficiency Management System feature	Capex		Opex	
Category Degree of enabling and implementation complexity	**(A) Low**	**(B) High**	**(C) Low**	**(D) High**
7. Initiative change management plans		YES		
Portfolio level: (asset group, delivery agent, route)				
8. Validation of emergent efficiencies with forecast targets (traceable to fishbone tracker line items)	YES	YES	YES	YES
9. Assurance function to assess project/initiative efficiency level delivery	YES	YES	YES	YES
10. Portfolio Management / Change Management support	YES	YES	YES	YES

Table 1: Proportionate planning and management of efficiency delivery by initiative category

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

To focus on material efficiencies, and for consistency of our approach, we chose a sample of efficiencies to review in detail at each route that met the following criteria:

- Top three capex efficiencies by value for years 1 and 2, plus assessing relevant efficiencies identified from our review of renewals described earlier.
- Top three opex efficiencies by value for years 1 and 2.
- Intelligent Infrastructure and SCO centrally led efficiencies, to gain a view of how these central initiatives were being managed from within the route.

Summary of findings

Our detailed findings are set out in each route specific report using the structure from the mandate. There were differences in the assessment outputs across all routes and they are all at different levels of maturity in the development of their Efficiency Management approaches. However, we have drawn out some common themes arising from the more detailed assessments contained in the route-specific reports.

Overall quality of routes' efficiency plans

For the more complex efficiencies to implement we expected to see a proportionately greater level of developed detail and documentation. However, while we did see evidence of mature efficiency plans for sampled opex initiatives (Category D), there was less evidence of sufficient planning and monitoring of capex initiatives (Category B). The quality of planning varied across the routes, a common issue being that the specification of 'what' and 'how' efficiencies will be delivered was insufficient.

Efficiency forecasts for year 1, reported at RF4, represent approximately 11% of Network Rail's total efficiency targets for CP6 aggregated across all routes. Efficiency forecasts for year 2 represent a further 16% of the CP6 total efficiency targets. The profile of Network Rail's efficiency forecasts increase steadily each year throughout CP6, with 73% of spread over years 3 to 5. Achieving efficiencies from year 2 onwards will rely on robust plans developed in the early years of CP6. More needs to be done on planning the 'what' and 'how' for complex initiatives to be prepared to deliver these targets.

The routes acknowledge that more work needs to be done to enhance the maturity of plans, and have work in progress plans in year 1 and beyond, building efficiency products/templates developed to date. The routes could utilise and further develop existing tools/products for documenting efficiencies.

We also saw evidence that where routes have dedicated resources for their efficiencies programme, for example, Change Management Offices (CMO) or Programme Management Offices (PMO), they are, generally, further developed with better quality planning, monitoring and delivery of efficiencies.

As stated previously, the nature of the landscape for capex efficiencies is that they are inherently more difficult to evaluate, plan, manage and report than opex efficiencies. Opex efficiency plans are more robust, and are expected to remain so even when other plans have matured later in CP6.

Opex efficiency plans are generally better developed with defined business changes, planned as 'projects' with resources in place to manage them, and also greater clarity on the calculation of benefits forecast to be generated. There are exceptions, notably those that rely on the introduction of new technology and on organisational changes that may have personnel or Industrial Relations implications to resolve before the benefits can be realised. For example, the Intelligent Infrastructure programme, that is summarised in Annex A.

Efficiency forecasts

We found that forecast documentation for efficiency initiatives varied in quality and were notably less mature for capex than opex initiatives. We expect that forecast plans contain forecast calculations with underpinning detail, assumptions, rationale and time phasing however we did not generally see this.

We found in all routes an emphasis on driving individual projects to their post-efficient capex budgets, with a clear cost and delivery focus by the route asset and project teams. There is a wide-spread assumption, that if a project delivers to its post-efficient budget, then its capex efficiencies targets will also be delivered. There are many influences on whether a project achieves its Anticipated Final Cost (AFC). For example, scope change, schedule change, risk, headwinds and so it is not possible to conclude that efficiencies have been achieved. We expect to see detailed efficiencies plans and monitoring per project as evidence of whether efficiencies have been achieved, as distinct from the impact of other cost drivers.

Efficiency programmes

We saw evidence that route leadership are focused on efficiencies and there is an efficiencies culture at senior levels. We also saw that this is being cascaded into delivery teams although, this is and will remain an ongoing challenge. To be deliver efficiency plans an efficiency culture is also needed within delivery teams and project management to ensure efficiencies are considered as a priority. We saw examples of progress in building this efficiencies culture (more so in routes with dedicated efficiency resources, i.e. CMO/PMO teams), although the routes do recognise that there is more they need to do.

The complexity of the efficiencies landscape illustrated in Figure 3 is reflected in the complexity in reporting, which is a careful financial accounting process undertaken each four-week reporting cycle. We found that the 'line of sight' from project-level plans to original efficiency initiative targets is generally not clear, or easy to make clear. It is also difficult to reconcile whether post-efficient cost targets with 'bottom up' forecast savings from project plans. Not all routes have this reconciliation available.

Consistency of efficiencies forecasts with the final determination

We found across routes that their efficiencies plans and forecasts, using RF4 reports, are consistent with the targets set for them, with some forecasting above these in CP6 overall.

Conclusions and recommendations

Efficiency programme

Network Rail's routes have set out wide-ranging plans to deliver their efficiencies in the early part of CP6, and have made progress in developing these in year 1, with signs of a growing focus on efficiencies and of work being done to embed a culture change for CP6.

There remains, however, insufficient detail within key features of the route's Efficiency Management System, notably for capex efficiencies at a project level which are not yet comprehensive and robust; where these contrast more comprehensive opex efficiency initiatives. The route's assessment of readiness for delivery of its capex efficiency plans currently relies too much on delivering to project targets and budgets as a proxy for efficient delivery, and not enough on detailed and documented efficiency implementation plans that are resourced and driven as a change programme within the organisation.

Efficiency plans

The quality of efficiency plans varied across the routes with good examples evident in every route. In general terms, however, these did not appear to be sufficiently robust and detailed for the more complex Category B and D efficiencies that are significant in value. There is more detail needed in terms of the 'what' and the 'how' efficiencies will be delivered, and how forecasts have been calculated and assured.

We have recommended that routes enhance and develop their efficiency plans to include further detail articulating, in SMART terms, each:

Business change – Defined plans for a programme of activity to deliver efficiencies and details of things the route has done or is preparing to do differently (enablers) to generate efficiencies.

Forecast – Key inputs, sources, calculation method, assumptions, and any risk adjustment and basis for profiling realisation of benefits.

Implementation plan – Key activity, actions required, owners, resources, schedule and key milestones.

Risk – Identification of key risks to achieving the forecast efficiency and mitigations.

Efficiency documentation

The variability in the quality of documentation of efficiency plans and forecast calculations affects confidence. It is a risk to delivery of efficiencies linked to major capex projects, with far higher efficiency targets in years 3 to 5 of CP6. While not the focus of this review, plans developed in year 1 and 2 will impact on preparedness for these later years. This likely to start to be felt in year 2, with increasing impact for years 3 to 5 of CP6. The routes are continuing to develop their efficiency plans and have acknowledged more work needs to be done, and is being done, which we recommend is treated as a priority.

We have recommended that routes should enhance their existing Efficiency Plan on a Page (EPOP) and Project Efficiency Forms to capture a sufficient level of detail on plans for, delivery of and quantification of all capex efficiency plans.

Resources

The routes showed evidence of preparedness to deliver their efficiency targets in year 1, that make up 11% of the CP6 total across all routes. There appears to be a challenge to the delivery of capex efficiency targets for year 2 of CP6, that makes up approximately 16% of the CP6 total across all routes.

We have recommended that routes should consider engaging additional dedicated resource to improve the detail and quality of plans as soon as possible. Resources to focus on year 2 efficiencies as well as material plans in year 1 and 2 that are essential to forecasts for later years.

Efficiency assurance

There are comprehensive renewals delivery management system in place within the routes, and good evidence of its focus on renewals costs and delivery. There is an opportunity to strengthen focus on efficiencies planning and for routes to develop their Efficiency Management System moving from a post-efficient target, to an efficiency planning and 'benefits realisation' approach that provides assurance of efficiencies from the project-level to the initiative-level and finally at the route-portfolio level.

There is a need to strengthen assurance and monitoring focus on implementation plans for enabling activities and change management products required to deliver efficiencies at the project level. This will provide more visibility on the progress of key efficiency enablers and allow for early intervention and action.

We have recommended that, where not already in place, the routes deploy dedicated efficiency management resource and CMO/PMO capability to strengthen the focus on efficiencies plans and support the governance and assurance of initiatives at a route portfolio-level (and particularly for capex efficiencies).

Efficiency reporting

There is significant and frequent (every four-week period) work undertaken to aggregate efficiencies data from across all asset groups and projects, to feed an Efficiencies Tracker to reconcile this to the fishbone framework, that in turn feeds the Network Rail central tracker, to support monitoring of progress in realising efficiencies across all routes. The complexity of this, which is well-managed by route Financial Controllers, mirrors the complexity of the efficiencies landscape described in this report. It does not, however, appear to be providing value to it in terms of a clear and granular picture of what is going on to deliver efficiencies, and is typically tracking targets or Cost of Work Done (COWD), and appears to comprise a largely numerical exercise.

We recommend that routes provide greater line of sight from granular efficiency initiatives to the Efficiency Tracker. For each efficiency initiative as identified in the route Efficiency Tracker, the route should log their sub-initiatives with their corresponding values, profiles and project/portfolio/programme ID in a master schedule, to provide traceability on how they contribute to the route Efficiency Tracker and a more granular breakdown of efficiencies.

Good practice

We recommend that a forum is established to routinely share good practice across the newly established routes and regions, particularly in relation to efficiency plans.

ORR engagement

A common suggestion was made in discussions with a number of routes that it would welcome the strengthening of engagement with ORR at a regional level, consistent with the changes being made via Putting Passengers First.

Good practice

We found evidence of good practice across all the six routes reviewed in phase 2 routes. Capturing and sharing good practice will help to transfer learning across routes and foster continuous improvement. Tables 2 and 3 below provide a summary of good practice examples we identified during review phase 2 and commend for wider sharing.

Renewals

Theme	Description	Routes
Assurance	High quality control room ethos	LNE&EM
Assurance	Portfolio Management Office including asset and assurance reviews	South East
Management tool	Online IMS to manage workbanks, remits, change control and reporting	LNW
Documentation	Online RAM dashboard reporting	Wales
Documentation	Pre-efficient cost model	Anglia
Delivery	High Output approach and performance	Anglia and LNE&EM
Delivery	Supply chain innovation	LNE&EM

Table 2: Good practice in renewals

Efficiencies

Theme	Description	Routes
Resourcing	Dedicated CMO or PMO for planning and delivery of opex efficiencies	Wales, Western, Anglia, LNE&M, South East
Resourcing	Dedicated CMO or PMO for planning and delivery of capex efficiencies	Wales (planned for Western)
Assurance	Deep-dive efficiencies assurance reviews by CMO/PMO	Western, South East
Assurance	Efficiencies readiness assessment, assurance of top ten capex projects per asset group	Wales
Assurance	'Framework 42' to drive culture and focus	South East
Documentation	'Quad report' integrated initiative asset group templates and consolidated portfolio reporting	Western
Planning and documentation	Efficiency Plan on a Page (EPOP) and Project Efficiency Forms products to plan, embed and monitor efficiencies	All routes

Table 3: Good practice in efficiencies

Annex A – Central efficiency initiatives

In our review phase 1, we observed that routes took different approaches to assure themselves of forecast calculations and progress of project delivery associated with centrally planned and/or delivered efficiency initiatives.

In review phase 2, we included two central initiatives in our route efficiency samples, where they appeared, across the six routes. These initiatives are:

Supply Chain Organisation (SCO) – Targeting £182m CP6 efficiencies across all routes, including opex and capex. This initiative is delivered by the Route Services team.

Intelligent Infrastructure – Forecast in excess of £60m opex across all routes in CP6 (for new CP6 technology only). This initiative has been designed and developed by the central Intelligent Infrastructure team but will be implemented by the routes.

We note that our review did not assess the delivery of these route-wide programmes. However, we did meet with Route Services and the central Intelligent Infrastructure Programme team to help inform our understanding of the current status of the initiatives, how the central teams interact with the routes to validate the forecast calculations and develop efficiency plans.

Set out below is a brief overview of the SCO and Intelligent Infrastructure efficiency initiatives. For route-specific findings please refer to the route reports.

Supply Chain Organisation

SCO efficiency initiatives aim to deliver improved economies of scale and to ensure scarce resources are secured through improved procurement. This is managed on behalf of the routes by the Network Rail's central Route Services team. It comprises a portfolio comprising the following five programme elements:

- Rail logistics programme, covering haulage, sleepers and rail
- Supply chain and logistics development programme
- High Output programme, for delivery via IP Track
- Road fleet programme
- Waste management programme

SCO efficiency calculations and forecasts were developed by Route Services using CP5 data. The team then worked with the routes to define their plans for the programmes and provided each route with an efficiency forecast to include in their SBP/RF11 (January 2019) baseline for CP6.

For rate card efficiencies delivered by the Rail Logistics programme, we note that there is a dependency on central efficiency data and on delivering the planned volumes in CP6. This is a potential risk (and opportunity) to baseline plans at route level. At RF4 (July 2019) Route Services revised route forecast targets for year 1 of CP6 based on updated route volume data. At RF8 (November 2019) the routes are expected to provide revised volumes for year 2 of CP6 to Route Services to better inform the year 2 forecast targets. These will inform the updated RF11 (January 2020) forecast target.

From our route review we note that some routes have made small adjustments to Route Services forecasts, which is reflected in the respective route Efficiency Trackers. The adjustments have been made based on route confidence in realising the benefits. Route Services are aware of these adjustments and are working closely with the routes ahead of the RF11 re-forecast in early 2020.

Within the SCO programmes, the enabling activity required to realise the efficiencies is undertaken by Route Services, requiring minimal activity from the routes. For the Supply Chain and Logistics Development programme we note that this requires considerable enabling activity and business change, which the routes have to engage with in order for it to be embedded. Therefore, SCO initiatives for routes are considered a Category C initiative, although from the central SCO team's perspective the Supply Chain and Logistics Development programme would be a Category D initiative.

Route Services has recently enhanced the governance and monitoring arrangements for the portfolio including: periodic review and reporting; programme reviews; an Efficiencies Assurance Board; Working Groups with routes and; route finance engagement in the lead up to each rolling forecast. During our review, the routes highlighted the increased collaboration with Route Services in providing clarity on initiatives, calculations and implementation plans.

Intelligent Infrastructure

For the Intelligent Infrastructure initiatives we reviewed across the routes, we saw two types of efficiencies:

- New technologies being developed for CP6, where the pace of implementation is heavily dependent on progress by the central programme.
- Further implementation of CP5 technology, where this is within the control of the routes.

Routes have, to varying extents, established their own Intelligent Infrastructure efficiency project teams, generally led by a Route Implementation Manager (a role funded by the central Intelligent Infrastructure programme that sits within each route). Joint governance arrangements have been established between the routes and central programme, which provides routes regular updates regarding the programme's status.

The new CP6 technology Intelligent Infrastructure programme comprises a number of centrally-led workstreams, with plans and milestones for release under development. The routes are engaging with this process, but cannot significantly influence its pace. When the programme is further developed the routes can establish a Route Implementation Plan and re-forecast their efficiencies based on detailed benefit profiles developed for CP6. Until then, their efficiencies remain dependent on this further work, and there are varying levels of confidence in the scale and timing of CP6 efficiency benefits observed at route level. This is a Category D efficiency that will require considerable implementation effort by the route to introduce the new technology and embed changes to associated work practices.

Routes are also undertaking to deploy additional CP5 technology, following expressions of interest by routes, central team assessment of national priorities for investment, and approval for release of funding and equipment. As a part of this process, the routes have greater control on efficiencies and the onus is largely on them to implement their plans in some cases with the support of Delivery Agents (such as Works Delivery). Once again, this work is a Category D efficiency that will require route to plan and monitor implementation progress to assure themselves of efficiency targets.

Annex B – Leading Indicators

Network Rail's Leading Indicator report is intended to provide assurance on each route's preparedness to deliver their renewals and efficiencies plans. We reviewed this report process in detail in review phase 1. At that time (period 1 of year 1) the process was not fully established as 'business as usual' within the routes. As a result there were forecast accuracy and data quality issues. Network Rail's centre team were aware of these issues and were addressing them in further developing the process.

We have not repeated a detailed review of this process in phase 2, although have used this helpful report data for Period 4 and Period 5 to inform our assessment of route plans and progress. This is included in each of the six route chapters within this report, and is focused on:

- Financial authorisation
- Workbank stability
- Disruptive access

Key findings are:

- The process has now bedded-in within the routes compared to review phase 1.
- There has been good progress by the routes on increasing their authority levels for years 1 and 2, with greater granularity of this at asset level (addressing an area of concern identified in review phase 1).
- The process has been extended to year 2, in the form of a 'readiness report' that is now the primary focus of reporting and route-led development of its baseline 'glidepath' plans.
- Commentary is now included to support and explain the data.

In undertaking review phase 2 we identified some additional issues that we believe need to be addressed as the process continues to develop. These are:

Financial authority – There appears to be inconsistent assumptions being taken across the routes on the treatment of overplanning within indicator data, i.e. whether and how they are tracking authorisation of additional (largely) development work for projects to provide resilience for risk, change and slippage.

Workbank stability – In lieu of a mechanism to capture route-specific data, this indicator includes a standard 20% assumption for overplanned work, i.e. it measures changes within the financial reporting system per periodic expressed as a proportion of a 'gross' value that includes this assumption. As route's overplanning strategies and values do vary, there are accuracy issues with this indicator, and cannot be used to compare across routes. Network Rail's centre team are considering how best to address this issue.

Disruptive access – There is evidence of different approaches to this indicator being taken across routes, including how year 2 data reflects the alignment with the industry access planning process that cover the period up to December 2020, not the end of year 2. It is also important to note that this indicator covers all disruptive access plans (including maintenance and enhancements), not just the renewals element covered by this report.

'Glidepaths' – The Network Rail centre team has flagged that further work is needed on these, for example, to develop bottom-up data (not historic comparator data and assumptions) to support projections for disruptive access and financial authority. We saw some evidence that the routes are engaged in doing this.

Additional indicators – We have considered potential new indicators, mindful of the benefits of these and also any risk of excessive data requirements imposed on routes.

- **GRIP stage –** As in review phase 1 we consider that tracking progress of workbanks through GRIP stages would be a useful leading indicators, for example tracking the distribution of scheme status at two levels, respectively in development stages and in delivery to substantial completion stages.

- **Remits** – We found good evidence that the majority of routes already actively track the issue and acceptance of remits (by number and/or by value). As well as being relatively simple to adopt, we consider this to be useful leading indicator that complements existing measures because it reflects work and progress further into the design development process.

- **Start of work** – Some RAM teams monitor progress at asset group level through contract award, start of construction and completion. While not a 'leading' indicator as such, start of construction compared to baseline plan could be a useful metric to monitor. This is not recommended, however, as evidence suggests that it may not provide meaningful data for major programmes such as signalling schemes and rolling track campaigns, as compared to the large number of discrete buildings and structures projects.

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