

# OFFICE OF RAIL AND ROAD

#29098 CP6 to CP7 Transition

A Review of NR Regions' Approach to Cost Planning  
and Unit Rate Development

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## DOCUMENT CONTROL

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### AMENDMENT HISTORY

Version	Sections	Amendment Details
1.1	Exec Summary Section 5	Amendment to unit rate comparison table. Inclusion of recommendations.

# EXECUTIVE SUMMARY

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The Office of Rail and Road (ORR) and Network Rail (NR) are seeking to understand if NR's Renewals Programme is being costed using robust processes and whether it is making reasonable and repeatable assumptions given the maturity of the potential workbank (WB). This includes the development, maintenance, selection, and utilisation of unit rates.

The application of a solid process for cost planning and the development, maintenance, selection, and utilisation of appropriate unit rates is key to achieving good practice investment decision-making in NR's devolved Regions, thus providing a consistent basis by which comparative analysis can be undertaken.

Since devolution, and given the changes happening across NR, it is critical that there are well-established processes and effective tools in place, i.e. a Unit Rate Framework (URF) to manage risks and react with agility to the changing environment. It is important to reflect however, no matter how sophisticated the processes and frameworks may be, they must be applied consistently to enable and support appropriate decisions and allow comparative analysis to occur across the Regions. Similarly, where URFs are utilised, it is crucial that unit rates are applied consistently given their influence on the maturity of the Region's WBs for Renewals and Capital Maintenance.

This report documents the findings of an independent high-level qualitative review of NR's cost planning processes and unit rate development, and application at the regional level. It was undertaken by AMCL, one of the Independent Reporters (IRs) to NR and the ORR. It considers any URFs being applied and their application in the development of the regional WBs.

The overall observations of this review are:

- 1) **Approach:** Each Region approached the review differently, some organising multiple sessions with each asset discipline lead, others through single sessions to understand the entirety of approach within the Region – this resulted in different levels of granularity in the findings of this qualitative review.
- 2) **Timing:** The review was undertaken at a relatively early stage in the refinement of CP7 plans and, although considerable work has been done to establish robust volumes, these still require significant refinement post HLOS and SoFA – it is therefore impossible to understand the current cost/risk trade-off of CP7 plans, other than for a best estimate of available funding.
- 3) **Financial scenarios:** Review of specific financial scenarios through the various Planning Rounds was noted by the Regions as a clear focus of the strategic planning process for CP7. Clear planning guidance has been provided by Centre for every Round, with the 'Steady State' scenario and more fiscally constrained 'Realistic Minimum' variations of this the basis for the approach.
- 4) **Workbank maturity:** Overall, the level of maturity of regional WBs is continually improving, each developing iteratively through the various Planning Rounds and each using an appropriate mix of unit rates based on regional environments and circumstances. However, the overall planning process, apart from being asset discipline-driven and bottom-up, is also constrained in an ad-hoc way too early in the process, i.e., discipline leads are trying to constrain and remove things before they have a full unconstrained view and a systematic approach to prioritising, because they are used to chasing a budget target. Nevertheless, the

evolving maturity of the devolved regional approaches to planning was evidenced by some Regions, Wales & Western and Scotland's Railway being good examples, through undertaking further regional iterations on top of the Centrally defined Planning Rounds to ensure appropriateness and efficacy of their submission ahead of HLOS and SoFA stages.

- 5) **Deferrals:** One common theme to emerge was the increasing risk of backlogs resulting from earlier deferrals being carried further forward.
- 6) **The build-up of regional plans** continues to be from the asset discipline level and the maturity of the relevant asset WBs is still largely shaped by the maturity of the overall asset knowledge, asset data and central Asset Policy and models. In respect of this, where the asset discipline is less mature, the Regions have applied significant endeavour to develop appropriate and justifiable rates at the regional level. However, there are some discrepancies in the terminology used to describe the asset disciplines across the Regions, e.g., Lineside (Off-Track), Earthworks (GeoTech) etc.
- 7) **Collaboration:** There is some evidence of cross-discipline collaboration in some Regions which is notable and should help manage the difficult challenge of funding constraints. Similarly, there is some evidence of common messaging across the disciplines which provides assurance that the team has common purpose and understanding.
- 8) **Project level estimates:** Where live project-level estimates are being used, overall, the Regions apply structured, robust, and reliable processes, albeit slightly different, and not all Regions explicitly reference the use of contingencies held at P50, but these are inferred.
- 9) **Unit rates:** Where work does not yet have a project estimate, each Region was able to explain how scope and location factors are being identified and incorporated into their assessments of unit rates. There are slight differences however in the structure and terminology of unit rate hierarchies, e.g. national and regional rates, bespoke budget and project-level estimates in Scotland's Railway versus discipline cost books, discipline cost models and project estimates in Southern Region. Nevertheless, overall, the approach taken in each Region was reasonable, but the rigor being applied in the Southern approach was identified to be very good. Each Region was able to articulate how resulting unit rates differed from recent delivery experiences, albeit through slightly different approaches, explaining clearly how their respective rates were calculated and the criteria applied for selection. One common theme was the impact of inflation on commodities.
- 10) **CP6-CP7 differences:** Each Region was able to identify and articulate how the expected CP7 regional WBs differed from CP6, each providing a good narrative around the reasons for these differences, some of which appear to be common across the same asset disciplines across the Regions. However, the comparison is still quite early, and has not yet been 'normalised', for example, the way CP6 and CP7 work has been structured is not always comparable. It was also observed that some similar approaches, even some informal liaison, occurs amongst the same asset disciplines across the different Regions, perhaps due to pre-devolution relationships, an example being the National Working Groups referenced in the Eastern Region review.
- 11) **Efficiencies:** Overall, each Region was able to demonstrate that efficiencies have been identified separately and included within their respective efficiency plans, rather than simply adjusting their unit rates. But most Regions expressed concern as to whether any further efficiencies could be identified beyond those already delivered, especially given the limited time left in PR24. It was also noted that specific plans and initiatives for gaining identified efficiencies varied in progress and maturity at this stage.

With respect to observation (9) above, further analysis has been undertaken on the different approaches adopted by each Region, together with a comparative analysis of the unit rates being utilised at this stage of Planning Round 5. In this comparison table, the following key should be applied: **N** = National (or TA) Rates; **R** = Regional Rates; **B** = Bespoke Rates; and **P** = Project Level Estimates.

Additionally, a RAG has been applied at the discipline level, where **Red** = Less than two Regions apply the same approach; **Amber** = Three Regions apply the same approach; and **Green** = Four or more Regions apply the same or similar approaches. Note: this RAG is not intended to identify good, bad, or otherwise in terms of capability, but rather to provide a view of consistency of approach. Approaches may also depend on where the respective WB is in the forecasting horizon.

Region	North-West & Central Region	Scotland's Railway	Wales & Western Region	Eastern Region	Southern Region
<b>Track</b>	<b>N/R</b> National rates utilised but a new 'Value of Service' metric has been developed which has some parallels with Route Criticality. A way to measure the value of the different Strategic Route Sections, being used to prioritise allocation of limited funding. Most advanced in Track.	<b>N</b> CP6 'normalised' exit rates utilised for each renewal category. Based on YR4 actuals and inflated to 23/24 prices, derived in conjunction with delivery teams. Additional analysis will come from the YR5 priced WB adding further validity to CP6 exit rates. For Plain Line, looking at present specific schemes.	<b>N/R</b> Rates derived from CP6 baseline after W&W commissioned Arcadis to review local rates and identify efficiencies. These were subsequently inflated based on centrally provided guidance. Use has been consistent throughout the CP7 planning process, although they were adjusted at Round 5 to reflect the uplift in rates from the Deloitte central Unit Cost Framework.	<b>N/R</b> Macro & strategic factors affect Track, e.g. HO resources are only viable if managed nationally and there is sufficient national demand. In general, all Routes adopt CP6 exit rates as the baseline, however East Midlands has used Centre developed average CP6 rates which have then been adjusted for specific location and scope factors. There is general confidence that the forecast rates will be achieved except for Re-Railing and S&C refurbishment where there is some risk that the CP6 exit point is too low (achieved through favourable access for the rail alliances, mainly on East Coast), and there is concern whether this will remain the case in CP7.	<b>R/B</b> The majority of rates used are regional (based on Route or CP6 exit rates) with a small proportion based on the bespoke cost books developed by the Region.
<b>Lineside</b>	<b>N/R</b> The NW&C fencing rates are based on contractual rates and are supported by cost data on volumes delivered in CP6. A single rate has been used across the Routes and assumes the same mix of constraints and work split between framework contractor & Works Delivery.	<b>R</b> Regional unit rates utilised based on CP6 actual costs.	<b>R</b> Fencing (largest portion of Lineside costs) utilises central standard designs and hold regional contract prices for each of these based on CP6 outturns. Recent increases in material costs have been factored into these. Land Management and RRVAP rates are a continuation of regional CP6 rates, adjusted appropriately. Vegetation Management is based on square meterage and CP6 outturn costs.	<b>N/R</b> Same as Track.	<b>R/B</b> Same as Track.
<b>Signalling</b>	<b>N/R</b> Utilises Signal Equivalent Unit (SEU) rates. Life extension schemes are more difficult to cost and often require more regionally bespoke rates and are valued as a percentage of the full renewal.	<b>N/R</b> Broadly based on SEU rates. Working with delivery partners and supply chain to build regional rates factoring scope, specific cost drivers, and abnormal prices. Note: some life extension projects utilise bespoke rates.	<b>N</b> National SEU rates utilised (which can have selected add-ons for regional issues or constraints). No bespoke rates used, just challenging the add-ons, following TA guidance, giving regional flexibility as required	<b>N/R</b> All Routes utilise the nationally recognised RailBI tool except East Coast, who use ICM (Infrastructure Cost Model) which is imported into RailBI. Rates are bottom-up and 'add-ons' used if applicable to a site due to, for example, technology, criticality, engineering knowledge, or if applicable to the work type. ETCS and Digital Railway rates (ECML South) have been built outside of RailBI through bottom-up estimates with suppliers applied to the business case	<b>N/B/P</b> 60% of the rates used are national (TA) rates and 30% are project level estimates. The remaining 10% of rates come from the bespoke cost books developed by the Region.
<b>Level Crossings</b>	<b>N/R</b> Work type approach, similar to signalling, i.e. SEU rates.	<b>N/R</b> Broadly based on SEU rates. Working with delivery partners and supply chain to build regional rates factoring scope, specific cost drivers, and abnormal prices.	<b>N</b> Same as Signalling.	<b>N/R</b> Same as Signalling.	<b>N/B/P</b> 60% of the rates used are national (TA) rates and 30% are project level estimates. The remaining 10% of rates come from the bespoke cost books developed by the Region.
<b>Structures</b>	<b>B</b> Utilises the CARR System to manage and define maintenance and renewals. TA and CAF rates are key sources of rate information, but due to the variety of Structures and access constraints, they also cost the site establishment separately to the volume and rate calculation.	<b>B</b> Utilises a 'cost per scheme approach' based on actuals from CP6 projects. Consultation with delivery partners and supply chain. No priced-up 'project level estimates' yet but regional rates are being further developed.	<b>B</b> Benchmarking takes place between Structures to understand outturn prices versus National rates. The Region has an overview of National rates but apply a best estimate of what they think it will cost for each specific Structure, given significant variations in scale, location, complexity factors, etc. Every bridge is individually costed due to accessibility challenges, each having indicative costs from the RAM team, and unit rates are applied from a portfolio level to establish blended rates. These are reviewed against CP6 exit unit rates.	<b>R/B</b> National 'mX + c' approach utilised as the baseline. Consistent with the national approach for Structures but using regional data, e.g. deliverer specific rates using CP5/CP6 'as built' data to provide more granular rates for specific activities (underbridge renewal, demolition, or infilling). Other considerations are: i) Christmas working; ii) working on electrified lines; iii) quality of data that makes up each activity rate (volume of available historic data). Costing models developed for single assets with multiple interventions. Models adjusted to accommodate local Route drivers, e.g. higher costs on Anglia Route as the Route has a higher proportion of works within London.	<b>B</b> All rates used are based on the bespoke cost books developed by the Region. The Region is following their tiered maturity approach that will see them developing detailed cost models in the development of Round 6 submissions.

Region	North-West & Central Region	Scotland's Railway	Wales & Western Region	Eastern Region	Southern Region
<b>Earthworks (GeoTech)</b>	<b>N/R/B</b> Ready reckoner in JBA (National earthworks DST) is one source. CAR returns for CP6 NW&C projects have been good and have been used to improve confidence in rates and move to more granularity. Costing challenge of varied depths and types of earthwork is being address by drawing on Route local knowledge.	<b>R</b> Difficult & risky to simply apply CP6 rates due to sizable scope drivers in CP7. Regional rates being developed, based on CP6 actual costs, which are expected to be higher than 'national rates' due to changing intervention strategy and RAIB.	<b>R</b> Rates are typically based on three intervention types on a 3x3 matrix with key asset types, e.g. renewal, refurb, and maintenance, with 120, 20, and 2 year design lives respectively. Unit rates vary by Route within the Region. Western Route has based rates on CP6 exit rates, whereas Wales Route utilised central 'ready reckoner' rates but added a percentage on to renewals for biodiversity enhancements.	<b>R/B</b> Rates based on CP5 exit and CP6 delivery, with 'abnormal' schemes excluded to avoid skewing the rate for a typical scheme. Where a planned scheme would not align with the baseline rate due to its complexity or scale, an uplift factor is applied based on benchmarking against historic schemes where possible. Specific Route rates that reflect local delivery performance are used, e.g. Anglia Route works are more costly as there are no local quarries for procuring bulk fill material which results in increased transport and double handling costs.	<b>B</b> All rates used are based on the bespoke cost books developed by the Region. The Region is following their tiered maturity approach that will see them developing detailed cost models in the development of Round 6 submissions.
<b>Drainage</b>	<b>R/B</b> In earlier rounds, NW&C used a single regional rate across the Routes. Analysis of recent NW Route schemes that notably exceeded that rate, mainly because of access, has led to more granularity of rates and consideration of access constraints.	<b>R</b> Regional unit rates utilised based on CP6 actual costs.	<b>R</b> Unit rates are driven by CP6 outturn costs for renewal and refurbishment. The two Routes each have their own data set. These differ but are both based on empirical evidence from CP6.	<b>R/B</b> CP7 Drainage plans will be system and catchment-based, focused on reducing risk. Built on more rigorous analysis and fresh data to embed an improved level of resilience into the most critical Drainage systems. To be progressively implemented through CP7. Unit rates for the core activities are mature but one challenge in creating a reliable and accurate plan is the growing threat posed by inflation. It is assumed that high levels of inflation will be present for the remainder of CP6 and the first part of CP7. Plans and expectations to be managed accordingly.	<b>B</b> All rates used are based on the bespoke cost books developed by the Region. The Region is following their tiered maturity approach that will see them developing detailed cost models in the development of Round 6 submissions.
<b>Operational Property (Buildings)</b>	<b>R/B</b> Given the complexity of the asset - many asset subclasses and components - a set of rates is maintained jointly by the Region and a Central Route cost planner. This draws upon several control periods of knowledge	<b>B</b> Bespoke budget estimates have been developed for buildings using actual project costs from similar projects in CP6.	<b>R/B</b> Exercise undertaken to consolidate unit rates for Buildings project outturns identified considerable bespoke development required. Reviewed CP6 projects for comparable options to get a blended rate. For Fabric it is relatively easy and repetitive. Depot plant is looking back at historical costs plus a percentage uplift and inflation (as may not have been done for two CPs). M&E is generally repeatable but differs by context. Overall, Buildings unit costs are regional, but the Region noted that 'national rates' were developed by Faithfull & Gould but didn't feel that these were representative of local costs at a granular enough level so have developed regional unit rates. Although it was later noted that these have since been updated to be more granular. For specialist jobs like Paddington rewire the Region has used an uplifted comparator from Bristol Temple Meads plus some additional items.	<b>B</b> There is dedicated QS support from F&G in developing bottom-up estimates for each individual scheme. Estimates are refined as the scope is revised and matured. Granular unit rates are being used based on the activity undertaken (for example reglazing of roof) rather than utilising the KCL or KVL data and rates as was done for CP6. Rates are estimated from national data and local CP 'as built' costs on a scheme-by-scheme basis. The basis of the estimates utilises the Rail Method of Measurement (RMM) process which includes measured work, preliminaries, overhead & profit, design, employer's costs and overall risk.	<b>B</b> All rates used are based on the bespoke cost books developed by the Region. The Region is following their tiered maturity approach that will see them developing detailed cost models in the development of Round 6 submissions.
<b>E&amp;FP</b>	<b>B/P</b> Bespoke rates utilised. AC switchgear is a challenge and expected to use about 1/3 of the E&P CP7 budget. To support accurate cost planning, feasibility study work is underway to better understand actual constraints and costs (access, cable length etc) and any abnormal costs. The Region is liaising with other Regions to understand their costs to compensate for limited local historical information.	<b>R/P</b> In general, regional rates are utilised based on recently delivered projects, consistent frameworks, and delivery team estimates. Where E&P has a diverse portfolio of assets, and some interventions have not been undertaken in recent CPs, the Region will default back to the national rates, however this is believed to be a very small quantity. Signalling Power deferrals on the other hand utilise project level estimates.	<b>R</b> For Electrification, limited current central modelling for the new Series 1 OHL is compounded by the current lack of empirical unit rate data. W&W engaged a consultant to complete a full estimating exercise of the identified WB. First looking at national rates for delivery and rectification and then validating this against other Regions. W&W intends to start using actual delivered work in later Rounds as local projects progress. The Deloitte unit cost framework was used to compare across the Regions as part of a central validation process, and central modelling used blended rates to provide estimates and potential costs. For Fixed Plant, significant effort was put into unit rates many years ago. W&W has used these since CP5, and they were reviewed/ refreshed with the TA during CP6 and form the basis for CP7. W&W has added to the costs where appropriate and	<b>N/R/B</b> Like Track, strategic & macro factors affect E&FP, e.g. OCR is equivalent of Track HO. For East Coast, National CP6 rates are used except for switchgear which is based on PSU2 actual delivery rates. For Anglia, rates are driven by CP6 actuals but where unavailable, one-off regional rates are used or comparable rates from East Midlands and Southern if not previously done on Anglia. For East Midlands, bottom-up rates have been used (derived from Route engineering, maintenance and contractor knowledge and past experiences, coupled with rates from the National CP6 Rate Book modified to consider potential issues relating to Route criticality and available access). For North-East, a combination of CDEL supplied rates, National CP6 Rate Book, CP6 Exit Rates and inflation adjusted rates from similar projects have been used.	<b>R/B</b> 80% of the WB is costed using regional rates (based on Route or CP6 exit rates), with the remaining 20% using the bespoke cost books developed by the Region.

Region	North-West & Central Region	Scotland's Railway	Wales & Western Region	Eastern Region	Southern Region
			justifiable and have assumed inflation values based on standard rates from 12/13 prices onwards. The asset team consider these a robust set of rates, based on historical data during CP5/6 and adjusted and bought up to current prices.		
	<b>N</b>	<b>R</b>	<b>N</b>	<b>R</b>	<b>N/R</b>
<b>Telecoms</b>	National (Technical Authority) rates are used for Telecoms.	Started out with national rates but then applied regional variations to account for their known CP6 project delivery, so effectively regional rates are utilised.	Unit rates are provided by NR Central, and no add-ons or variances identified. The Region utilises these rates as they are regarded to be appropriate and there have been no issues to date. However, current rates do not reflect Covid related material price increases, which is considered a significant risk. National inflation advice has been applied to the regional submission.	Unit rates have been taken from recent bids for similar activity and based upon an assumed level of network deployment and/or assumed level of targeted renewals by asset type. Once budgets are stable, deferred renewals will be identified and funding will be allocated to specific assets. The WB is based on the DST Tool asset register at RD1 and uses CP6 figures for the benchmark. This has been aligned to the allocated budget through the subsequent Rounds.	67% of rates used within this discipline are national (TA) rates with the remaining 33% using regional rates (based on Route or CP6 exit rates).
<b>General Overview</b>	A robust, well managed assurance process for unit rates, including a review of how rates align with recent delivery experience and a narrative to explain differences. Unit rates are drawn from either: i) CP6 projects completed in years 1, 2, 3; ii) latest project costing data from live CP6 projects; iii) data from CP5/CP4; iv) similar data from other Regions; or v) similar data from Centre. NW&C also reviews bid rates against cost planning estimates to understand how and why costs are evolving so that CP7 unit rates can be adjusted, this is managed against a robust governance and assurance process. Inflation however has been a major factor, e.g., increasing steel and copper prices which are impacting bid costs, and which are higher than those contained in live projects.	CP6 post-efficient rates are used as the starting point for CP7 (either regional or national rates). These are influenced by the volume of planned CP7 activity and any abnormal project costs. Assumptions are applied to created CP7 pre-efficient rates, considering efficiencies for each asset discipline plus any headwinds or other market pressures. Adjustment work is underway on the FY24 rates to provide a comparable basis for CP7 post-efficient unit rates. Because each asset discipline looks at their own rates independently there is mix in the WB, and some differences in unit rates to actual outcomes. Some nuances are also present between asset disciplines but many of the regional variations are owing to geographic specific influences, e.g. remoteness of installation in the Highlands.	Unit rates are reviewed and validated against recent delivery experience, i.e. outturn and ongoing costs for CP6, and effectively revised and adjusted on a discipline-by-discipline basis. For example, within the Track discipline, CP6 baselines were used and analysed by an external consultant to identify efficiencies to get the best rates. Signalling utilised national rates with optional add-ons relevant to the Region. Structures on the other hand experienced rate changes driven by external or legislator requirements, e.g. Natural Resources Wales (NRW). However, where rate variations were identified the Region had a reasonable rationale. The main difference noted was the increase in material costs resulting from the impact of Covid on worldwide markets. This was seen as a significant risk and had been partially accounted for in some recent adjustments but needs to be considered in national inflation overlays.	Each asset discipline has used the CP6 exit (or average) rate as a baseline for development of CP7 rates but were CP6 rates are regarded as inappropriate or carry some risk for use in CP7 alternative approaches or mitigations have been put in place. For example: Buildings moving to a QS driven approach which individually costs and assures each WB item; Structures adopting the nationally agreed 'mX + c' approach to capture baseline cost using local data, both providing greater accuracy than KCL or KVL data; and Drainage moving from a legacy of individual problem sites to a system/catchment-based approach focused on reducing risk, built on better analysis and fresh data to embed improved levels of resilience.	For all disciplines bespoke rates have been developed utilising the Region's approach to development of costs in three ascending levels of maturity. For Round 5 submission, the Region is at maturity level 1 with detailed cost books developed that contain multiple individual rates for a wide variety of interventions. These multiple rates give options for different variations of the same type of intervention. Work to embankments can, for example, be selected as strimming or tree pruning or more substantial interventions. This level of detail has been achieved across all disciplines and allows the WB to be priced for each individual intervention envisaged. Where the detail on actual interventions was not known for the Round 5 submission then allowances for types of intervention were made. These allowances also utilised the bespoke cost books prepared for the discipline. As the rounds progress the Region will develop the maturity of their costs into cost models and then into project level estimates. From this analysis, out of all the Regions, Southern Region are approaching unit rate derivation most differently to the others.

Table 1 Unit rate comparison across Regions and disciplines



There were **eight** areas of good practice identified during the regional reviews that the IR would like to highlight to NR and ORR. These may provide opportunities for other Regions to adopt improved approaches.

- 1) **Early sight of HLOS and SoFA:** Each Region is clearly trying to do as much as they possibly can for the most affordable cost envelope given the financial challenges being faced. However, Planning Rounds 1-5, and perhaps even Round 6 are, arguably, just best guesses in terms of understanding HLOS and SoFA requirements at these stages in the process, which then require adjustment to suit DfT requirements. But if the HLOS and SoFA were defined earlier in the process it may prove to be more efficient for the Regions. A good example of this is Scotland's Railway's unique one-to-one relationship with Transport Scotland (TS) and their early sight of the draft HLOS. This was identified as a very aspirational document but allowed SR to work closely with TS (and ORR through a tripartite arrangement) on the development of their HLOS to manage the gap and avoid any potential mismatches.
- 2) **Formal discipline-level liaison across Regions:** In NW&C, it is evident that the benefits of devolution are being realised, providing greater flexibility to tailor the approach to the needs of the Region and its Routes and instilling collective ownership in the process. It is also evident that 'some' informal and semi-informal liaison between corresponding asset disciplines and cost leads is occurring between Regions, particularly for areas where limited historical information makes unit cost derivation challenging and where there are strong personal relationships. And in Eastern Region, multiple references were made to the National Working Groups which exist for good practice sharing and common approaches where applicable. However, there is little evidence that more formal liaison occurs at a discipline level on a regular basis across 'all' Regions to ensure that information, for example on rates, is shared between the Regions at a discipline level to help address challenges and improve the veracity of rates and costing. This inter Region discipline liaison may be a casualty of devolution. Its reinstatement at a proportionate level could potentially deliver benefits – an example of this could be W&W's Fixed Plant (FP) data being utilised by other Regions. W&W Fixed Plant is separate from Electrification and the scale and quantity of FP data has been built up over many years, is very good and considered to be better than other Regions, has clear focus, and has had consistent unit rates over several decades. Other Regions may wish to augment their plans with such historical data and trends.
- 3) **Unit Rate Assurance Process:** In NW&C, a robust and independent unit rates assurance process has been developed and successfully implemented, led by an experienced commercial professional. Unit rates are regularly RAG assessed for maturity against People, Process, Systems (Data) and Context and this is reported to respective leads and the Region's Exec. The process provides a valuable, non-confrontational summary of the improvements that need to be made to move to Green, helping the asset lead and also informing leadership of where additional support might be needed, for example obtaining and analysing additional information from other Regions. This process helps to preserve the different values for each rate and provide and retain a clear narrative for the reasons for those differences, improving clarity and avoiding repetition of reconciliation effort. Roll out of this assurance process across other Regions might be of benefit to those Regions.
- 4) **Cost Book Benchmarking:** In Southern Region, bespoke rates are developed in cost books and applied to the detailed WB interventions utilising a very rigorous process. Cost books are calculated by considering any location and complexity factors for the known WB. These cost books have been shared with the CP7 Southern Integrated Delivery (SID) Tenderers (the integrators) for transparency of the Region's SBP development. Sharing these cost books with other Regions for use as a benchmarking tool might be of benefit to those Regions.

- 5) **Route Benchmarking:** Eastern Region has carried out initial benchmarking analysis across the Routes for their Round 5 submissions and discussed the findings with Regional Engineering. This has helped to identify errors in the WBs, for example, incorrect unit rates; provided a level of assurance ('audit check') on WB completeness; helped understand how work is distributed across Track criticality; highlighted differences in unit rates being used by Routes or by criticality; provided insight into how the WBs are constructed; and allowed the Region to see how the Routes are packaging their work and enabling a cross-check to match policy and outcomes. Roll out of this exercise across other Regions (where multiple Routes exist) might be of benefit to those Regions.
- 6) **Minimum Viable Product (MVP):** Eastern Region has introduced an MVP approach. This is a bottom-up analysis of work content and is a potential driver (or unlocker) of efficiency, including packaging, identifying future requirements, and challenging standards. The optimum opportunity for the application of MVP is in the early development of projects, but this does not preclude application in later phases. Eastern Region sees MVP as a key element of optioneering, and a clear understanding of critically will help inform client choices. Within the MVP concept there are incremental steps from a minimum solution through to a viable solution. This distinction is important in that the minimum is unlikely to offer a viable solution, reinforcing the point that MVP is not always the cheapest solution.
- 7) **RAMP Tool Suite:** Eastern Region has developed a RAMP Tool suite which allows multiple users to access the information in a controlled way. This consists of four tools. A *consolidated WB* brings together all WBs into one place in a single format for interfacing with the PlanIt Tool and has the facility to incorporate financial and performance data in one place along with critical resources. This generates mapping data for visualisations and compares the location of every WB item to every other item to identify overlaps. The *WB Analyser* enables a view of spend and delivery profiles by Region or Route or Engineer. Geospatial views enable identification of geospatial and timeframe alignment of activities to support Line of Route planning. The *WB Visualiser* is like the WB Analyser but without the sensitive cost and volume data. It supports planning discussions with TOCs and FOCs. The *Reliability Analysis Tool* incorporates the fault interventions against assets (currently only for Level crossing sample data). Maintenance interventions are to be added along with outstanding work items. MTBF and MTBSAF data is to be calculated against asset types at Delivery Unit level.
- 8) **Asset Planning Framework:** Eastern Region is developing an Asset Planning Framework which will include asset lifecycle modelling capability, anticipated to be in place in 2-3 years. The key steps of the framework are:
  - a. Capture Asset Needs: to build a comprehensive view of the issues needed to be solved, irrespective of when, including enough information to fully understand all risks
  - b. Understand Asset Needs: of an individual asset in the context of all the other needs, providing opportunities to understand its relative risk and importance and find grouping and timing opportunities to build effective plans
  - c. Optioneering: broad range of options including renew, life extension refurbishment, or changes to operations and maintenance, including deliverability, value of the intervention to the business, and whole life cost of ownership
  - d. Build and Agree Optimal Value Based Plan: taking all options for all assets and building an optimised plan to provide greatest business value and to meet strategic objectives, thus building outcome focused plans with appropriate activities, and

- e. Deliver and Track Value: of the asset interventions as per the plan, managing any emerging needs and making sure that the value and objectives set are met (course correcting if not) and making sure that asset delivery also deliver the asset data needed to run the business.

The IR would like to thank Network Rail, and acknowledge the significant efforts demonstrated by each Region in the preparation of their Round 5 submissions, and also the enthusiasm and willingness to share knowledge and information in the execution of this review.