ARUP

Office of Rail & Road and Network Rail

Independent Reporter – CP7 Possession Improvement Initiatives

Final Report

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Abbreviations

Abbreviation	Definition
APS	Access Planning System
BAU	Business As Usual
BRAG	Blue Red Amber Green (Rating system)
CP	Control Period
CPPP	Confirmed Period Possession Plan
DIAM	Decision Impact Assessment Model
DWWP	Delivering Work Within Possessions
E&FP	Electrification & Fixed Plant (Asset Discipline)
EAS	Engineering Access Statement
ECML	East Coast Mainline
EMR	East Midlands Railway
FOC	Freight Operating Company
FWI	Fatality Weighted Index
FY	Financial Year
GRAI	Governance, Risk, Assurance, Improvement
HLOS	High Level Output Specification
HoP	Head(s) of Planning
IECC	Integrated Electronic Control Centre
KPIs	Key Performance Indicators
MML	Midland Main Line
MST	Maintenance Scheduled Tasks
MTM	Management Team Meeting
NR	Network Rail
NW&C	North West & Central
OLE	Overhead Line Equipment
ORR	Office of Rail and Road
OSMR	Operations, Support, Maintenance and Renewals
P&L	Profit & Loss

Abbreviation	Definition
PICOP	Person In Charge Of Possessions
PPM	Public Performance Measure
PPS	Possession Planning System
PR	Periodic Review
QSRA	Quantified Schedule Risk Assessment
RACI	Responsible, Accountable, Consulted, Informed
RAG	Red Amber Green
RAIB	Rail Accident Investigation Branch
RAID	Risks, Assumptions, Issues & Dependencies
RDD	Remote Disconnection Device
RDG	Rail Delivery Group
RF	Rolling Forecast - referred to in the format RF-Period-Financial Year throughout the document, for example RF11-24 for Rolling Forecast Period 11 Financial Year 2023-24
RotR	Rules of the Route
SBP	Strategic Business Plan
SID	Southern Integrated Delivery
SME	Subject Matter Expert
SOAP	Savings on a Page
SPEAR	Strategic Planning Engineering Access Reform’
SRE	Southern Renewals Enterprise
STK	Single Track Kilometre
T3-A / T3-D	Method of protection during a possession on the railway
TfW	Transport for Wales
TOC	Train Operating Company
W&W	Wales & Western (Region)
ZKL	A type of Track Circuit Operating Device

1 Executive Summary

1.1 Purpose

Arup, supported by Winder Phillips Associates, has been appointed by the Office of Rail and Road (ORR) and Network Rail under the Independent Reporter Framework to undertake a review of Possession Improvement Initiatives in CP7. A copy of the Statement of Works is included in Appendix A. Appendix B details how Arup have addressed the Statement of Works issued by Network Rail and the Office of Rail and Road.

The purpose of the review was to assess the effectiveness and alignment of Network Rail's possession (or access) improvement initiatives with its business objectives and priorities, and whether efficiencies have been/or are likely to result from these initiatives. The review specifically focused on examining Network Rail's progress made on initiatives in relation to the following areas:

1. Safety
2. Efficiency
3. Planning
4. Regulation/Governance
5. Innovation

The review covered Network Rail's Eastern, North West & Central, Scotland, Southern and Wales & Western Regions. We reviewed plans for the whole of CP7, rating Network Rail's preparedness to deliver against access-related initiatives over the Control Period. A primary source for the review was the efficiencies detailed within the 'Access' category of Network Rail's National Efficiency Fishbone Tracker, which included some overlays and inefficiencies. We have adopted the same price basis as used by Network Rail for their reporting which is cash prices.

1.2 Methodology

We received documentation from Network Rail's Group Efficiencies Team, central functions and Regions to support our assessment of possession initiatives. The documentation provided by Network Rail is listed in Appendix I and includes a number of case studies, Rolling Forecast trackers, process/governance information and meeting minutes, and various reports detailing financial information.

We have spoken to a number of Network Rail stakeholders– these are detailed in Appendix J. These included Network Rail Heads of Access Planning, Project/Programme Managers and Finance and Business Planning representatives.

Our review has been based around seven 'lines of enquiry,' related to the five individual areas highlighted in the Statement of Works:

SoW Area	Line of Enquiry	Description
Safety	Safety	What is the safety impact of the initiative? Does the initiative have a clear safety management plan and/or a clear view on how it addresses or mitigates safety concerns? Does the initiative actively promote safer methods of working?
Efficiency	Efficiency	To what extent does the initiative have an efficiency forecast/plan? Does the documentation describe how that forecast/plan will be achieved? How is the forecast/plan broken down?

SoW Area	Line of Enquiry	Description
Planning	Change Detail	Is the initiative well described? Is there clear evidence of what this initiative is looking to achieve and the method it will follow? Is there a plan that considers industry change required: stakeholder consultation, systems, processes. people & org & training etc.
	Schedule / milestones	Is there a clear plan? Is there evidence that the milestones in the plan will deliver the stated initiative outcome? Do initiatives have their own schedule/plan or are they subsumed within project/programme plans?
	RAID management	Is there a clear understanding of key risks and mitigations? Are key dependencies identified and planned for? What are the key assumptions?
Governance	Governance	Is the initiative subject to a suitable form of governance? (e.g. Sponsorship, steering board, reporting). Please describe the governance arrangements. What KPI's are applicable to the initiative?
Innovation	Innovation	To what extent is the initiative introducing a new / innovative approach or technology?

Table 1: Lines of Enquiry

1.3 Summary of Initiatives

1.3.1 Efficiency Rolling Forecast approach

The predicted savings from individual possession/access initiatives change as plans evolve. Network Rail manage this as part of the Business Planning process, producing Rolling Forecasts at fixed points throughout the financial year, which are reported into central functions for review. The Rolling Forecast categorises efficiencies in different ways, including 'access'. As the efficiencies from access by themselves are not a regulated success measure[1], this review focussed on the Positive Management Actions being undertaken by Network Rail to realise 'access' savings. Our review has not compared the overall efficiency figures to a specific target or how these overall figures have changed with time.

Network Rail's efficiency forecasts and plans associated with 'Improving Access' have evolved, as shown in Table 2.

[1] ORR PR23 final determination: Supporting document – outcomes 31 October 2023 Table 5.1 Efficiency and financial performance – CP7 outcomes framework

Region	NR Efficiency Plans, May 2023[2]	RF11-24 Forecast	RF06-25 Forecast[3]	RF09-25 Forecast[4]	RF12-25 Forecast[5]
Eastern			£32.9m	**£40.3m**	£40.5m
North West & Central			£49.4m	**£52.2m**	£62.7m
Scotland			£59.3m	**£54.6m**	£54.9m
Southern			£21.5m	**£22.5m**	£22.5m
Western and Wales			£107.4m	**£112.5m**	£167.8m
National	£445m	£316m[6]	£270.5m	**£282.1m**	£348.4m

Table 2: Access Efficiency Forecasts over time

NB: the analysis in this report focusses on the RF09-25 snapshot, as the most recent available during the period of analysis work for the report.

Our understanding is that each of these different figures are a 'point-in-time' forecast of the contribution that access initiatives will make to the wider National efficiency target, and that there is not a set target for Access initiatives (i.e. that Regions can choose to change their forecast for each efficiency element, in order to best manage to the overall National efficiency target).

1.3.2 Number and type of initiatives

Our review identified over 250 'Access' related initiatives listed across the Regions' efficiencies fishbone trackers, with the overall number fluctuating at each Rolling Forecast Update. There are further initiatives identified both within the Regions and Routes, and in Network Rail's Central functions, that are access and possession related.

Our analysis of these initiatives has identified two broad types of initiative:

- **Access Optimisation initiatives**. These change the access footprint to achieve reduced cost of works delivery.
- **Ways of Working initiatives**. These focus on planning or delivering possessions in a new way.

Figure 1 shows summary of initiatives by Route, Region and Central Functions e.g. System Operator, Technical Authority categorised by type (Access Optimisation vs Ways of Working) and split by discipline.

All Regions have initiatives focussed on Access Optimisation; only some Regions are recording 'Ways of Working changes' in their efficiency tracker.

[2] https://www.networkrail.co.uk/wp-content/uploads/2023/05/Overview-of-CP7-efficiency-initiatives.pdf

[3] Source: Network Rail Group Efficiencies Fishbone Tracker Raw Data Spreadsheet for RF06-25

[4] Source: Network Rail Group Efficiencies Fishbone Tracker Raw Data Spreadsheet for RF09-25

[5] Source: Network Rail Group Efficiencies Fishbone Tracker Raw Data Spreadsheet for RF12-25

[6] Source: Statement of Works – see Appendix A, and RF11-24 Fishbone Diagram

		Anglia	East Coast	North East	East Midlands	Central	North West	West Coast South	Scotland (Region)	Southern (Region)	Wales	Western	Centre
Access Optimisation	Buildings	■	■	■	■	■	■	■	■	■	■	■	
	Drainage		■	■	■	■	■	■	■		■	■	
	E&FP		■	■	■	■	■	■	■	■	■	■	
	Earthworks		■	■		■	■	■	■	■	■	■	
	Signalling & Telecoms		■	■	■	■	■	■	■	■	■	■	
	Structures	■	■	■	■	■	■	■	■		■	■	
	Track		■	■	■	■	■	■	■		■	■	
	Maintenance				■				■		■	■	
Ways of Working	Possession limit changes			■					■	■	■	■	■
	New Access Planning System (APS)										■	■	■
	Inspection via drones										■	■	
	Overun risk assessment						■	■					■
	Automate Possession take/hand-back										■	■	
	Improved PICOP Pack										■	■	
	Maintenance scheduling tools (II)												■
	Planner Competency												■

■ Initiative in RF9-25 tracker
■ Initiative in later RF tracker
■ Initiative underway but not in RF tracker

Figure 1: Matrix of initiatives by type

1.4 Summary of findings

1.4.1 Common Themes

We identified the following common themes across the Regions:

- Confusion on how to define an 'Access Initiative'. This review focussed on initiatives that are recorded under the "Access" category on the efficiencies fishbone. Further initiatives were found that impacted on Access/Possessions ways of working (either directly or indirectly), not all of which were recorded within the 'Access' efficiency fishbones (potentially due to them not having an efficiency element. Figure 2 gives an overview of the types of initiative found, with those highlighted in red the main focus of this report

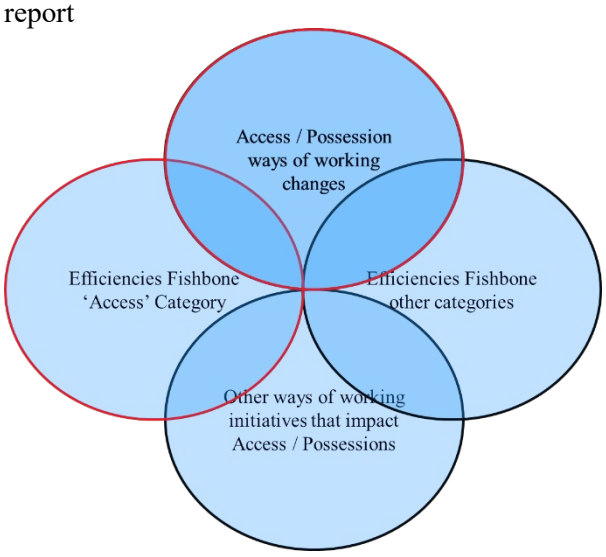


Figure 2: Types of initiatives investigated within this report

- Low level of maturity of initiatives – many initiatives are in the planning stage and are not planned to deliver efficiencies until the later years of the Control Period. We expect a mix of more/less mature

initiatives, however, a number of initiatives are scheduled to deliver efficiencies in Year 1 of the Control Period, and as these are yet to declare any at Feb 2025 the likelihood of these being delivered in year seems low.

- Limited Types of initiatives – most initiatives are based around 'Access Optimisation', with only a few pursuing 'Ways of Working' changes. Some Regions are focused solely on Access Optimisation – we would expect to see more of a mix of initiatives.
- Large number of listed initiatives in Fishbones, including multiple 'Placeholders'. This is a function of the overall efficiencies process, which categorises efficiencies at an asset discipline level. Whilst helpful for reporting purposes, it is less practical from an efficiencies management perspective – a large amount of the benefit from Access initiatives accrues from optimisation across disciplines (e.g. work integration) or sharing best practice ways of working change (e.g. possession limit controls)
- Initiatives have the potential for negative impacts on the wider rail system – for example planning longer access (e.g. blockades) is very likely to deliver a significant efficiency saving in works delivery costs for Network Rail, but may increase cost elsewhere. It is not clear if Network Rail has evaluated this 'trade-off'.
- Limited evidence that efficiency considerations are consistently embedded within day-to-day access planning decision making, for example, through consistent consideration and recording of cost and efficiency trade-off decisions made within the process. (NB: the Network Code Part D[7] refers to *"the commercial interests of Network Rail"* as a consideration that Network Rail may apply as part of the Decision Criteria)
- Efficiencies management process is emerging and varies by Route & Region – there is a need for a standardised approach.
- National initiatives have the potential to add benefit but are being pursued and recorded less consistently within the efficiency fishbones than the Regional initiatives.

1.4.2 Best practice

We identified examples of best practice in efficiency initiatives across the Regional teams, including:

- Improved work bank visibility by optimising plans across all years of a Control Period (rather than optimising within annual planning cycles only), enabling better optimisation of work into access footprints.
- Alterations to standard possession times within the permanent timetable, which deliver an annual efficiency benefit each year, rather than a one-off saving.
- Identification of 'tipping points' for cost efficiencies, where a small increase in possession time gives a large benefit. This arises because the cost & benefits of increasing access time is not linear e.g. there are fixed costs such as shift lengths or possession management costs. For example, some initiatives have identified that a 30 minute increase in possession time can add the opportunity to leverage an extra work shift.
- Use of 'line of route' strategies to support the integration of different types of work within possessions, usually supported by diagrams and maps to help planners visualise the work to be integrated.
- Increasing productive working time by reducing the contingency time within possessions.
- National renegotiation of contracts (e.g. for possession management) to reduce overall cost.
- Improvements to planning process that involves providing up-front options on access patterns to train operators, rather than traditional practice of having these emerge via the access negotiation process

[7] The Network Code: https://www.networkrail.co.uk/industry-and-commercial/information-for-operators/network-code/

1.4.3 Whole system safety & economics

Access planning & optimisation is a trade-off between competing industry costs. At the simplest level, increasing the size of the access footprint (i.e. planning longer access such as blockages) reduces the cost to Network Rail due to work delivery efficiency savings, and increases the cost to Train and Freight Operators who will lose revenue.

In theory, for any given item of Access, it should be possible to calculate the optimum access arrangements; but in practice, this is complicated both due to the non-linear relationship between time and cost, and due to other factors that require consideration including impact of multiple concurrent access items; lack of required information; the need to consider safety implications, risk and reputational factors.

The current access planning process relies on iterative review and negotiation between experienced planners within the industry. Our review of access initiatives has demonstrated that there is little information available to inform decision making on Access Optimisation with regards Works Delivery costs, or to measure its effectiveness over time. There is therefore a reliance on Schedule 4[8] forecasting to assess different access options, which only accounts for one part of the costs incurred in taking a possession and is not part of routine maintenance & renewals possession efficiencies that can be declared (noting there was some mixed practice on Schedule 4 savings being included).

During our review of access initiatives, we observed evidence of a positive safety culture and specific focus in many initiatives to improve safety, particularly in terms of 'reducing boots on ballast' and reducing possession irregularities (deviations that occur during the possession that have an impact on the safety or efficiency of the work, such as issues with protection arrangements or unauthorised access).

1.4.4 Late Notice Change

The Network Rail National Access Planning team capture data on the 'Late Notice Change to Possessions' and report this periodically to the ORR. From our review, we note that levels of disruptive late change appear to be relatively stable and that the process is reasonably well managed and co-ordinated between Routes and the Centre.

The process does involve a variety of manual methods for both communication of change and management of data. This leads to a risk of data inaccuracies and inconsistency between Regions and increases workload for Network Rail planners and train and freight operators. Network Rail is pursuing new access planning tools that aim to improve measurement, recording and communication of late change for all parties.

[8] Schedule 4 is the portion of track access contracts that sets out the level of compensation Network Rail is required to pay train operators for delays, service changes or cancellations as the result of planned disruption on the network

1.5 Conclusions and recommendations

1.5.1 Regional Conclusions

We identified the following Regional specific themes:

Eastern

Summary	Eastern have 34 named access-related efficiencies, totalling £40.3m
Safety	Our review has not identified any safety concerns. Some Routes trialling improved Possession Limit Controls to reduce 'boots on ballast'
Efficiency	Initiatives focus on Access Optimisation; not always clear what is different to BAU, but with some examples of clear benefits case built around comparison of baseline cost between control periods. Notable variance in number and value of initiatives between Routes within Region
Planning	Mixed level of maturity e.g. some placeholder initiatives; some initiatives not started; some well-defined and/or already demonstrating benefits
Governance	Process to track efficiencies in place, but lack of clarity on baseline information for many initiatives means that confidence in efficiency values is low
Innovation	Few innovations identified within current initiatives. Possession Limits Controls being trialled, but not reflected as efficiency initiative.

Table 3: Eastern Conclusions

North West & Central

Summary	NW&C have 65 named access-related efficiencies, totalling £52.2m
Safety	Our review has not identified any safety concerns
Efficiency	Initiatives focus on Access Optimisation; not always clear what is different to BAU, but with some examples of clear benefits case built around comparison of baseline cost between Control Periods.
Planning	Mixed level of maturity e.g. some placeholder initiatives; some initiatives not started; some well-defined and/or already demonstrating benefits
Governance	Process to track efficiencies in place (which varies between Routes), but risk on meeting overall plan, given slow progress so far within Control Period. Lack of clarity on baseline information for many initiatives means that confidence in efficiency values is low
Innovation	Good practice observed including analysis of Schedule 4 impact; work visualisation tools, including a map (as shown in Appendix C) which allows planners to view worksites at-a-glance.

Table 4: North West & Central Conclusions

Scotland

Summary	Scotland have 26 named access-related efficiencies, totalling £54.6m
Safety	Our review has not identified any safety concerns. Initiatives demonstrated alignment to safety needs; Scotland trialling improved Possession Limit Controls to reduce 'boots on ballast'
Efficiency	Access optimisation initiatives supported by new planning framework, visualisation tools and collaborative optioneering approach. Ways of working changes tailored to local Regional needs.
Planning	Most initiatives are mature, with clear delivery plans and approaches to expected savings. Good examples of ownership within the Region
Governance	Process to manage plans and track efficiencies in place; noted that efficiency benefits are 'backloaded' within Control Period – this demonstrates that the Region has been realistic with their planning, but presents a risk to overall delivery as benefits only accrue within years 3 – 5 of CP7.
Innovation	There was a mix of initiatives which were innovative (Possession Limit Controls) and others which introduced new Ways of Working for Access Optimisation, building on BAU practices and increasing collaboration

Table 5: Scotland Conclusions

Southern

Summary	Southern have 8 named access-related efficiencies, totalling £22.5m
Safety	Our review has not identified any safety concerns. Southern pursuing improved Possession Limit Controls to reduce 'boots on ballast'
Efficiency	Combination of work and possession optimisation (often linked to Southern Integrated Delivery - SID - and new Ways of Working (improved possession limit controls)
Planning	Mixed level of maturity e.g. some placeholder initiatives; some initiatives not started; some well-defined and/or already demonstrating benefits
Governance	Process to track efficiencies in place, but lack of clarity on baseline information for many initiatives means that confidence in efficiency values is low
Innovation	There was a mix of initiatives which were innovative (Possession Limit Controls) and others which introduced new Ways of Working in Access Optimisation, building on BAU practices and increasing collaboration

Table 6: Southern Conclusions

Wales & Western

Summary	W&W have 73 named access-related efficiencies, totalling £113m
Safety	Our review has not identified any safety concerns. Good focus on improving safety through initiatives. W&W pursuing numerous improvements, including improved Possession Limit Controls and use of drones aiming to reduce possession numbers and the staff interface with trains.
Efficiency	Good mix of optimisation and Ways of Working changes.
Planning	Mature initiatives with positive benefits case observed.
Governance	Robust process led by Regional finance to align plans and numbers, with Efficiency Board reviewing detailed efficiency plans - including challenge to provided evidence of Positive Management actions.
Innovation	W&W have several good examples of delivering efficiencies using innovation, technology and collaboration, including use of drones, improved PICOP packs, and use of PodFlo tool to automating processes for taking and giving up possessions.

Table 7: Wales and Western conclusions

1.5.2 Overall conclusions on initiatives

1.5.2.1 Limited evidence of consistent cost savings approach

Access Optimisation initiatives offer the potential for significant efficiencies, but there is limited evidence (with some exceptions) that these efficiencies have been quantified and are a clear saving. The approach to baseline cost recording (e.g. of works delivery linked to access options) is not consistent and does not allow clear comparison of delivery costs over time.

Ways of Working changes (e.g. Technology & digital tools) offer the potential for repeatable, step change improvements in both access planning and delivery efficiency (e.g. works delivery, operations). These often target the freeing up of planners' and operators' time, enabling them to concentrate on making better decisions and producing good outcomes in optimisations. Again, there is limited evidence of a consistent approach to measure cost savings.

1.5.2.2 Access optimisation efficiency approaches are not fully embedded in day-to-day decision making

The majority of access optimisation efficiency initiatives appear to be disconnected from day-to-day decision making within the access planning process. This could be due to the efficiencies process for CP7 starting too late in the access planning cycle to proactively guide Year 1 efficiencies, and due to a lack of leadership involvement in the efficiencies process from access planning teams. Given the significant cost associated with taking access, and the large variance in cost between different options for access delivery, it would be beneficial if more attention was given to measuring costs and recording data to inform future decision making.

1.5.2.3 Large number of reported initiatives leads to difficulties in management

The extremely large number of access initiatives listed in fishbones (over 250 at RF09-25) makes understanding and managing these initiatives extremely difficult – for example, several Regional teams stated that they did not have the resources to manage them and/or that it wasn't reasonable to expect individual initiatives to have a plan (despite the stated efficiency values in the range of £millions). Furthermore, there appears to be no prioritisation of initiatives, or methods to stop unsuccessful initiatives (i.e. "killing criteria").

We see this as symptom of lack of coherent approach and vision to access efficiency initiatives. From our analysis of the initiatives, we observe only a relatively small number of types of Positive Management Actions that are being undertaken – for example, optimising access into blockade; integrating access across disciplines or annual plan cycles; reviewing possession contingency; reducing possession management setup time. (See section 1.4.2 for further examples). Managing initiatives at the level of Positive Management Action would vastly decrease the number of initiatives and enable increased focus. Asset/discipline level reporting could still take place within the fishbone trackers.

1.5.2.4 Few supporting metrics are captured

Few metrics are captured that would help Network Rail track progress on access-related initiatives. This is a particular concern given that access optimisation initiatives have a long lead time, due to the need to agree access with Train & Freight Operators at an early stage of the planning process (ideally by "D-44", which can be 10-16 months before the access / engineering work takes place).

There is a current "Access booked" metric within Network Rail reports to the ORR. However, this only records number of access hours agreed by volume, based on trends in previous years. This is virtually meaningless in that it gives no consideration of whether the right access has been booked for the work required, or whether that access has contributed to any planned efficiency saving.

The fishbone trackers do track efficiencies achieved through an "in delivery" flag and through 'Blue' BRAG scoring. Several Regions did provide details of their initiatives via spreadsheet which showed calculations used to achieve these figures, but these did not appear to be in a consistent format, with variability between Regions of the number of initiatives capturing such information. Furthermore, it is very difficult to ascertain actual delivery against original plan to judge whether an initiative has met expectations or to support identification of lessons learned from trend analysis.

The System Operator element of "The Way we Manage Our Business" programme (formerly known as Governance, Risk, Assurance, Improvement (GRAI)) sets out a method for Network Rail to govern its processes, identify risk, gain assurance and support Improvement activities. This also includes aims to improve access reporting that appears to be tailored towards reporting on adherence to planning processes – particularly important from a safety compliance perspective – but of limited value in supporting access initiatives. We also note that this initiative appears to have variable levels of support within the Region and Route teams, and is not yet fully implemented.

1.5.2.5 Variation in maturity of Regional approaches (including strategy and governance)

There is variation between Regions in terms of key elements of the access efficiencies approach. From a strategic perspective, the example observed in Scotland Region who were able to explain and target their efficiencies approach in the context of where their key assets are with regards to their renewals lifecycle. Similarly, Wales and Western appear to have a definite strategy to pursue data-driven ways of working changes. Other Regions did not demonstrate this overall strategic narrative, and appear to be more reactive to the needs of the efficiencies fishbone process.

From a governance perspective, those Regions (such as Scotland) who had joint accountability for access initiatives between finance and access planning teams, coupled with regular reviews, appeared to have clearer initiatives, with increased confidence of delivery.

1.5.2.6 Digital, Data and Technology changes enable savings, but need support & consistency

We identified a number of promising initiatives that leverage digital, data and technology across the majority of Regions that enable access planning processes and possession management to be more efficient. This includes provision of better information to enable better decision-making; automation of manual processes to free up time to concentrate on adding value; reducing possession management time, or even overall need for possessions, to increase working time and outputs within limited access.

Best practice is being shared, but adoption is often slow. Challenges including lack of funding for investment; difficulties adapting approaches to different needs (or perceived different needs) across Routes and Regions; and lack of resource to lead change and adoption.

A major change to replace the legacy Possession Planning System (PPS) offers the potential for more efficiency planning and better data (for example, to track possession change). Only one Region has referenced this on their efficiency tracker (Western and Wales) but several referenced it in conversations as a possible future step.

1.5.2.7 Overall Coordination – lack of a 'guiding mind' for access

The central Group Efficiency function does a good job of reporting on efficiency and initiatives via the Rolling Forecasts and efficiency fishbones, but there appears to be a lack of a 'guiding mind' to co-ordinate a Network Rail-wide approach to access and possessions, including sharing best practice and driving adoption of improvement initiatives. This is not currently within the existing scope or terms of reference of the Infrastructure Access Strategy Board. The Board's governance and oversight over the Route and Regional structures are constrained, with limited authority to enforce compliance or operational directives. Actions are not adequately closed out, indicating deficiencies in control and assurance mechanisms.

Examples where such a guiding mind could be helpful include:

- Consistent and joined-up strategy for access across the Regions, Routes and central teams
- Development and roll-out of new technologies (e.g. drones, digital tools).
- Defining standard models for cost baselining and measurement to inform access planning decision making and to guide Access Optimisation efficiency initiatives.

1.5.2.8 What does 'good look like' for an initiative

Following our review of Network Rail's Region's initiatives, we have developed some guidelines regarding what a 'good' access-related initiative could look like.

These include:

- Clear planned efficiency benefit measurable against a defined baseline
- Clear ownership, appropriate governance and effective delivery plans (e.g. clear, visible, realistic actively managed)
- Clear success measures, including leading indicators that track initiative dependencies (e.g. access booking, technology acceptance, ways of working change agreement)

Initiatives should be evaluated against the following key criteria (Efficiency benefit; Governance; Planning & Risk; Stakeholder / Industry Management; Resources and Funding) and each criteria scored / measured against a four-point scale (denoting a maturity level from "early" to "delivering").

1.5.3 Recommendations

Recommendation	Detail	Rationale	Timescale
R1 Clear 'guiding mind' and improved Governance of Access Initiatives, including roles & accountabilities, initiative levelling and ongoing monitoring	Clarify roles and accountabilities & ownership related to access initiatives, reviewing ToRs of groups. To include: • Access efficiencies process and methods, in alignment with the existing RF process • Co-ordination of ways of working improvements, including sharing and adoption of ideas and best practice Manage & Govern access initiatives at a higher level - by Positive Management Action type. NB. reporting via discipline on the fishbones could still be continued under this model Define a template for each Route/Region to complete summarising overall scope and progress of access-related initiatives, enabling six monthly reporting to the ORR	See 1.5.2.7 Overall Coordination – lack of a 'guiding mind' for access See 1.5.2.3 Large number of reported initiatives leads to difficulties in management See 1.5.2.8 What does 'good look like' for an initiative	Within CP7 Year 2 (to inform next Independent Reporter possessions costing engagement)
R2 Improve Data-driven decision-making approach for access optimisation, including providing access to relevant data to decision makers.	Identify, source, manage and provide access for planners to data that enables better access decision making. Includes: • Customer impact (e.g. passenger numbers, freight impact, compensation estimates) • Cost of different work options for items of work • Cost / risk of planning work within the same possessions Review access planning decision making to ascertain if efficiencies requirements are adequately reflected in day-to-day decision making for access planning. Adapt access planning processes and tools so that decisions made during access planning (e.g. efficiencies and cost trade-offs) are clearly recorded and are available to support future decisions and governance and reporting of efficiencies	See 1.5.2.1 Limited evidence of consistent cost savings approach and 1.5.2.2 Access optimisation efficiency approaches are not fully embedded in day-to-day decision making See also Scotland Region 6.7 Best Practice identified for details of Decision Impact Assessment Model (DIAM)	An initial review of current state to be completed by end of CP7 year 2 (to inform next Independent Reporter possessions costing engagement). Full implementation likely to require longer timescale, tied to existing initiatives (e.g. new Access Planning System)

Recommendation	Detail	Rationale	Timescale
R3 Define clear guidance on access efficiencies – definition, process, methods & metrics	Clear definition on 'what is an access initiative', to include the difference between initiatives and BAU practice. Include guidance based on 'best practice' identified (see 1.4.2 Best practice). Guidance on how to categorise access initiatives by positive management action Guidance on an initiative prioritisation approach (inc. 'killing criteria') Guidance on Benefits measurement approach and reporting, particularly in terms of baselining costs Consider improved metrics, including: Leading indicators • change to existing access booking metric, demonstrating that access needed to achieve efficiencies is being booked/agreed in line with project lifecycle stages Lagging indicators • Number and value planned vs achieved of initiatives, by category	See 1.5.2.1 Limited evidence of consistent cost savings approach & 1.5.2.3 Large number of reported initiatives leads to difficulties in management 1.5.2.8 What does 'good look like' for an initiative 1.5.2.4 Few supporting metrics are captured	Within CP7 Year 2 to support Recommendation R1. Should also utilise this guidance to start efficiencies process earlier for CP8, given long lead time to agree access
R4 Define Strategic Intent for access	Define and document strategic vision for access, including: - access efficiencies - ways of working changes - data & tech - workforce & competency Each region to develop high level regional access strategy, based on overall and tying into regional priorities e.g. current asset life, upcoming enhancements	See 1.5.2.7 Overall Coordination – lack of a 'guiding mind' for access See 1.5.2.5 Variation in maturity of Regional approaches (including strategy and governance)	Within CP7 Year 2 to support Recommendation R1
R5 Use of technology & data	Review approaches to better structure and share foundational data, to enable better management information and improved automation. Identify investment (e.g. funding and sponsorship) required for new tools and systems, such as new planning systems and improved possession management techniques, in order to boost consistent improvements to ways of working. Invest in structured business change approaches for access data and technology, including identifying and mitigating any barriers to successful adoption	See 1.5.2.1 Limited evidence of consistent cost savings approach See 1.5.2.6 Digital, Data and Technology changes enable savings, but need support & consistency	Initial review as part of "Strategic Intent for Access" recommendation. Delivery is longer term strategic objective Funding should consider existing budgets, efficiency and innovation programmes, and CP8 planning

1.6 Acknowledgements

The Independent Reporter Team would like to thank both ORR and Network Rail staff for their assistance with this study.

2 Introduction

2.1 Background to the Assessment

Arup, supported by Winder Phillips Associates, has been appointed by the Office of Rail and Road (ORR) and Network Rail under the Independent Reporter Framework to undertake a review of Possession Initiatives in CP7.

The planning and delivery of engineering access is crucial for the safe and efficient operation of the railway network. They allow for necessary maintenance and renewal activities, ensure the safety of workers, and help in managing and mitigating service disruptions.

Network Rail has made several commitments for improving the planning and delivery of possessions in its submission for Periodic Review 2023 (PR23)[9], including the Overview of CP7 possession/access initiatives[10] document. ORR holds Network Rail to account for the delivery of those commitments. In summary, these commitments are to undertake a number of efficiency and innovation efforts as outlined in their National Efficiency Plans. These can be summarised as:

- Closer integration with industry partners to review when Network Rail take access to complete work on the network. Network Rail will benefit from economies of scale and minimise the impact on customers.
- Improving the use of cross-industry data to make holistic decisions on access that view requirements on an integrated rather than individual basis.
- Utilising modern, innovative access strategies which focus on the customer experience and worker safety.
- Develop access KPIs to allow for the objective assessment of utilisation and efficiency.
- Use of demand-led access programmes to model passenger demand and possession planning to ensure that the strategy chosen is the most efficient and least disruptive.

In the PR23, ORR's 'Final Decisions'[11] for network availability and possession management are as follows:

- Network Rail must balance the needs of necessary engineering work, efficiency, and minimising disruption to end users when undertaking possessions.
- Network Rail should exercise sound judgement when making decisions around possessions.
- Timely and robust engagement and local agreement with stakeholders when trialling new initiatives, alongside honest and transparent review. In undertaking longer possessions with a focus on efficiency, the need to minimise the impact of disruption, highlighted in the UK Government's HLOS, should be factored into decision making.
- Enhanced monitoring of late notice possession changes and numbers of access disputes.
- Monthly monitoring reports to be received from Network Rail.

Network Rail aims to deliver those commitments via a variety of initiatives. However, during CP6, ORR

[9] https://www.orr.gov.uk/monitoring-regulation/rail/networks/network-rail/price-controls/pr23/final-determination

[10] https://www.networkrail.co.uk/wp-content/uploads/2023/05/Overview-of-CP7-efficiency-initiatives.pdf

[11] https://www.orr.gov.uk/monitoring-regulation/rail/networks/network-rail/price-controls/pr23/final-determination

raised concerns around governance and monitoring[12], as those initiatives can vary across the network and ownership can be with Regions or Central Functions e.g., System Operator, Technical Authority and Capital Delivery teams within the Regions. It is therefore important for both ORR and Network Rail to understand the alignment, priority, and the likelihood of success in implementing these initiatives to deliver Network Rail's commitments for improving the planning and delivery of possessions during CP7.

Network Rail forecasted to deliver a total access-related efficiency of £316m in CP7 (April 2024 - March 2029). The figure came from Network Rail's National Access Fishbone data from 2023-24. This figure is the total of access related efficiencies from the Regions as stated as part of Network Rail's 'Rolling Forecast' (RF) process and is a point-in-time forecast of the contribution that access initiatives will make to the wider National efficiency target. Therefore, there is the potential for the figure for access related efficiencies to change, as Regions are able to move figures between different efficiency areas.

As part of PR23 final determination, ORR updated their Holding to Account Policy[13] that will apply from the start of Control Period 7 (CP7). The purpose of this policy is to set out how ORR hold Network Rail to account against the Network Licence and the final determination of its 2023 Periodic Review (PR23). The policy outlines ORR's approach to the monitoring and enforcement of these licence obligations.

In CP7, ORR will assess Network Rail's performance against the expectations specified in its PR23 Final Determination Outcomes Framework document[14] for possession management – including enhanced monitoring and public reporting of late notice possession changes.

The objectives of this review are to assess the effectiveness and alignment of Network Rail's possession (or access) improvement initiatives with its stated business objectives and priorities, and the relevant expectations specified in the Outcomes Framework document, the Railways Act 2005[15], the High Level Output Specification 2022[16] and Scottish Ministers' High Level Output Specification for CP7[17].

This review specifically focuses on examining Network Rail's progress made in each initiative over time and the corresponding implementation to deliver Network Rail's committed plans in the following areas.

1. Safety
2. Efficiency
3. Planning
4. Regulation/Governance
5. Innovation

[12] https://www.orr.gov.uk/search-news/rail-regulator-calls-better-planning-engineering-works-reduce-impact-passengers

[13] https://www.orr.gov.uk/sites/default/files/2023-10/22-pr23-final-determination-policy-position-holding-to-account.pdf

[14] https://www.orr.gov.uk/sites/default/files/2023-10/14-pr23-final-determination-supporting-document-outcomes.pdf

[15] https://www.legislation.gov.uk/ukpga/2005/14/contents

[16] https://www.gov.uk/government/publications/railways-high-level-output-specification-2022

[17] https://www.transport.gov.scot/publication/scottish-ministers-high-level-output-specification-hlos-control-period-7-2024-2029

3 Methodology

3.1 Overall Review Objectives

The objective of this review is to assess the effectiveness and alignment of Network Rail's possession improvement initiatives against commitments made by Network Rail in planning for CP7. This review focusses assessment through the following five lenses: safety, efficiency, planning, regulation and governance, and innovation.

The review revisits the specific ORR concern areas, including:

- Obtaining efficiency savings from engineering work.
- Late changes, and the impacts and costs of this approach on the industry and disruption to passengers and customers.
- The need for better integration of planning across the organisation (engineering, logistics, timetable planning).
- Contingency planning, and improvements in data and monitoring to enable a future track access system.
- Governance and monitoring of possession efficiency improvements and sharing of best practice across the network.

ORR is also concerned with consistent governance and monitoring of initiatives, given the variable ownership of improvement initiatives across different Network Rail Regions and functions.

3.2 BRAG Rating Approach

Arup has defined a BRAG system to rate the initiatives based on seven 'lines of enquiry,' related to the five individual areas highlighted in the Statement of Works:

SoW Area	Line of Enquiry	Description
Efficiency	Efficiency	To what extent does the initiative have an efficiency forecast/plan? Does the documentation describe how that forecast/plan will be achieved? How is the forecast/plan broken down?
Governance	Governance	Is the initiative subject to a suitable form of governance? (e.g. Sponsorship, steering board, reporting). Please describe the governance arrangements. What KPI's are applicable to the initiative?
Planning	Change Detail	Is the initiative well described? Is there clear evidence of what this initiative is looking to achieve and the method it will follow? Is there a plan that considers industry change required: stakeholder consultation, systems, processes. people & org & training etc.
	Schedule / milestones	Is there a clear plan? Is there evidence that the milestones in the plan will deliver the stated initiative outcome? Do initiatives have their own schedule/plan or are they subsumed within project/programme plans?
	RAID management	Is there a clear understanding of key risks and mitigations? Are key dependencies identified and planned for? What are the key assumptions?
Safety	Safety	What is the safety impact of the initiative? Does the initiative have a clear safety management plan and/or a clear view on how it addresses or mitigates safety concerns? Does the initiative actively promote safer methods of working?
Innovation	Innovation	To what extent is the initiative introducing a new / innovative approach or technology?

Table 8: Lines of Enquiry

A sample of initiatives have been given individual BRAG scores against the above areas, and an overall BRAG score per initiative, denoted by the terms below. For consistency we have adopted the same BRAG score as the wider CP7 Efficiency Independent Report[18] – which is based on the Network Rail BRAG scoring matrix - see below.

Rating	Description
Blue	Enabling activity has been delivered; i.e. milestones have been hit and are waiting
Green	Enabling activity is in place with delivery plan and milestones, and the business is
Amber	Strategic theme assigned but no plan in place, or a plan is in place with low confid
Red	Commitment to save, no strategic theme assigned or plan in place to deliver

Figure 3: BRAG rating approach

[18] CP7 Efficiency Planning Final Report Nichols, 14th October 2024; https://www.orr.gov.uk/media/26407

3.3 Stakeholder Engagement

An initial list of possession initiatives was provided by Network Rail's Head of Infrastructure Access. Stakeholders for these initiatives were identified, primarily Regional Finance teams and Route Heads of Planning. Network Rail's Regions have been briefed by the Head of Infrastructure Access. Arup attended Network Rail's Infrastructure Access Strategy Board on 7th November 2024, where further initiatives were identified.

National initiatives are those promoted by Network Rail's central functions, designed to be rolled out within the Regions if applicable. The Regions also have their own initiatives.

3.4 Document Review

As part of the review process, Arup reviewed:

- the previous Possessions Efficiency Review Independent Report from 2021[19]
- A Final version of the separate "CP7 Efficiency Planning" Independent Reporter review[20]
- Network Rail's PR23 submission[21]
- Network Rail's National Efficiency Plans 2024-2029[22]

3.5 Analysis of Evidence Base for Efficiency Targets

In the Statement of Works for this review, it states that *'Network Rail commits to deliver a total access related efficiency of **£316m** in CP7 (April 2024 - March 2029)'.*

The PR23 draft determination supporting document states that Network Rail are working towards an overall efficiency challenge of 'at least **£3.2bn'** in England and Wales and **£429m** for Scotland. This is broken down in the document as shown in Table 3 below, which is a combination of Direct and Allocated efficiencies, using 2023/2024 Prices.

Table B.29 ORR Efficiency (£ million, 2023-24 prices) CP7 baseline trajectories by year, draft determination

Region	2024-25 (year 1)	2025-26 (year 2)	2026-27 (year 3)	2027-28 (year 4)	2028-29 (year 5)	Total
Eastern	108	167	216	229	271	992
North West & Central	77	126	199	221	266	890
Southern	75	119	166	200	221	781
Wales & Western	71	88	129	135	146	569
England & Wales	331	501	710	785	905	3,232
Scotland	38	76	93	105	117	429

Table 9: ORR Efficiency CP7 planned trajectories by year, draft determination

[19] https://www.orr.gov.uk/sites/default/files/2021-10/ghd-possessions-efficiency-review-independent-report-april-2021.pdf

[20] CP7 Efficiency Planning Final Report Nichols, 14th October 2024; https://www.orr.gov.uk/media/26407

[21] https://www.orr.gov.uk/sites/default/files/2023-10/14-pr23-final-determination-supporting-document-outcomes.pdf

[22] https://www.networkrail.co.uk/wp-content/uploads/2023/05/Overview-of-CP7-efficiency-initiatives.pdf

Network Rail's Strategic Business Plan 2024-2029[23] committed to **£3.8bn** of Operations, Maintenance & Renewals efficiency over CP7 across Great Britain. Of this, **£445m** was forecast for the 'improving access' efficiency area.

The access-related efficiency saving has changed substantially over time, due to updates made via the Rolling Forecast (RF) process. From discussions with both Regional teams and Network Rail's Group Efficiencies team, we understand that there is no formal target (either National or Regional) for access related efficiencies, and that the target is set for a total Regional & National efficiency, which access efficiencies contribute to.

3.6 Efficiency Forecasts

The Rolling Forecast process provides detail on efficiencies and their forecasts for the Control Period, and the data is reported into ORR as part of their 'Holding to Account' policy. However, the numbers given relating to the "Access" fishbone category are part of a wider Regional efficiency target and are subject to change as part of the RF process, as efficiencies for other categories in the Regions move up or down.

Network Rail's efficiency forecasts have evolved over time as follows:

Region	NR Efficiency Plans, May 2023[24]	RF11-24 Forecast	RF06-25 Forecast[25]	RF09-25	RF12-25
Eastern			£32.9m	**£40.3m**	£40.5m
North West & Central			£49.4m	**£52.2m**	£62.7m
Scotland			£59.3m	**£54.6m**	£54.9m
Southern			£21.5m	**£22.5m**	£22.5m
Western and Wales			£107.4m	**£112.5m**	£167.8m
National	£445m	£316m[26]	£270.5m	**£282.1m**	£348.4m

Table 10: Access Efficiency Forecasts over time

NB: the analysis in this report focusses on the RF09-25 snapshot of the Network Rail efficiencies tracker, as the most recent available during the analysis period of our review.

[23] https://www.networkrail.co.uk/wp-content/uploads/2023/05/Overview-of-CP7-efficiency-initiatives.pdf

[24] https://www.networkrail.co.uk/wp-content/uploads/2023/05/Overview-of-CP7-efficiency-initiatives.pdf

[25] Source: Network Rail Group Efficiencies Fishbone Tracker Raw Data Spreadsheet. NB same figures on Eastern Region tracker

[26] Source: Statement of Works – see Appendix A, and RF11-24/25 Fishbone Diagram

4 Network Rail Eastern Region

4.1 Documents

Network Rail's Eastern Region provided Arup with a number of documents as evidence of their possession initiatives and governance of the process. These are listed in Appendix D – List of Network Rail Eastern initiatives.

4.2 Overview of Initiatives

Network Rail Eastern provided details of 34 (excluding 4 additional initiatives listed with a zero value). possession initiatives to Arup at RF9-25, some of which are placeholders or 'umbrella' references, with a number of different initiatives sitting underneath them, Arup undertook a 'deep-dive' review on a sample of five, based on the highest planned efficiencies (£), and also trying to review an even split across Network Rail Eastern's four Routes.

A detailed breakdown of initiatives, including descriptions, Network Rail's own BRAG score, and efficiency value by year is included in Appendix D. It should be noted that the BRAG scores stated within Appendix D are Network Rail's own scores, as opposed to the BRAG scores given to five chosen initiatives by Arup in Section 4.4. It should also be noted that Network Rail's BRAG assessment criteria differs to that of Arup – Network Rail have confirmed that "BRAG documents are our main assurance documents, detailing the positive management actions taken, as well as calculations including baseline, risks, etc". Arup's approach to BRAG rating is described in Section 3.2 of this report. In addition, Network Rail have stated that "BRAGs will be produced for initiatives in Blue or Green status" Of the five initiatives reviewed, one was green and a BRAG was produced. Once this moves to Blue, evidence can be produced that the efficiency has occurred.

The £40.3m CP7 efficiency figure quoted for Eastern (which is sourced from the RF09-25 view of the tracker) is part of a wider Regional efficiency target (identified in the CP7 Efficiencies report as £814m), covering all efficiencies, and that the possession efficiency amount is subject to change as part of the Rolling Forecast process.

Network Rail Eastern Region's CP7 Delivery Plan[27] sets out the following plans for efficiencies over CP7:

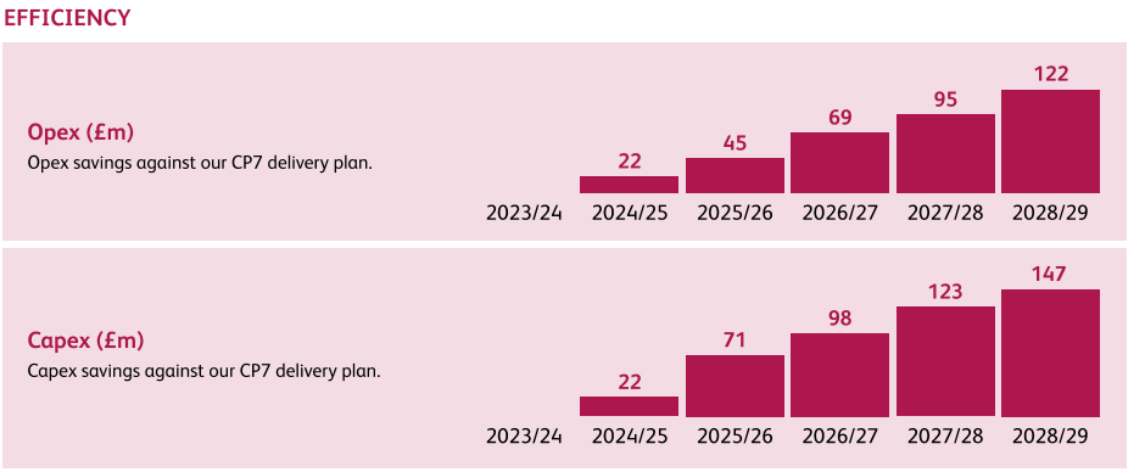


Figure 4: Eastern Region Delivery Plan Efficiency Plans

[27] https://www.networkrail.co.uk/wp-content/uploads/2024/03/Eastern-CP7-Delivery-Plan.pdf

4.3 Eastern Initiatives

The following charts give an overview of the data taken from the Eastern Region's tracker, as forecast in RF09-25. These figures are for access-related efficiencies only.

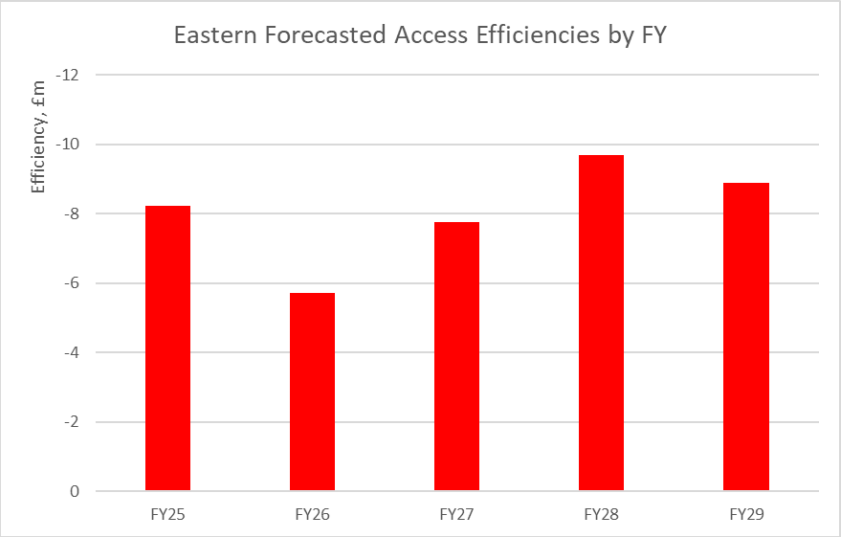


Figure 5: Eastern Region Access Efficiencies Forecast per Financial Year

The above chart shows the spread of efficiencies throughout CP7. We observe a relatively even spread across the five years, as might be expected from possession-optimisation related initiatives, where volumes of work are spread across the Control Period. We'd note this stands in contrast to the overall efficiency targets, which increase year-on-year.

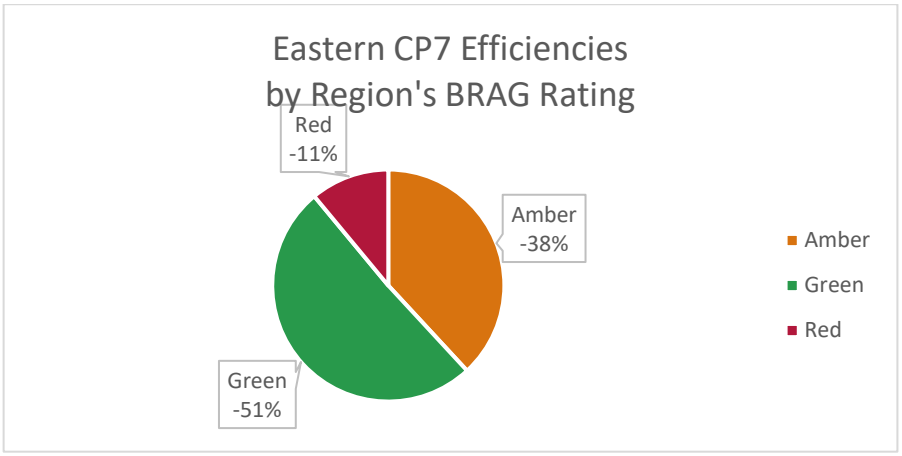


Figure 6: Eastern CP7 efficiencies value, by Region's Own BRAG Rating

The above chart gives an indication of the confidence levels that Eastern have in their initiatives. Overall, the Region is stating that it has identified key efficiency themes, even if plans are not yet robust. Since RF06-25 a significant number of initiatives have changed from Amber to Green for FY25 under Eastern Region's own BRAG rating.

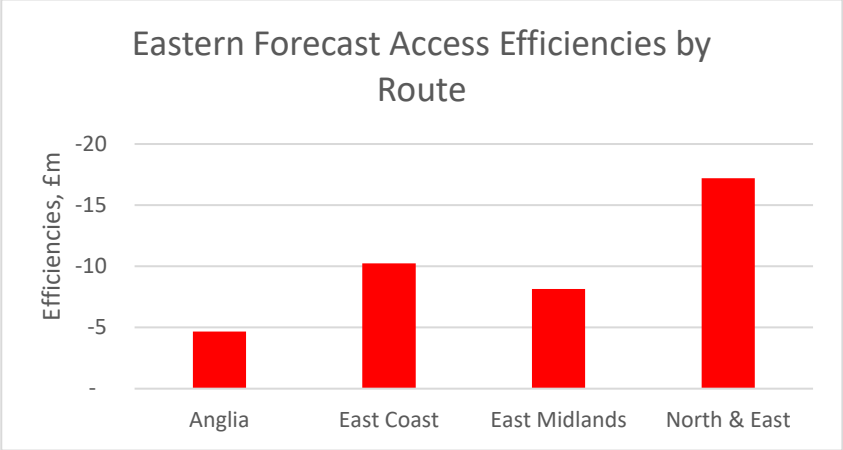


Figure 7: Eastern Region Forecast Access Efficiency by Route

The above chart shows that there is a significant difference in the value of initiatives across the four Routes within Eastern. From our review of the detail, it appears that Anglia have far fewer initiatives than the other Routes, covering only two asset disciplines (Buildings and Structures), so indicating a differing level of maturity between Routes within the Region.

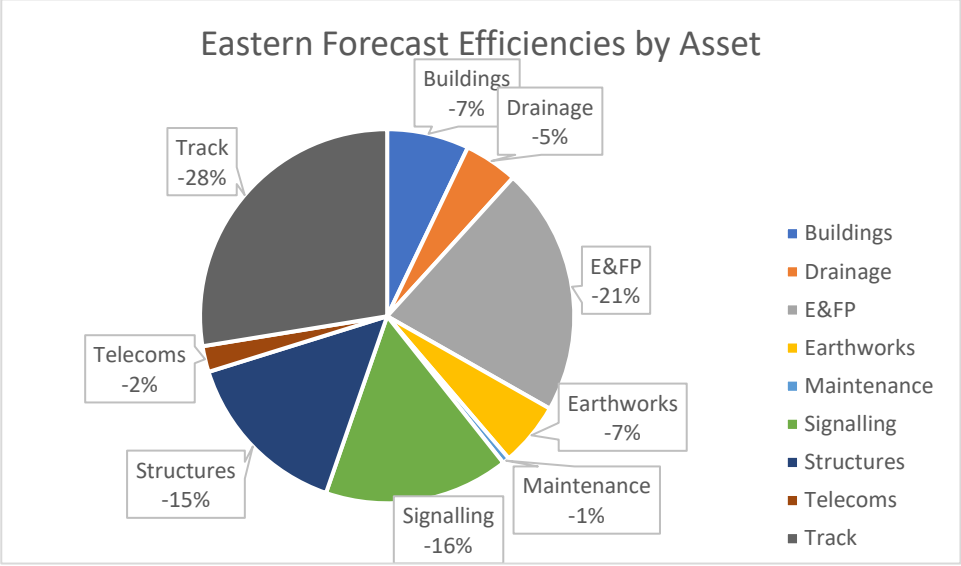


Figure 8: Breakdown of Eastern Efficiencies Value by Asset

Each initiative is assigned to an Asset Group; the pie chart shows the proportion of the forecast efficiency from each group.

4.4 Initial Assessment of five Selected Initiatives and commentary on BRAG rating

Of the 34 initiatives provided, five have been selected for a deep-dive review, representing £17.7m (44%) of the Regional total efficiencies from possessions figure on the tracker. These are shown below.

ECEP008 (East Coast)

Initiative ID	ECEP008
Initiative Name	**Access Planning SBP (Electrification & Fixed Plant)**
Initiative description	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.
BRAG Ratings (Arup)	
Safety	Combining different work disciplines within the same possessions is common practice and there is no safety concern from the details provided.
Efficiency	Planning works in advance is an efficient way to plan and deliver work. However, this approach is already commonly undertaken, with access planning started 2+ years in advance. It is not clear for this specific initiative what is different (and therefore more efficient) than practices in CP6. Some examples were shared via a presentation that included more use of midweek blockades, and moving away from Christmas access to avoid disruption for customers. However, those do not appear to be specifically linked to this initiative and are not being separately tracked.
Planning	No details provided as to how this is being planned for as a general theme.
Regulation/Governance	As this a theme and not a specific initiative, there is no specific project management being applied to deliver its outcomes. There is governance via the Eastern Finance Tracker for the BRAG status and projected efficiencies.
Innovation	There is limited evidence of how this is significantly different from BAU practice.
Efficiency Forecast, £ 000s	**- 3,813**
Overall BRAG Rating (Arup)	This theme is close to BAU practice, and the absence of specific details, governance and RAID management leads us to rate this at Red – in line with Eastern's own rating.

ECEP104 (East Coast)

Initiative ID	ECEP104
Initiative Name	**Access Planning Resilience North (Electrification & Fixed Plant)**
Initiative description	Identifying available blockade access and maximising access footprints in delivery plans. This is continually being reviewed throughout delivery.
Individual BRAG Ratings	
Safety	There is likely to be a safety benefit from reducing the number of times that possessions are taken & handed back
Efficiency	Details are provided on the BRAG assessment which show the reduction in unit rate (STK or single-track kilometres of wire runs replaced) across each year within CP7 based on projected volume). However, all of the efficiency of this initiative is due in Year 1 CP7, and there is no evidence provided that this has been achieved – detailed data is still based on forecasts.
Planning	Whilst the approach to the initiative is described (issuing the whole workback for CP7 to the work deliverer to identify longer possession opportunities to use vice ROTR) there are no specific project plan listed, with this part of the BRAG document blank.
Regulation/Governance	There is governance via the Eastern Finance Tracker for the BRAG status and projected efficiencies. However, there is no detail provided for specific project management and governance for this initiative.
Innovation	A clear explanation is provided of how this approach differs from CP6.
Efficiency Forecast, £ 000s	**-1,433**
Overall BRAG Rating (Arup)	The Network Rail project BRAG assessment provided on overview of this project, including a clear explanation of how the initiative differs from the approach in CP6 in terms of the work bank being issued for a 5 year period vice 1 year at a time. This could be best practice that could be shared among other Routes & Regions, and across other work disciplines to create further optimisation and efficiency. However, elements covering governance, milestones and RAID management are missing, and no other evidence has been provided to indicate how these elements are being managed. We have rated this as 'Amber,' in contrast to the Region's own rating of 'Green,' with the prime difference being due to lack of evidence of delivery in year 1.

EMST007 (East Midlands)

Initiative ID	EMST007
Initiative Name	Access Planning (Structures)
Initiative description	Work bank planning will follow where electrification is planned for the next route section to deliver a combination of asset projects, across a reduced number of possessions, taking advantage of longer blockades with less disruptive access.
Individual BRAG Ratings	
Safety	Combining different work disciplines within the same possessions is common practice and there is no safety concern from the details provided.
Efficiency	Combining work together within possessions is an efficient way to plan and deliver work. However, this approach is already commonly undertaken. It is not clear for this specific initiative what is different (and therefore more efficient) than practices in CP6. In addition, this theme states a £200k efficiency in Year 1 of CP7. Given lead times for agreeing access, this would need to be already agreed by now to achieve the benefit, but there is no evidence of this.
Planning	It is understood that this is being undertaken via integration workshops as per the presentation 'East Midlands: Case Study: Integrations review meetings ' provided by the East Midlands route.
Regulation/Governance	This is described as a theme and not a specific initiative by the Region, so there is no specific project management being applied to deliver its outcomes. There is governance via the Eastern Finance Tracker for the BRAG status and projected efficiencies.
Innovation	There is limited evidence of how this is significantly different from BAU practice.
Efficiency Forecast, £ 000s	- 1,073
Overall BRAG Rating (Arup)	This theme is close to BAU practice and the absence of specific details, governance and RAID management leads us to RAG this at Amber. This slightly contrasts with the Region's own rating of Green for Year 1 and Amber for the remaining years of CP7

NETR008 (North & East)

Initiative ID	NETR008
Initiative Name	Access Planning (Track)
Initiative description	Structural & Commercial – Improved Access
Individual BRAG Ratings	
Safety	From a safety perspective, there is nothing significantly different from normal practices that has been shared.
Efficiency	There are no specific details shared within the tracker, or in the other documentation shared by the Route. However, the Route did provide a number of examples of efficiencies for track-related items. Various financial efficiency estimates have been listed for these items via the North & East routes 'Gateway System' for investment papers, but these are not 'actual' outcomes, nor are they aligned to specific financial years. A specific example of renewals at Wrawby being undertaken in a 9-day blockade instead of 5 x 54hr weekend possessions was given. However, it is not clear whether this is a true efficiency compared to CP6 as planning within blockades is fairly common practice. This theme states a >£1m efficiency in Year 1 of CP7. Given lead times for agreeing access, this would need to be already agreed by time of writing (RF09-25) to achieve the efficiency; but no evidence that this is being achieved.
Planning	No details provided as to how this is being planned for as a general theme.
Regulation/Governance	As this a theme and not a specific initiative, there is no specific project management being applied to deliver its outcomes. There is governance via the Eastern Finance Tracker for the BRAG status and projected efficiencies. The Northeast route are additionally using the 'Gateway System' for tracking investment papers and efficiencies, however these are for specific work deliverables and not for this general theme.
Innovation	There is limited evidence of how this is significantly different from BAU practice.
Efficiency Forecast, £ 000s	-6,427
Overall BRAG Rating (Arup)	Eastern Region have advised that this initiative along with many others within the tracker is a 'holding line' for covering a number of smaller initiatives which are being tracked outside of the governance of the Finance Tracker. As such there is limited details on the efficiency planned, and the examples shared did not provide information on the schedule, milestones or governance. As such, it is difficult to assess this item other than as Red, in contrast to the Region's own rating of 'Amber.'

NESIG008 (North & East)

Initiative ID	NESIG008
Initiative Name	Access Planning (Signalling)
Initiative description	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.
Individual BRAG Ratings	
Safety	From a safety perspective, there is nothing significantly different from normal practices that has been shared.
Efficiency	There are no specific details shared within the tracker, or in the documentation shared by the Route. However, the Route did provide an example of an efficiency for signalling-related items. A financial efficiency had been calculated for this item via the North & East routes 'Gateway System' for investment papers. The specific example of signal commissioning at Shildon & Heighington being undertaken in 2 x 49hr weekend possessions vice utilising Rules of the Route (overnight possessions) was given. However, it is not clear whether this is a true efficiency compared to CP6 as it is far more common for signalling commissioning work to be undertaken in disruptive weekend possessions. When questioned on this Network Rail were unable to explain what the efficiency was.
Planning	No details provided as to how this is being planned for as a general theme.
Regulation/Governance	As this a theme and not a specific initiative, there is no specific project management being applied to deliver its outcomes. There is governance via the Eastern Finance Tracker for the BRAG status and projected efficiencies. The North East route are additionally using the 'Gateway System' for tracking investment papers and efficiencies
Innovation	There is limited evidence of how this is significantly different from BAU practice.
Efficiency Forecast, £ 000s	-4,986
Overall BRAG Rating (Arup)	Eastern Region have advised that this initiative along with many others within the tracker is a 'holding line' for covering a number of smaller initiatives which are being tracked outside of the governance of the Finance Tracker. As such there is limited detail on the efficiency planned, and the examples shared during the meeting held did not provide information on the schedule, milestones or governance. As such, it is difficult to assess this item other than as Red.

4.5 Summary of Eastern Region sample results

Initiative ID	ECEP008	ECEP104	EMST007	NETR008	NESIG008
Initiative Name	Access Planning SBP (E&FP)	Access Planning Resilience North (E&FP)	Access Planning (Structures)	Access Planning (Track)	Access Planning (Signalling)
Individual Ratings (BRAG)					
Safety					
Efficiency					
Planning					
Regulation/Governance					
Innovation					
Efficiency Forecast, £000s	3,813	1,433	1,073	6,427	4,986
Overall Rating (NR Region BRAG)					
Overall Rating (Arup BRAG)					

Figure 9: Overview of Eastern Region sampled initiatives

Comparing the BRAG scores indicated by the Region against those given by the Arup team, shows a large difference in the confidence of delivery of efficiencies. This difference arises due to lack of plans against several of the largest themes, and an inability by the Region to explain how these are different from CP6 practice.

4.6 Regional Findings

There are a number of themes that we have seen from our review of the initiatives provided by Network Rail Eastern. These are summarised here, with further discussion of these themes (many of which are common across Regions) in section 9.2.

Low level of maturity of initiatives

- A number of the initiatives in the list of 34 provided at RF09-25 are 'umbrella' placeholders/themes, or are currently not mature, i.e. they are still in the planning stage and are due to be implemented later in CP7.
- Arup has been provided with examples of case studies which highlight ongoing trials, and specific examples of initial successes of new approaches. However, these do not align directly to the initiative list – although some are related to the placeholder/theme entries in the list. These case studies and trials will need to be quantified by the Region and added to into their governance approach and tracker.
- Given long lead time for agreeing access and the absence of evidence presented that initiatives have achieved such plan changes, it seems unlikely that all of the Year 1 efficiencies in Eastern Region's tracker (over £8.2m of the £40.3m total) are achievable.

Some evidence of emerging efficiencies management process

- Individual projects are required to detail efficiencies as part of Network Rail's Investment Authority process – in some cases reference has been made specifically to efficiencies from possession initiatives. This is encouraging, as it shows that Network Rail are trying to build in management of efficiencies into their ways of working.
- The Finance teams in Network Rail Eastern appear to be undertaking a co-ordinating role to bring together efficiency information using one approach and template, supported by a defined management structure, which should increase the changes of consistent outputs as CP7 proceeds.

Limited types of initiative

- All initiatives refer to long-term Access Optimisation and follow a small selection of methods to achieve efficiencies such as moving work into longer possessions (including blockades); integrating work of different disciplines together; and optimising work across the 5 year control period, not just within one year.

Potential for negative impacts beyond Network Rail efficiency

- In our experience, and demonstrated by many of the Access Optimisation initiatives, planning longer possessions (e.g. blockades) is very likely to deliver a significant efficiency saving in works delivery costs for Network Rail, but risk having a negative impact on whole industry costs.

Regional implementation of National initiatives

- No national initiatives are listed on the fishbone tracker; although North & East are undertaking T3-A trials (focusing on track circuit activation and utilising remotely activated ZKL functionality), which is an example of a national initiative with a local element (albeit with no efficiency recorded against the regional tracker).

4.7 Observations on Differences between Routes within the Region

The five initiatives chosen to be reviewed covered three of the four Routes in Network Rail's Eastern Region, namely East Coast, East Midlands and North & East. An overview of efficiency forecast by Route is contained in Section 4.3 – noting that there is significant variation between Routes.

The Anglia Route did not provide specific initiatives but described their methodology of preferring to work within blockades rather than "Rules of the Route" possessions[28]. We observe that their listed initiatives only refer to the Buildings and Structures disciplines, whilst other Routes had initiatives relating to a wider range of asset disciplines.

4.8 Best Practice identified

Beyond the 34 initiatives shared by Network Rail from the efficiencies fishbone, there are other initiatives which are being rolled out within Network Rail's Eastern Region. These have been summarised in Table 5.. It is suggested that Network Rail finds a way of reporting on such initiatives as part of its Rolling Forecast planning, which will provide greater visibility of the good work being undertaken.

Best Practice	Impact	Notes
Works delivery re-railing	The East Coast route indicated a potential £2m per year saving.	An additional 30 minutes' access has been granted on the ECML South of Peterborough allowing 2 versus 1 rail to be installed per shift.
T3A trials on North & East	Potential saving circa £250k per year. It should be noted that efficiency calculations have not been completed yet; so figure does not include any costs for rollout of technology, staff training nor contract amendments. The initiative is primarily a safety initiative, and may take time to 'break-even' from a cost efficiency perspective	T3A is a local implementation of the national initiative that is delivering safer, more efficient delivery of possessions. After a successful trial, North & East have progressed to the stage where there will be an initial deployment in Wk38. In the New Year, North & East will be accelerating their programme, continuing over the course of the next 18 months to 2 years in a structured fashion
"Speed-up Sundays" on the Midland Mainline (NB: added to the efficiency tracker in the RF09-25 update)	Forecast benefit of Network Rail Saving: £1.7m per annum Includes reduced Schedule 4[29] payments £819k; maintenance savings £239k and Electrification savings £597k. There is also a forecast revenue benefit for EMR.	The efficiency is achieved via a reduction in access on the 'Fast lines' allowing EMR to improve their journey times on a Sunday morning, in return for extended access opportunities in the Derby & Leicester area, allowing additional maintenance to be undertaken within the same shift.
Integration workshops on East Midlands Route	East Midlands route aim to identify £11.56m of efficiencies over CP7 through a more regular and proactive approach to integration	The Integration Workshop is currently held on a periodic basis and has attendees from enhancements and renewals to identify integration and access opportunities. Following a market-led approach by reviewing key revenue route sections, integration opportunities throughout CP7 are explored, recorded and plans are shared with maintenance.

Table 11: Best Practice Examples

[28] NB: The term 'Rules of the Route possessions' refers to a possession that fits within the time window of the Engineering Access Statement Section 4; that is, it is a standard possession opportunity that is built into the long-term timetable and can generally be utilised without additional disruption to train operations.

[29] Schedule 4 is the portion of track access contracts that sets out the level of compensation Network Rail is required to pay train operators for delays, service changes or cancellations as the result of planned disruption on the network

5 Network Rail North West & Central Region

5.1 Documents

Network Rail's North West and Central Region provided Arup with a number of documents as evidence of their possession initiatives and governance of the process. These are listed in Appendix I – List of documentation provided by Network Rail.

5.2 Overview of Initiatives

Network Rail North West & Central provided details of 65 possession initiatives to Arup with a total efficiency value of £52.2m. Some are placeholders or 'umbrella' references, with a number of different initiatives sitting underneath them. Given the number of initiatives, Arup undertook a 'deep-dive' review on a sample of three, based on the highest planned efficiencies (£), and also trying to review an even split across Network Rail North West & Central's three Routes.

A detailed breakdown, including descriptions, Network Rail's own BRAG score, and breakdown by year is included in Appendix E. It should be noted that the BRAG scores stated within Appendix E are Network Rail's own scores, as opposed to the BRAG scores given to three chosen initiatives by Arup in Section 5.5. It should also be noted that Network Rail's BRAG assessment criteria differs from that of Arup – Network Rail have confirmed that 'BRAG documents are their assurance documents, detailing the positive management actions taken, as well as calculations including baseline, risks, etc. As discussed, BRAGs will be produced for initiatives in Blue or Green status". Of the three initiatives reviewed, none were green and therefore no BRAG was produced.

5.3 North West & Central Initiatives

The following charts give an overview of the data taken from the North West & Central Region's tracker, as forecast at RF09-25.

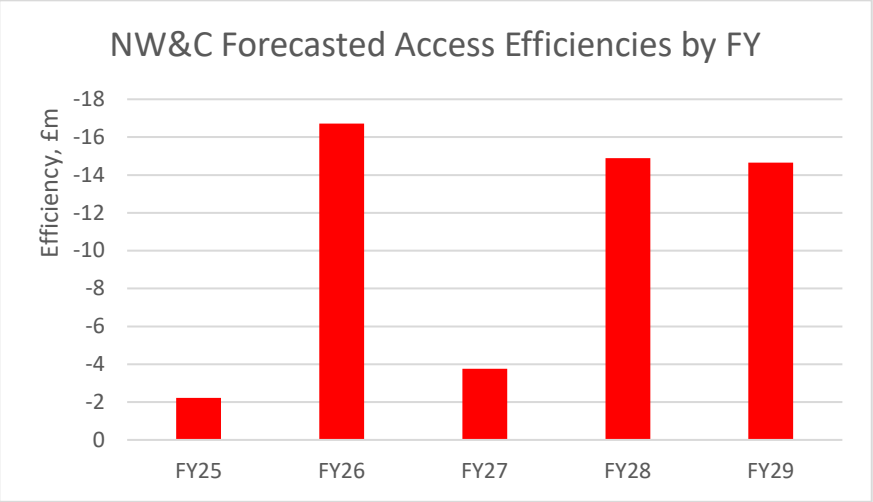


Figure 10: North West & Central Region Access Efficiencies Forecast per Financial Year

The above chart shows the spread of efficiencies throughout CP7. We observe that three years have a relatively even spread, as might be expected from possession-optimisation related initiatives, where volumes of work are spread across the Control Period. However, it is also noted that two of the years have significantly less forecasted efficiencies reported. This is understandable in Y1 of the control period for the larger possession initiatives due to work banks and possession regimes having already been determined prior to the initiatives being developed. Some of the larger initiatives in Central do not realise any benefit until after Y3, whilst some of the larger initiatives in West Coast Mainline South do not realise any benefit beyond Y2. We'd note this stands in contrast to the overall efficiency targets which increase year-on-year.

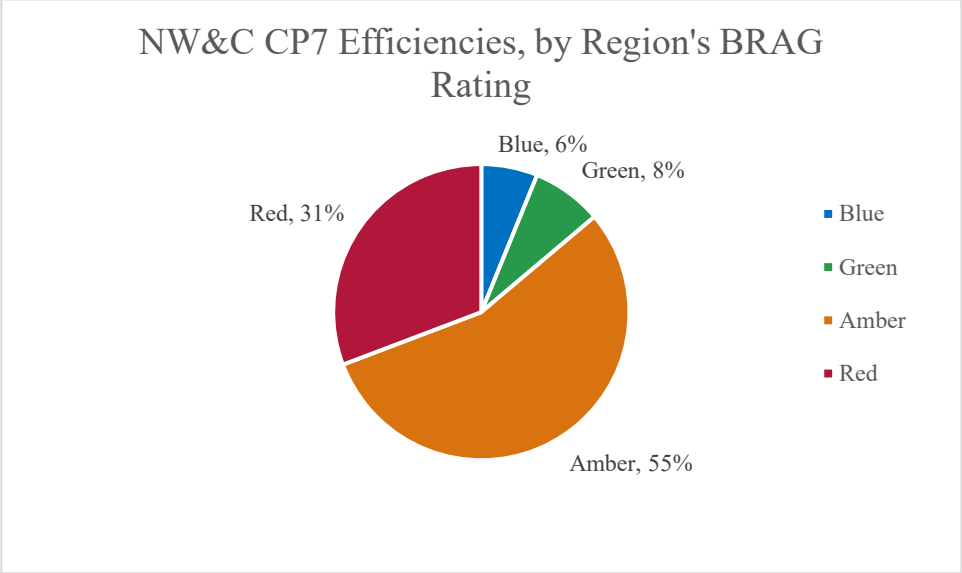


Figure 11: North West & Central CP7 efficiencies value, by Region's Own BRAG Rating

The above chart gives an indication of the confidence levels that North West & Central have in their initiatives. Overall, the Region is stating that it has identified key efficiency themes, even if plans are not yet robust.

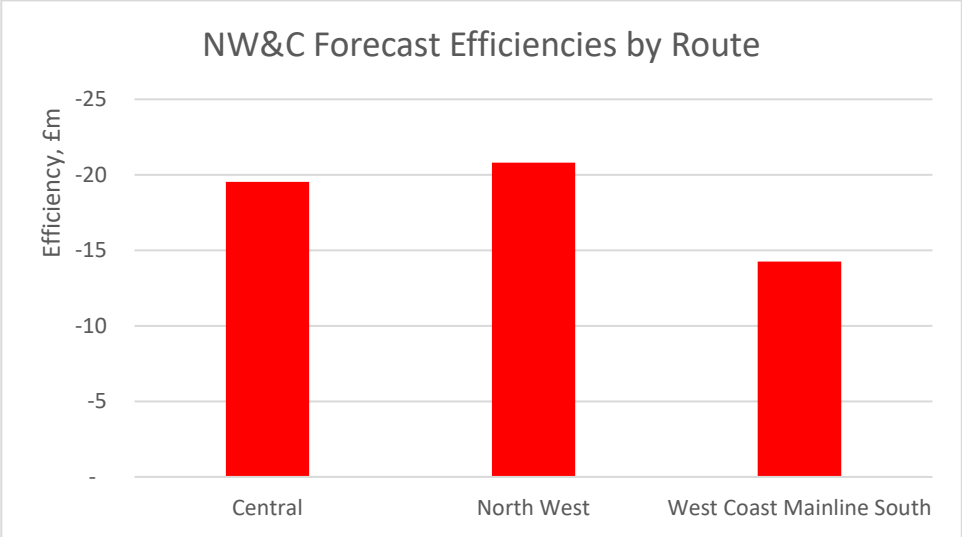


Figure 12: North West & Central Region Forecast Access Efficiency by Route

The above chart shows that the value of initiatives across the three Routes within North West & Central is broadly similar. From our review of the detail, the West Coast Mainline South and North West routes both have circa 20 percent of the initiatives in the overall list, with the Central route having circa 60 percent, meaning most of the Central initiatives are of a lower value.

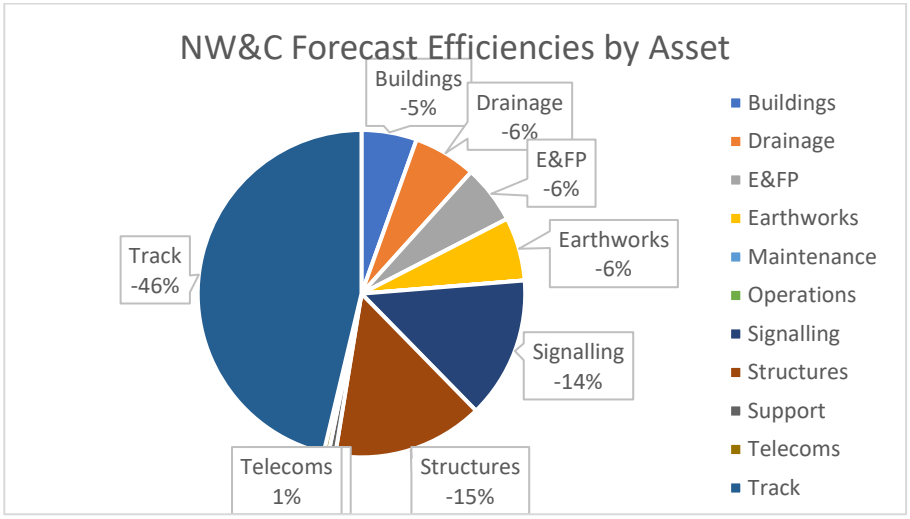


Figure 13: Breakdown of North West & Central Efficiencies Value by Asset

The percentages here are taken from the North West & Central Region Efficiencies Tracker. Each initiative is assigned to an Asset Group; the pie chart shows the proportion of the forecast efficiency from each group.

5.4 Initial Assessment of three Selected Initiatives and commentary of BRAG rating

Of the 65 initiatives provided, three have been selected for a deep-dive review, representing £17.4m (23%) of the Regional total efficiencies figure on the tracker. These are shown below.

NWC0001 (North West)

Initiative ID	**NWC0001**
Initiative Name	**Access - DWWP [Project SPEAR] Track**
Initiative description	Taking a more risk-based approach to the inclusion of float within possessions to allow greater time in existing possessions to be spent delivering work.
Individual BRAG Ratings (Arup)	
Safety	There is no evidence that this initiative will improve or worsen safety. However, reducing float could lead to a perception of needing to rush to complete works to avoid an overrun.
Efficiency	The evidence provided covered examples of routes where this principle has been applied. Specific evidence was provided for Y1 of CP7, a good example of float being reduced after applying local expertise and knowledge rather than a formulaic calculation. It appeared that this was applied on the day before the renewal took place to prevent it from being cancelled, rather than a proactive decision made in the earlier planning stages. No information was provided as to whether a saving was realised as a result of this action. Further examples provided for Track in the other Routes (Central and West Coast South) did demonstrate this being undertaken proactively in advance, with a saving on unit rates shown.
Planning	The evidence provided did not demonstrate proactive advanced planning. The examples provided for other routes showed some evidence of this being undertaken in advance, with a good example being 'Beechwood Tunnel' (see section 8.8) - however as this did not relate to this specific initiative (i.e. Track Assets on North West) we have shown this as Red.
Regulation/Governance	This initiative is part of a wider package of measures under the collective banner of 'Project SPEAR' which is split into 'Future 4 Track' and 'Strategic Planning Engineering Access Reform'. Some evidence of governance was provided for the wider SPEAR banner in the form of presentations provided to the Regional / Central Efficiency Board and "Project on a Page" updates for other elements within the SPEAR project. However, no specific evidence was provided for North West.
Innovation	There is limited evidence of how this is significantly different from BAU practice however we acknowledge that it represents a move away from application of a formulaic amount of time for float within a possession which has become established over recent control periods following significant possession over runs in CP4/5.
Efficiency Forecast, £ 000s	**-9,033**
Overall BRAG Rating (Arup)	Whilst there are no benefits realisation shown against Y1 of CP7 for this initiative, there are benefits shown to be realised from Y2 onwards. There has been limited evidence provided as to how this is being proactively planned to deliver which is a concern given Y2 commences less than three months after the RF09-25 forecast. There is a lack of evidence on governance / RAID management and planning

NWC0052.4 (North West)

Initiative ID	**NWC0052.4**
Initiative Name	**Efficient Possession Planning [Project SPEAR] Signalling**
Initiative description	The Route are aiming to optimise the efficiency of work carried out during possessions by planning work utilising a 'line of route' approach. Currently, possession planning is rooted in silo working and does not consider what other worksites in the area could be completed simultaneously, yielding efficiencies from common access, site establishments and resources through concurrent project delivery in CP7. Note that this initiative appears to be a placeholder against a number of routes and disciplines of work as it is repeated against a further 21 initiatives within the RF9-25 tracker.
Individual BRAG Ratings (Arup)	
Safety	Combining different work disciplines within the same possessions is common practice and there is no safety concern from the details provided.
Efficiency	Combining work together within possessions is an efficient way to plan and deliver work. However, this approach is already commonly undertaken across Network Rail. It is not clear for this specific initiative what is different (and therefore more efficient) than practices in CP6 although North West and Central as a region advised they had not taken this approach in CP6. Evidence was provided for the Central route of how all work items are identified across individual routes to enable easier integration and therefore providing efficiencies (indicative savings were noted the tail end of CP6 from this approach specifically for sharing access with HS2) with an opportunity of circa £7m noted for Central route in CP7. It should be noted that North West & Central as a Region are aware that this is best practice from Central route, but that there are resource constraints both in fully deploying it within the Central route and in expanding it to West Coast South and North West routes.
Planning	No specific evidence was provided against this for North West Signalling. As noted there is good practice deployed within the Central route in terms of planning to integrate work banks.
Regulation/Governance	This initiative is part of a wider package of measures under the collective banner of 'Project SPEAR' which is split into 'Future 4 Track' and 'Strategic Planning Engineering Access Reform'. Some evidence of governance was provided for the wider SPEAR banner in the form of presentations provided to the Regional / Central Efficiency Board and "Project on a Page" updates for other elements within the SPEAR project. However, no specific evidence was provided for North West.
Innovation	There is limited evidence of how this is significantly different from BAU practice which has already been deployed with numerous Network Rail Regions in recent times, although the ability to 'move' jobs between financial years to allow a higher degree of optimisation of possession footprints where asset condition allows is a newer development.
Efficiency Forecast, £ 000s	**-7,333**
Overall BRAG Rating (Arup)	Whilst there is no benefits realisation shown against Y1 of CP7 for this initiative, there are benefits shown to be realised from Y2 onwards. There has been limited evidence provided as to how this is being proactively planned to deliver which is a concern given Y2 commences less than three months after the RF09-25 forecast. This is a lack of evidence on governance / RAID management and planning.

WCS0044 (West Coast South)

Initiative ID	**WCS0044**
Initiative Name	**Drainage blockades**
Initiative description	£50m budget over CP7 (over 40 projects). Approximately £25m can be delivered in blockades generating a 10% saving of each. Note that North West & Central have advised that this is a holding line until actual efficiencies are calculated once the relevant blockades are undertaken.
Individual BRAG Ratings (Arup)	
Safety	As this is a holding line covering a number of items and not a singular initiative underway already, it is too early to observe whether there will be a safety impact or not. However, undertaking work within blockades is common practice and there is no safety concern from the details provided.
Efficiency	There is evidence provided of integrating drainage works on West Coast South with other items of work to make more efficient use of possessions and blockades. The most notable item being Hunsbury drainage requiring 7.4 days of access which is planned to be delivered within the 11 day blockade at Hanslope. Of the original plan it was assessed which schemes could benefit from Work bank Integration. Specifically for Drainage & Off Track, we were advised that this worked out to be £1m worth of savings and the phasing reflects where these key blockades / integrated works will be delivered. There was no evidence provided of how this saving will be realised. The main alignment relates to work associated with Track and Geotechnical works.
Planning	A wealth of evidence was provided specifically for how the Hanslope blockade at Christmas 2025 was planned for with detail as far as engineering haulage trains being provided. There is also evidence of integration forums being undertaken for the route covering multiple different disciplines of work including drainage, ensuring that integration opportunities are identified and utilised.
Regulation/Governance	This initiative is part of a wider package of measures under the collective banner of 'Project SPEAR' which is split into 'Future 4 Track' and 'Strategic Planning Engineering Access Reform'. Some evidence of governance was provided for the wider SPEAR banner in the form of presentations provided to the Regional / Central Efficiency Board and "Project on a Page" updates for other elements within the SPEAR project. However, no specific evidence was provided for West Coast South.
Innovation	There is limited evidence of how this is significantly different from BAU practice which has already been deployed within numerous Network Rail Regions in recent times including frequent multi-day blockades of the West Coast South route, although the ability to 'move' jobs between financial years to allow a higher degree of optimisation of possession footprints where asset condition allows is a newer development.
Efficiency Forecast, £ 000s	**-1,077**
Overall BRAG Rating (Arup)	Whilst there is no benefits realisation shown against Y1 of CP7 for this initiative, there are benefits shown to be realised from Y2 onwards. Evidence has been provided for how savings will be possible for Y2 and onwards (specifically the Hanslope blockade) and there is positive evidence of further integration opportunities being identified that will possibly lead to further efficiencies that can be realised. However, there was a lack of evidence on how the £1m of savings for the blockade will be realised, and little robust governance to manage this as an active workstream

5.5 Summary of North West & Central Region sample results

Initiative ID	NWC0001	NWC0052.4	WCS0044
Initiative Name	Access - DWWP [Project Spear] Track	Efficient Possession Planning [Project Spear] Signalling	Drainage blockades
Individual Ratings (BRAG)			
Safety			
Efficiency			
Planning			
Regulation/Governance			
Innovation			
Efficiency Forecast, £000s	9,033	7,333	1,073
Overall Rating (NR Region BRAG)			
Overall Rating (Arup BRAG)			

Figure 14: Overview of North West & Central Region sampled initiatives

Comparing the BRAG scores indicated by the Region against those given by the Arup team, shows a divergence in the confidence of delivery of efficiencies. This difference arises due to concerns related to how the routes will deliver the stated efficiencies in Y2 given the close proximity of Y2 start (as of time of report writing at RF09-25), plus concerns there is a lack of evidence of consistent governance / RAID management and planning in general.

5.6 Regional Findings

There are a number of themes that we have seen from our review of the initiatives provided by Network Rail North West & Central.

Low level of maturity of initiatives

- A number of the initiatives in the list of 65 initially provided are 'umbrella' placeholders/themes, and a majority of initiatives are currently not mature, i.e. they are still in the planning stage and are due to be implemented later in CP7, therefore it is not possible to assess & rate them effectively.
- Whilst there was strong evidence of an understanding of schedule 4 and the impact that has to the cost of delivery with different access footprints being taken, there was a lack of evidence that the cost of different delivery methodologies for different access footprints is understood and therefore considered. The reasons for this are (a) lack of guidance, (b) lack of clarity on costs from works deliverers and (c) the lack of a tool to generate/measure savings. An example of this was evidence shared for possessions in the Worcester area, where Schedule 4 and wider socio-economic impact had been modelled for a number of different possession combinations.. During interviews with the North West and Central representatives, they advised they have difficulty in benchmarking the cost of work delivery to make comparisons against. There is a risk that only considering Schedule 4 would lead to a sub-optimal overall cost of delivery. Whilst it is positive to see socio-economic analysis also being undertaken, at the moment that is not a Network Rail P&L item so would not lead to an access efficiency.

Emerging evidence of Year 1 delivery

North West & Central advised that BCL38 has delivered against its plan for Y1 of circa £1.5m. There are a further three initiatives BRAG rated as 'Green' by Network Rail with savings for FY25. These are CRSAFY25-14 and CRSAFY25-15 (collectively £0.755m), and BCL72 (£0.07m). This would total around £2.3m efficiency realised for FY25 against the forecast of just over £3m.

Schedule 4
During our discussions with North West & Central they advised that they do not attribute Schedule 4 cost savings as part of the efficiencies they forecast or declare. We queried this with the Central Finance team, having seen evidence of this being attributed to efficiencies in other Regions. The Central Finance team advised that "*The Fishbone framework is based around an assessment of cost movements between a baseline year and current year within Controllable Costs. All turnover and therefore Income efficiencies (Schedule 4, 7, 8) are outside the scope of the framework in relation to OMSR. However, it is worth noting that Schedule 4 is included within scope for enhancements as schedule 4 is accounted for within Enhancement spend. This definition is aligned with internal and external stakeholders and has been in place since the Fishbone Framework conception at the end of CP5. It is also documented in our Fishbone Reporting Framework guidance available on our SharePoint*". Given the apparent discrepancy in how Schedule 4 savings are attributed we recommend that a clear understanding is reached and applied, particularly as other Regions do appear to attribute these as efficiencies (see Recommendations in section 11.3)

Some evidence of emerging efficiencies management process

- Individual projects are required to detail efficiencies as part of Network Rail's Investment Authority process.
- The Finance teams in Network Rail North West & Central appear to be undertaking a co-ordinating role to bring together efficiency information using one approach and template, supported by a defined management structure, which should increase the changes of consistent outputs as CP7 proceeds. However, one Route (Central) shared additional trackers that are reviewed by the Finance team at a Regional level but these contain items that are not on the Regional 'RF' tracker.

Limited types of initiative
Most initiatives refer to long-term Access Optimisation and follow a small selection of methods to achieve efficiencies such as moving work into longer possessions (including blockades); integrating work of different disciplines together via 'line of route' strategies; reducing contingency time to increase productive time; renegotiation of possession management contracts; and optimising work across the 5 year control period, not just within one year.

Potential for negative impacts beyond Network Rail efficiency

In our experience, planning longer possessions (e.g. blockades) is very likely to deliver a significant efficiency saving in works delivery costs for Network Rail, but risk having a negative impact on whole industry costs.

- North West & Central did provide multiple pieces of general evidence that this is considered.

Regional implementation of National initiatives
Further analysis is needed where Routes are reporting on national initiatives with potential efficiency elements. North West & Central advised that they are considering introduction of 'PodFlo' as seen to great success on Western Route, as well as Possession Limit Controls & 'Railworks' as a visualisation tool expanded beyond its current use in works delivery. At present neither of these are listed as initiatives within the RF9-25 tracker.

5.7 Observations on Differences between Routes within the Region

The three initiatives chosen to be reviewed covered two of the three Routes in Network Rail's North West & Central Region, namely North West and West Coast South.

An overview of efficiency forecast by Route is contained in Section 5.3 – noting that there is significant variation between Routes.

5.8 Best Practice identified

Whilst not included in the 3 initiatives we undertook a deep dive assessment of, Arup have identified some areas of best practice within the other initiatives which are being rolled out within Network Rail's North West & Central Region. These has been summarised in Table 12 below.

Best Practice	Impact	Notes
Integrated work bank mapping on Central route (see Appendix C)	Line of route maps which show all required works over CP7, allowing easier integration and efficiency by sharing possession opportunities and reducing the overall number of possessions required	Also demonstrates a strong customer focus, with not only financial efficiencies demonstrated but also number of days of disruption saved. The downsides to this are that it appears to be relatively manual and duplicates information, which is already available elsewhere, albeit not in such a user-friendly format. The development of the new Access Planning System should avoid duplication of information and make planning/mapping less manual.
Central route schedule 4 optioneering capability	Two examples shared in which a number of possession footprints have been analysed to determine the optimum Schedule 4 cost.	The wider socio-economic impacts are also modelled on top of Schedule 4, demonstrating an awareness that Schedule 4 is only a proxy measure for revenue loss and costs incurred.
CP7 Central Route Efficiencies Workstream Board	Periodic forum providing an opportunity for additional governance and best practice sharing relating to possession efficiency initiatives	Includes a forward look and also a horizon scan for new initiatives that may be in development, this enables some cross-Regional cohesion and control of access initiatives to take place
Central route champion	Central have identified an Efficiency Champion within the Route	This role appears to be key to the delivery of additional governance and progress of initiatives within the Region when compared with North West and West Coast South. To achieve success, the role needs to focus on providing a common method of measurement for initiatives, strong governance of initiatives, lessons learned sharing between Regions, and a focus on capability/competency on all staff working on initiatives.
Central route track renewals	Central have increased their output and reduced their unit rate by optimising access opportunities	A specific example is Beechwood Tunnel, where a smaller number of slightly longer possessions were undertaken to allow more volume to be completed with reduced Sch4 costs and a unit rate of £1,820 vs a CP6 exit rate of £2,456.

Table 12: Best Practice Examples

6 Network Rail Scotland Region

6.1 Documents

Network Rail's Scotland Region provided Arup with several documents as evidence of their possession initiatives and governance of the process. These are listed in Appendix I – List of documentation provided by Network Rail.

6.2 Overview of Initiatives

Network Rail Scotland provided details of 26 possession initiatives to Arup; one of the initiatives is considered to be an 'umbrella' reference, with 10 separate initiatives sitting underneath it. Given the number of initiatives, Arup undertook a 'deep-dive' review on a sample of three initiatives that have been chosen to provide a spread of initiative types, the two highest efficiency savings (£) plus a technology-driven initiative as it is related to process and safe access as opposed to asset work. T

A detailed breakdown of the 26 initiatives (with 3 additional overlays and 2 stretch plans), including descriptions, Network Rail's own BRAG score, and breakdown by year is included in Appendix F. Network Rail use overlays as a mechanism to state how confident they are in efficiency savings, reflecting the level of risk. It should be noted that the BRAG scores stated within Appendix F are Network Rail's own scores, as opposed to the BRAG scores given to three chosen initiatives by Arup in Section 6.5. It should also be noted that Network Rail's BRAG assessment criteria differs to that of Arup.

The £54.6m CP7 efficiency figure quoted for Scotland (which is sourced from the RF09-25 view of the tracker) is part of a wider Regional efficiency target (identified in the CP7 Efficiencies report as £389m), covering all efficiencies, and that the possession efficiency amount is subject to change as part of the Rolling Forecast process.

6.3 Scotland Initiatives

The following charts give an overview of the data taken from the Scotland Region's tracker, as forecast at RF09-25.

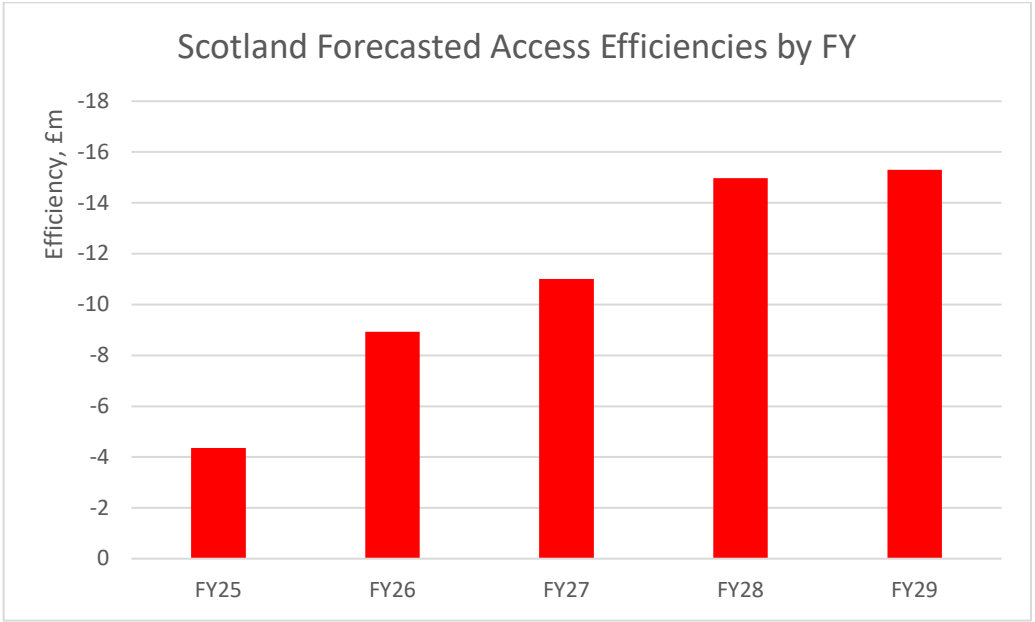


Figure 15: Scotland Region Access Efficiencies Forecast per Financial Year

The above chart shows the spread of efficiencies throughout CP7. We observe a relatively even spread across the five years, as might be expected from possession-optimisation related initiatives, where volumes of work are spread across the Control Period.

Year 1 and 2 are lower, as the Route made the decision to retain existing access arrangements in Y1 and Y2 to maintain consistency as planning was already in an advanced stage – this appears to be a sensible and realistic approach, ensuring that no false promises for the delivery of initiatives are made

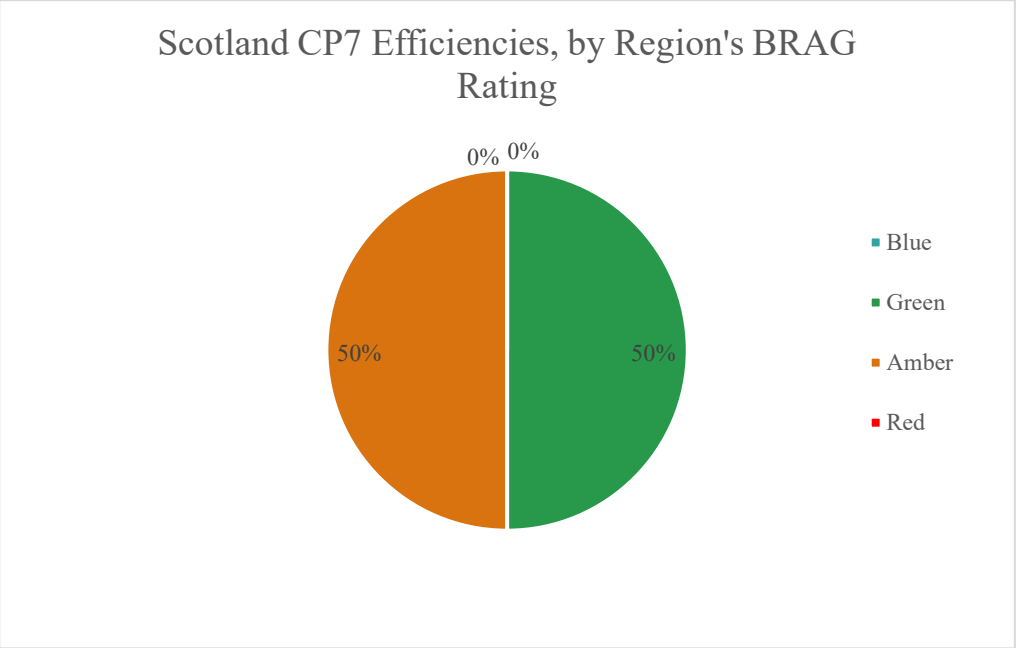


Figure 16: Scotland CP7 efficiencies value, by Region's Own BRAG Rating

The above chart gives an indication of the confidence levels that Scotland have in their initiatives. Overall, the Region is stating that it has identified individual projects rather than overarching efficiency themes, with robust plans in place to realise the efficiencies.

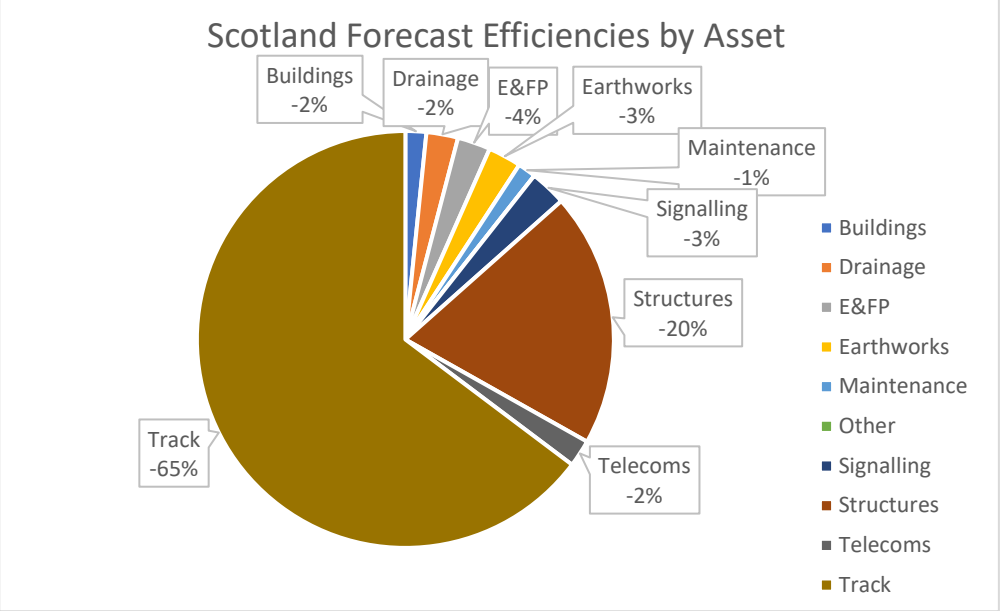


Figure 17: Breakdown of Scotland Efficiencies Value by Asset

The percentages here are taken from the Scotland Region Efficiencies Tracker. Each initiative is assigned to an Asset Group; the pie chart shows the proportion of the forecast efficiency from each group. Track is the largest asset group due to the volume of work that is planned in CP7. It was stated in discussions that one of the drivers for the Strategic Access Framework initiative was the fact that the anticipated volume of track renewals is the largest since the 1960s and couldn't be completed within the traditional Rules of the Route access windows, so alternative ways of getting the access needed to be explored.

6.4 Initial Assessment of three Selected Initiatives and commentary of BRAG rating

Of the 26 initiatives provided, three have been selected for a deep-dive review, representing £36.6m (67%) of the Regional total efficiencies figure on the tracker. These are shown below.

Scotland SCC0071

Initiative ID	**SCC0071**
Initiative Name	**Access strategy (Strategic Access Framework)**
Initiative description	Use of CP7 renewals work bank data to plan access more strategically by packaging work efficiently, primarily structured on track and civils asset requirements. The framework can deconflict and maximise concurrent use of access opportunities.
Individual BRAG Ratings	
Safety	Significant volumes of work in remote areas are safer to deliver in blockade access due to reduced travel for teams. Not having to work within 'Rules of the Route' access which usually takes place at night there is improved safety as work can be undertaken during daylight. By undertaking work more efficiently with fewer shifts required there a reduction of 'boots on ballast' for possession staff of 95%.
Efficiency	The initiative uses the work bank to plan access more strategically by packaging work efficiently, primarily focussing on track and civils asset requirements, deconflicting work packages to maximise concurrent use of access opportunities. This enables delivery of the efficiency commitments in CP7 SBP for asset renewals. There are no efficiency savings for this initiative in Year 1 as access was already agreed with the Operators when entering CP7 and there was limited opportunity to change it, so the focus has been on Years 2 - 5 of CP7. The plan shows that 110% of the volume of track works that were forecast will be delivered and this will deliver 93% of the efficiency forecast.
Planning	The Business Case that was put together to support the initiative has been shared and this detailed the plan that was to be put in place to deliver the initiative. A limitation of this initiative is that it is currently focussed only on key geographic areas, and the Region are looking to bring other areas on board in future years. This initiative is a dynamic ongoing strategy, which will be reviewed annually, to retest against emerging industry needs, with opportunity to further include other assets going forwards.
Regulation/Governance	There is evidence of strong governance for this initiative with an SME and dedicated finance specialist being put in place to deliver the initiative. There was evidence that the initiative is discussed as part of the Efficiencies Assurance Process meetings, where the current status, risks and next steps for the initiative are shared.
Innovation	There is strong evidence that this initiative is innovative, as it is introducing new ways of working and is building on the current BAU processes. There was evidence that the team are doing more integration work across the different work banks at an earlier stage of the planning process and are also considering the works that need to take place over the longer term i.e. the full Control Period and not just the immediate access planning window. This allows the team to present a number of well-developed scenarios and options to the Operators, rather than the usual single option that needs large amounts of iterative planning and negotiation before agreement is reached. This approach will allow the team to deliver high volumes of work, in particular track renewals that have not been delivered in recent years and which cannot be delivered with the current 'Rules of the Route' arrangements. There is also evidence that there are innovations that are being introduced including Visualisation of work banks and the use of a common dataset by the Renewals, Enhancement and ScotRail station teams to plan work.
Efficiency Forecast, £ 000s	**-21,389 across CP7 made up of Schedule 4 costs, works delivery efficiency and schedule 8 costs.**
Overall BRAG Rating (Arup)	There is evidence that this initiative is well developed, innovative and had critical support across all levels of the organisation. The introduction of the dedicated SME to focus on the initiative has meant that progress has been made more quickly than may otherwise have been expected. There is strong evidence of the safety and efficiency benefits of the initiative and of the governance around this initiative, although this could be stronger if more detailed evidence had been shared.

Scotland SCC0072 to SCC0081

Initiative ID	**SCC0072 to SCC0081**
Initiative Name	**Possession Limit Controls**
Initiative description	This initiative is to implement technology solutions, as they become available, to deliver safer, faster and cheaper possessions. The use of IECC Scalable and Initiate, which are new technology solutions that are being introduced through this project, means that once the possession has been loaded into the Initiate system and has gone live the signaller is unable to make changes to the signals in the area covered by the possession during the booked time of the possession. They will need a code to 'unlock' the system. This new way of working eliminates the need for the PICOP to be on site and there is a strategy to introduce Strategic Possession Centres where the PICOPs will be based and have a dedicated workstation which will allow them to manage more than one work site at the same time.
Individual BRAG Ratings	
Safety	The anticipated impact of the initiative is a reduction of possession irregularities and personnel accidents. Additionally, there is no longer a requirement for staff to be on the track putting protection and detonators in place for the possession thereby eliminating the safety risks associated with this high-risk activity. The introduction of the new technology removes direct reliance on the signaller maintaining signals at danger and therefore there is no risk of signal aspects being cleared.
Efficiency	The identified efficiency savings for the initiative come from increased productivity due to the taking and handing back of possessions taking less time, which enables more work to be undertaken in the time allocated for the possession. Feedback from the trials of the new working practices that have been undertaken have confirmed that considerably less time is required to take the possessions. This in turn leads to fewer possessions being required for works to be completed, leading to reduced possession management costs. There are also other efficiencies with fewer possessions having to be planned and less vehicle movements and mileage as a result of staff not having to travel from the worksite to place protection at the possession limit locations. The efficiency savings associated with this initiative are potentially not as large as expected for two reasons: 1. The savings take into account the costs of introducing the new technology and 2. As part of the process of reviewing the initiative the decision has been made to narrow the scope of the initiative from the four strands which would allow the savings to be made across all geographical areas, down to the one strand focussing on a single method of working which will only work on some geographical areas. Initial feedback from the trial undertaken suggest that the revised efficiency savings will be realised in Y25 and going forwards.
Planning	There is strong evidence that there is a plan in place to deliver the initiative and that the plan covers the different workstreams associated with the initiative with a description of the activity, an owner, start and finish dates, regular status updates and a current RAG status.
Regulation/Governance	There is evidence of strong governance for this initiative with a dedicated project team, including an SME and dedicated finance specialist, being put in place to deliver the initiative. There is a Programme Board in place for the initiative with a terms of reference and regular meetings for governance. There was further documentation provided for the initiatives which had details of the Action / RACI / RAID logs and other key activities including Lessons Learnt and Decisions taken.
Innovation	There is strong evidence that this initiative is innovative, with the introduction of new technology leading to new and improved working practices and efficiencies across a number of areas including safety and planning.
Efficiency Forecast, £ 000s	**-2,800 across CP7**
Overall BRAG Rating (Arup)	There is evidence that this initiative is well developed, innovative and had critical support across all levels of the organisation and that the introduction of the dedicated project team to focus on the initiative has meant that progress has been made more quickly than may otherwise have been expected. There is strong evidence of the safety and efficiency benefits of the initiative, although the details of the financial efficiency impact of the initiative could be stronger. The initiative is forecast to save £200k in Y25 and currently the trials that have been undertaken are being evaluated to see whether this efficiency saving will be achieved. There is evidence of the governance around this initiative and the plans that are in place to deliver it, including the meeting structure and the paperwork. There is strong evidence that this initiative is innovative and is looking to introduce new technology and ways of working.

Scotland SCC0196

Initiative ID	**SCC0196**
Initiative Name	**Structures Appropriate, targeted access solutions - right access for right project**
Initiative description	This initiative is to improve cross asset integration to deliver more during blockades. The initiative was described as taking the current plan as it is currently configured and looking at future years and seeing how the plan can be reconfigured to more efficiently deliver work.
Individual BRAG Ratings	
Safety	Due to the initiative being in the planning stages, there were no specific safety impacts that were highlighted during the discussions in relation to this initiative. Although it could be assumed that the key safety benefit is that through doing things more efficiently there would be less shifts needed to complete works and therefore the work teams will spend less time on site reducing the risk for potential safety incidents to occur.
Efficiency	Due to the initiative being in the planning stages there was limited evidence provided on what the expected efficiency savings for the initiative will be. The numbers for the efficiency savings were phased at the time that the Strategic Business Plan was submitted, with no savings in Years 1 and 2 due to the fact that access was already agreed with the Operators when entering CP7 and there was limited opportunity to change it, so the focus has been on Years 3, 4 and 5 of the Control Period. As part of the 'Chessboard process' (described below), the aim is to set more efficient targets than are currently set so that as the team go through so that there is continual challenge. Due to the limited evidence provided, the stage that the initiative is at, and the fact that the first efficiency savings are not due to be delivered until Y27, we are unable to say whether the efficiency savings are on target to be realised.
Planning	Due to the level of maturity of the initiative there was limited written information on how the initiative will be delivered, although meetings were planned to discuss how this was going to happen. However, the team were able to talk through how the initiative would work and described how the initiative alongside the integration of other Civils work banks would drive efficiency across future years, and how delivery and access was going to be a big part and is at the centre of the initiative. We were introduced to a concept that is known in Scotland as the 'Chessboard Process' which was described as picking up pieces of the puzzle and putting them down, in a different place to strategic advantage.
Regulation/Governance	There was limited evidence of the regulation / governance that was in place for the initiative. During discussions it was mentioned that there were no plans to put in place a dedicated project team to deliver the initiative as it was anticipated that the initiative would become embedded as BAU way of working through the control period. The view was that the initiative would be managed in the same way as any other project with the appropriate project documentation (e.g. RAID log, project plan) being created. It would have been helpful to have the proposed governance structure for the initiative written down with dates as to when it would go live, even if it wasn't in place as evidence that this has been agreed, and the initiative is being managed alongside other projects.
Innovation	The initiative is innovative as it is introducing new ways of working and is building on the current BAU processes. The team discussed how they would work in either rules of the route access or on occasions some longer disruptive type access, and that for future years they are looking to move to much more disruptive access and looking to integrate with other Civils work banks to drive efficiency across future years, whilst coordinating with the wider community to deconflict the works.
Efficiency Forecast, £ 000s	**-11,741 across CP7**
Overall BRAG Rating (Arup)	There is limited written evidence associated with this initiative as it is in the early stages of development with the efficiency benefits not being realised until Years 3, 4 and 5 of CP7, however the back loading of benefits into the latter part of CP7 creates a risk with delivering the efficiency saving identified. When talking to the team there is evidence that thought has been given to the efficiencies that the scheme will deliver, how the initiative will be delivered and the governance around this initiative although there is limited paperwork in place to date. There is evidence of innovation, building on current BAU processes and introducing new ways of planning to maximise the efficiency of access by integrating different work banks.

6.5 Summary of Scotland Region sample results

Initiative ID	SCC0071	SCC0072 to SCC0081	SCC0196
Initiative Name	Access Strategy (Strategic Access Framework)	Possession Limit Controls	Structures Appropriate, targeted access solutions - right access for right project
Individual Ratings (BRAG)			
Safety			
Efficiency			
Planning			
Regulation/Governance			
Innovation			
Efficiency Forecast, £000s	21,389	2,800	11,741
Overall Rating (NR Region BRAG)			
Overall Rating (Arup BRAG)			

Figure 18: Overview of Scotland Region sampled initiatives

Comparing the BRAG scores indicated by the Region against those given by the Arup team, shows a difference in the confidence of delivery of efficiencies. This difference arises due to the evidence on how the stated efficiencies during CP7 for the initiatives that are 'in flight' will be delivered and the strong governance and planning that is in place for these initiatives.

6.6 Regional Findings

There are a number of themes that we have seen from our review of the initiatives provided by Network Rail Scotland.

Maturity of initiatives

- The maturity of the initiatives in the list is mixed. This is primarily due to when initiatives are being realised within the control period and is also reflective of the initiative team make-up. During the reviews, we identified that the best performing initiatives had an involved leadership who clearly understood the initiative, the desired outcomes and current progress, plus an enabled team who were given licence to progress the initiatives and had taken ownership, resulting in strong progress towards achieving the efficiency outcomes associated with the initiative.
- None of the initiatives in the list are considered to be placeholders/themes; each one on the list appears to be a detailed initiative, although with varying levels of maturity.
- What has been apparent is that the Region has been pragmatic and produced realistic efficiency plans based upon the existing situation for renewals work currently in each of the disciplines' constrained work banks through CP7. Civils work has been frontloaded in the Strategic Access Framework initiative, and in Y2 110% of the work will be delivered with a 93% efficiency, whereas Track work has been backloaded into the later years of CP7 due to the access required and it being less complicated and therefore more flexible to plan alongside the Civils work bank.
- The initiatives are being constantly reassessed as they progress. For example, the possession control initiative began with consideration that it would be applicable to all areas but following consideration of the particular issues with remote access and the existing systems in place, the intended scope of the initiative will be amended and further consideration is required on the appropriate solution for other areas of the route.
- Collaboration between all parties in each of the initiatives has been very strong and has helped to progress the initiatives. For example, the Possession Control initiative has been delivered with the product developer within a very short duration. Collaboration with end users has also been key, with

ergonomic surveys of new workstations completed, plus feedback from trials that are nearly completed being incorporated into future improvements of the system.

- It is also clear for all initiatives sampled that there are strong links between all directorates across the region and that benefits are realised by many parts of the business, not just the team responsible for delivering the initiative.

Some evidence of emerging efficiencies management process

- Each of the initiatives we reviewed had a clear team structure and vision and has been set up to be managed as an individual project with appropriate project management processes and governance embedded into the initiatives.

- The Finance team in Network Rail Scotland are not leading the efficiency process, it is being driven and led by the individual initiative teams on the ground. The Finance team are providing a support role to bring together efficiency information using one approach and template, supported by a defined management structure, which should increase the changes of consistent outputs as CP7 proceeds.

Schedule 4

During our discussions with the Scotland Region team, they confirmed that they monitor Schedule 4 and Schedule 8 when they are developing business cases, and they monitor the cash impacts of these through the fishbone reporting. However, they confirmed that Schedule 4, Schedule 8 and their cash impacts are not declarable items because they do not report on the income lines which that falls under.

Types of initiative

Nearly all initiatives refer to long-term Work and Possession optimisation, plus one for possession limit controls. Although these could be identified as BAU, we have noted the following:

- The region has taken a more collaborative approach with all key stakeholders to identify the best access solution by developing more than one strategy and discussing the proposals with all stakeholders prior to agreement. This approach will become BAU for the region.

- There has been a recognition that the region cannot continue to plan possession access in the current manner due to the volumes of work that is in each asset team's work banks.

- The Possession Limit Controls initiative will result in major changes in how possessions are managed, reducing the number and location (in the new dedicated workstation) of PICOPs, including increasing the number of work sites they will manage. There will also be a requirement to change the Rule Book[30].

- Of the three initiatives we have reviewed, the Structures access initiative is the most similar to BAU as it will still require structures-specific SMEs to input into the planning process. How this process will feed into the larger Strategic Access Framework is not yet clear.

Potential impacts beyond Network Rail efficiency

During discussions with the Scotland Region team, it is apparent that financial efficiency has not been the only or main driver for the initiatives identified. Consideration has been given to the five strategic Network Rail goals (Everyone home safe every day; Run a reliable railway, Reduce net cost of the railway, Track and train working together and Deliver net zero) for both the Strategic Access Framework and Possession Limit Controls initiatives with evidence provided in the Project Charters for each identifying how the initiatives meet the strategic goals as follows:

[30] GERT8000 Rule Book

Initiative ID & Name	SCC0071 Access Strategy (Strategic Access Framework)	SCC0072 to SCC0081 Possession Limit Controls
Everyone home safe every day	Significant volume in very remote areas are safer to deliver in blockade access due to reduced travel, improved productivity during daylight hours. Reduce 'boots on ballast' for possession staff by 95%	Reduction on Possession Irregularities & personal accidents, less people on track, reduction in manual handling
Run a reliable railway	Reduces risk of overruns by 95% due to reduced number of hand backs. Also reduces potential irregularities by 95% due to reduced number of possessions. Potential PPM improvement of 0.06% based on 234 PPM failures avoided and on current forecasted train performance.	Reduction on Overruns, removing need to walk 440 yards from each end of the possession
Reduce net cost of the railway	Net Benefit £22.3m- Blockade vs RoTR, leads to reduced mobilisation costs, higher productivity within each shift for people and plant.	Increased productivity and reduction of possession management costs, less safety critical comms, increase Time on Tools to focus on the work
Track and train working together	Less negotiation required with TOCs and FOCs annually, thanks to earlier understanding of requirements, benefits and impact for client, operators, suppliers and users.	Less noise, less vehicles at access points
Deliver net zero	Less travel to and from site during blockades - 56 days of blockade each year, is equivalent of 672 RoTR shifts. As a result, 640 journeys will be saved each year for the 4 lines mentioned (based on 32 journeys for blockade access), with further opportunities on the other lines for Y3-Y5.	Less vehicles and mileage

Table 13: Impacts beyond possession efficiency

Regional implementation of National initiatives

- Scotland are not progressing with any nationally led initiatives. Initially, the Possession Control initiative included use of ZKLs which is a national initiative, but due to the remoteness of some areas across the region, the use of ZKLs was discounted as they do not work in the Scotland geography consistently, due to the fact that they are solar powered and there have been issues with the units charging and holding their power due to the lack of sun in some areas in which they were located.

6.7 Best Practice identified

Based on our initial findings, we have identified some general best practices which are highlighted below.

- Scotland have developed the Decision Impact Assessment Model (DIAM). DIAM is a national tool within Network Rail to support a better understanding of disruptive access options, their implications and the trade-off between differing needs. It is an assessment-based model designed to improve decision making based upon three core elements (impact to our customers, access, confidence and costs for all of the possible options). The outcome is an evidence-based evaluation to be used to drive better, more informed decisions around disruptive access by identifying cost efficiency opportunities, understanding the trade-offs between project, passenger and operator needs and understanding financial implications of the access strategies options. The model aims to facilitate greater collaboration with operators in the identification of required control measures when considering impacts on passengers, lineside neighbours and local communities, and aims to identify the required stakeholder engagement earlier on in the project life cycle.
- The region has taken a multi-year approach and considered the volume of work over the whole control period, not just individual years.
- Lessons learned from each initiative have been used as principles when starting/reviewing other initiatives.
- Early engagement and collaboration with the system developer, supported by small-scale trials, have been key to developing an effective system for Possession Limit Controls.
- Reviewing scope as it progresses – initially, as part of the Possession Limit Controls initiative, the region was looking at 4 separate solutions due to the various existing systems that currently exist on the network in Scotland. As the initiative has progressed, focus has moved to one strand rather than the four original possibilities which has helped the initiative become more focussed on delivering an efficiency and tangible benefit. It will most likely mean that the value of efficiency is not as high, but further efficiency can be realised when a proven solution to the specific geographical issues and systems in place have been developed.
- Clear vision – what was the right thing to do for each initiative has been identified and agreed and well documented in the initiatives which has led to refinements of scope and provided more focus.
- Ownership – directorate level involvement has been key, and their documented governance approach provides oversight over day-to-day activities, enabling empowered teams that are fully engaged with the initiatives and are determined to progress the initiatives to successful implementation.

7 Network Rail Southern Region

7.1 Documents

Network Rail's Southern Region provided Arup with a number of documents as evidence of their possession initiatives and governance of the process. These are listed in Appendix I – List of documentation from Network Rail.

7.2 Overview of Initiatives

Network Rail Southern provided details of 8 possession initiatives to Arup at RF09-25. Given the number of initiatives, Arup undertook a 'deep-dive' review on a sample of three. The 8 initiatives are tabulated in Appendix G.

Although good initiatives, it should be noted that the T3 initiatives are not contained within the National Efficiency Fishbone Tracker as access-related; they are categorised as 'Delivery' and therefore do not contribute to the overall figures for access-related efficiencies.

A more detailed breakdown, including descriptions and breakdown by year is included in Appendix G. The £22.5m (Capex) CP7 efficiency figure quoted for Southern (which is sourced from the RF09-25 view of the Efficiency Fishbone Tracker) shows variance from the figure quoted at P06. We have been made aware that the figure is part of a wider Regional efficiency target (identified in the CP7 Efficiencies report as £665m), covering all efficiencies, and that the possession efficiency amount is subject to change as part of the Rolling Forecast process.

7.3 Southern Initiatives

The following charts give an overview of the data taken from the Southern Region's tracker, as forecast at RF09-25.

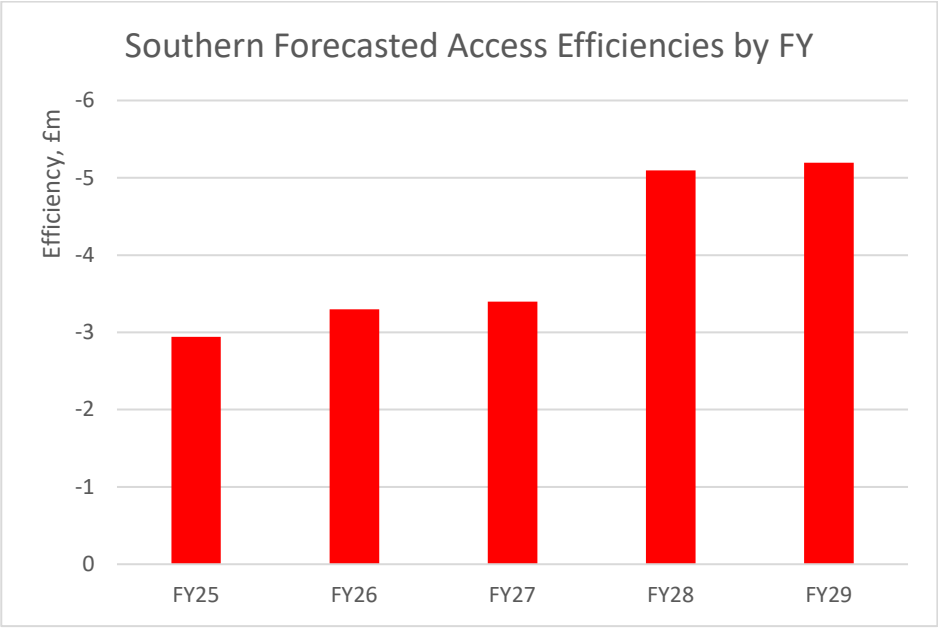


Figure 19: Southern Region Access Efficiencies Forecast per Financial Year

The above chart shows the spread of efficiencies throughout CP7. We observe a gradual uplift in spend throughout the Control Period, as the initiatives mature.

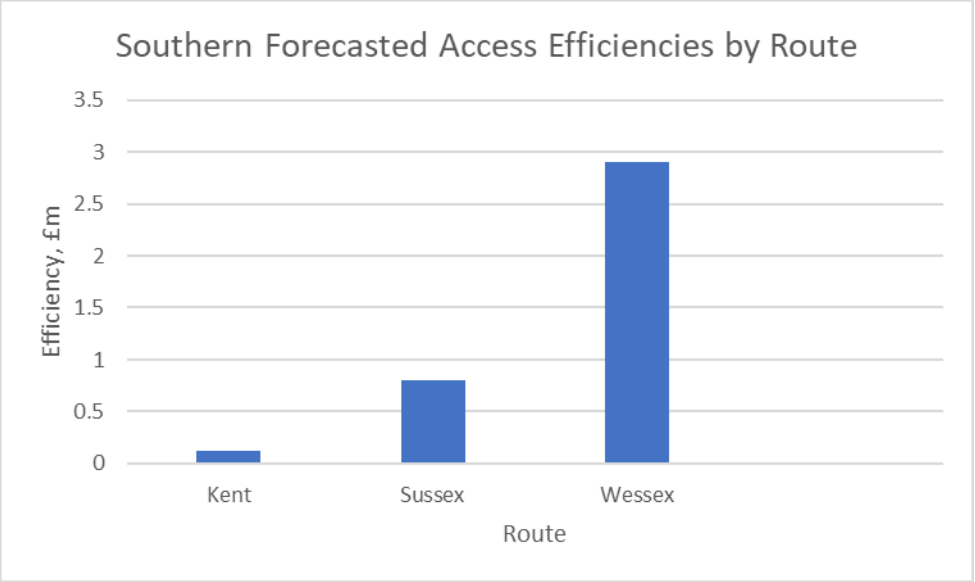


Figure 20: Southern Region Forecast Access Efficiency by Route (Secondary Protection Methods only)

The above chart shows the Route split for Secondary Protection Method initiatives only, illustrating that Wessex has a much higher forecast efficiency than Kent or Sussex for this category of initiative.

7.4 Initial Assessment of 3 Selected Initiatives and commentary on BRAG Rating

Of the 8 initiatives provided, 3 have been selected for a deep-dive review. These are shown below.

Initiative ID(s)	**SNO0273/SNO0175/SNO0123**
Initiative Name	**Secondary Protection Methods**
Initiative description	Rollout of T3-D methodology (and other secondary protection methods including T3-A) across Kent, Sussex & Wessex Routes.
Individual BRAG Ratings	
Safety	The methodology being used will remove a number of staff from working on track due to no longer having to physically place/remove possession limit boards and detonators. This method will be replaced by remote signal disconnections. The Routes have been able to quantify this by quoting numbers of Possession Support Staff that are able to be removed from track as a result of the new methodology.
Efficiency	For Kent & Sussex, Costs have been quantified by applying a financial value to the number of Possession Support Staff that are able to be removed from track as a result of the new methodology. Another benefit is the potential of increased productivity (for example by being able to take/hand back possessions more quickly, allowing for more work to be undertaken), although this has proved difficult for the Region to quantify effectively.
Planning	There is a coherent plan for the rollout, with examples given in the Periodic Reports of milestone targets for individual Delivery Units within Kent & Sussex. Kent & Sussex have a dedicated Programme Manager and Project Manager working on secondary protection methods.
Regulation/Governance	The rollout is being reported on as a Project as part of Network Rail's Period Reporting process, with reporting also undertaken to the Regional Efficiency Board. It also falls under the Regional CP7 Efficiencies Governance process. Secondary protection methods still do not sit in a standard/operating procedure – Network Rail's Technical Authority is still working on this. It has been left to the Routes to implement this on their own.
Innovation	Although this methodology is being trialled in other Regions, it represents an innovative approach for Network Rail. The innovation should be relatively low risk, in that there is a central initiative that is providing a common approach (e.g. Rulebook changes), with local support to work through geography-specific issues (referenced by repeat engagement with East Kent Signalling Centre staff)
Efficiency Forecast, £ 000s	**-3,900**
Overall BRAG Rating (Arup)	Also being trialled in other Regions, this is a good initiative in terms of removing track workers and is able to demonstrate efficiencies by quantifying this. Risks are being proactively managed; there appears to be a coherent plan, and there is evidence of regulation/governance. It is hoped that the trial of T3-D will also be adopted within the Wessex Route; this currently appears to be under development.

Initiative ID	SNC0018
Initiative Name	**Blockade Planning & Delivery**
Initiative description	Use of blockades to deliver work (line closures of over 54 hours in duration)
Individual BRAG Ratings	
Safety	The main benefit appears to be in terms of having less numbers of possessions and therefore reducing the number of times staff need to be on site (rather than hours) to deliver the same volume of work, and less instances of taking of worksites/handing back. There's a Blockade Manager on site on each occasion. Another benefit is that the longer working time should in theory mean less rushed work. It is noted that increased integration requires focus on the exact work method and engineering train plan within the possession. Although no direct evidence of increased risk has been observed, it would seem likely that the precise work methods required for different types and larger volumes of work to be present within the same possession could increase risk.
Efficiency	There is currently no metric for measuring the efficiency for the blockade methodology – this is currently work in progress. The main advantage would likely be a reduction in overall access footprint (i.e. reduced impact on Train Operators) and sharing of possession costs (e.g. schedule 4 compensation, possession management). Another advantage would likely come from reducing the number of times worksites have to be taken/handed back (due to fewer individual worksites being needed because of the blockade-style approach), and theoretically more work being able to be done, but without any metrics or figures to back this up, a red BRAG rating is appropriate here.
Planning	There is a coherent plan, which is evidenced in the 'Summit Meeting Calendar,' which details the blockades and their planning, integration and deconfliction meetings for all Routes within the Region. Additionally, the 'Southern Region CP7 box plan' shows details of all blockades of over 54 hours planned for Kent & Sussex. One general observation is that the documentation provided by Southern Region with regards to blockades shows the same information presented in multiple formats (e.g. a Word document, Excel calendar, schematic integration plan) – all with references to a master record in the Possession Planning System (PPS). Each information source appears to have been prepared manually – this presumably is inefficient in preparation, and runs the risk that information becomes mis-matched as plans evolve. It is hoped that the development of the new Access Planning System will address this need for manual processes.
Regulation/Governance	The rollout is being reported on as a Project as part of Network Rail's Period Reporting process. It also falls under the Regional CP7 Efficiencies Governance process.
Innovation	Working in blockades does not represent an innovative way of working for Network Rail, although the Region does use a Blockade Director as part of the process.
Efficiency Forecast, £ 000s	**-2,618**
Overall BRAG Rating (Arup)	Given there are no (demonstrable) metrics to measure the efficiency of this activity, it cannot be given higher than a red BRAG rating. Additionally, it cannot be classed as an 'Initiative' due to this methodology being used for many years within Network Rail.

Initiative ID(s)	SNC0002, SNC0005, SNC0009, SNC0018, SNC0045
Initiative Name	Southern Integrated Delivery
Initiative description	Southern Integrated Delivery is the CP7 Renewals delivery organisation that forms part of the Southern Renewals Enterprise (SRE) model. The SID plans and schedules the entire CP7 Renewals work bank, including specification, assembly and hand back of the assets to the Network Rail as the 'Capable Owner'. Part of the SID operating model is to deliver efficiencies through better integration of the discipline specific Renewals job banks.
Individual BRAG Ratings	
Safety	In theory, by integrating worksites, there will be less sites taken in general, thereby removing several instances of possessions being taken/handed back, leading to efficiencies in the number of working hours, which may have an indirect positive impact on safety.
Efficiency	The theory is that, by integrating worksites, efficiencies will be made by being able to undertake a higher volume of work in a shorter space of time, with less volume of individual possessions (e.g. Schedule 4 and possession cost savings). However, there are no forecast efficiencies (£) provided to enable an assessment of the quantum of efficiency, or data provided by the Region demonstrate the robustness/deliverability of this proposal, including wider system impacts, therefore the initiative is BRAG rated as red.
Planning	The Southern Integrated Delivery is a model which sits under the Region's usual planning processes and therefore has to comply with Network Rail's policies and procedures for access planning.
Regulation/Governance	Projects are part of Network Rail's Period Reporting process. The Southern Integrated Delivery also falls under the Regional CP7 Efficiencies Governance process.
Innovation	Southern Integrated Delivery is a reasonably innovative process in that it involves closer contractual partnerships that will look to provide efficiencies by integrating worksites, but it is unclear whether it is an access-related 'Initiative,' or just a different way of working. We would observe that similar alliance-style models have been used for major programmes (e.g. West Coast Route Modernisation, Transpennine Route Upgrade), but that this seeks to extend that across an entire geographical area.
Efficiency Forecast, £ 000s	-19.928 (includes all SID initiatives)
Overall BRAG Rating (Arup)	Whereas the Southern Integrated Delivery has a positive intent by looking to integrate worksites and produce efficiencies, it is unclear whether it is a specific access-related 'Initiative,' with an owner and its own efficiency plans. It appears to be a concerted effort at a different way of working but cannot be classed as an 'Initiative.' We have not been given any data that demonstrates efficiencies planned or delivered.

7.5 Summary of Southern Region sample results

Initiative ID	SNO0273/SNO0175/SNO0123	SNC0018	TBC	
Initiative Name	Secondary Protection Methods	Blockade Planning & Delivery	Southern Integrated Delivery	Total
Individual Ratings (BRAG)				
Safety				
Efficiency				
Planning				
Regulation/Governance				
Innovation				
Efficiency Forecast, £000s	3,900	2,618	19,928	22,546*
Overall Rating (NR Region BRAG – not given)				
Overall Rating (Arup BRAG)				

Figure 21: Overview of Southern Region sampled initiatives

N.B Secondary Protection Methods initiatives are not categorised as 'access' in the National Efficiency Fishbone Tracker, hence the total of £22,546m shown in Figure 21 above.

NB: The Southern Region did not provide a BRAG rating for their own initiatives.

7.6 Regional Findings

Potential issues with realising efficiencies in the stated time frame

A particular concern is that many access planning initiatives will naturally experience a lag time before efficiencies can be realised, due to the long-term, advanced nature of strategic access planning and optimisation. Given the absence of evidence presented that initiatives have achieved such plan changes, it seems likely that most of the Year 1 efficiencies in Southern Region's tracker (over £3m of the total) are not achievable.

Some evidence of emerging efficiencies management process

The Finance teams in Network Rail Southern appear to be undertaking a co-ordinating role to bring together efficiency information using one approach and template, supported by a defined management structure, which should increase the chances of consistent outputs as CP7 proceeds.

Strategic Access Optimisation

Most initiatives refer to long-term Access Optimisation, and follow a small selection of methods to achieve efficiencies such as moving work into longer possessions (including blockades).

Regional implementation of National initiatives

There are methods of secondary protection being employed across the Region, such as T3-D and T3-A These methods represent an innovative approach for the Region, and mirror such efforts being undertaken in other Regions.
NB: note that these are not reported against the 'Access' category on the efficiency fishbone.

7.7 Observations on Differences between Routes within the Region

- The Kent, Sussex & Wessex routes are all rolling out trials of secondary protection methods, at different rates. Wessex has much larger efficiency forecasts for secondary protection methods, and these are spread over Years 2 – 5 of CP7.
- 5 initiatives do not have a designated Route, so it is assumed that these cover the whole Region. 3 of these initiatives have efficiency forecasts for Year 1 of CP7, whereas the other 2 have forecasts spread over Years 2 – 5.

7.8 Best Practice identified

The rollout of secondary protection methods, whilst not unique to the Regions, is innovative on Southern and appears to have been successful so far in promoting more efficient/productive possessions and removing workers from the track.

There is evidence of good engagement with the local workforce, especially within Electrical Control Rooms – Third Rail is a local difference that the Region has to manage.

The Region also demonstrated a visualisation tool that is used to view worksites, similar to that used in the NW&C Region.

8 Network Rail Wales & Western Region

8.1 Documents

The Region provided several documents to evidence their possession efficiency programme for CP7 as well as providing evidence of their governance process. A list of these documents can be found in Appendix I.

8.2 Overview of Initiatives

The Region provided details of 73 access-related initiatives to Arup at RF09-25, with a combined total of £112.5m of forecasted efficiencies – dater is taken from the National Efficiency Fishbone Tracker - see below:

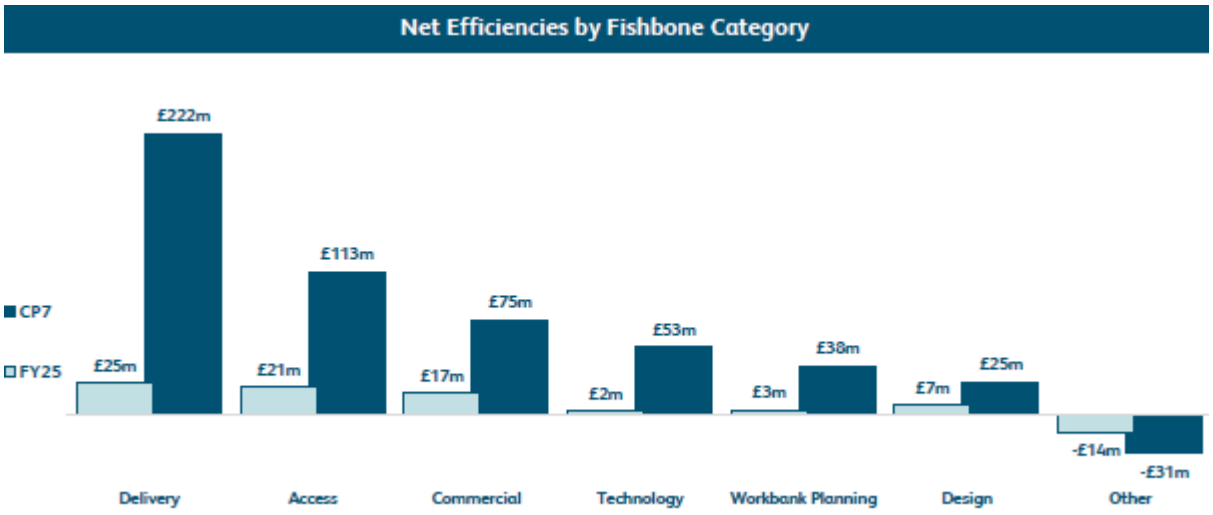


Figure 22: Wales & Western CP7 Net Efficiencies

A detailed breakdown of initiatives, including descriptions, Network Rail's own BRAG score, and efficiency value by year is included in Appendix H. It should be noted that the BRAG scores stated within Appendix H are Network Rail's own scores, as opposed to the BRAG scores given to five chosen initiatives by Arup. It should also be noted that Network Rail's BRAG assessment criteria differs to that of Arup – Network Rail have confirmed that "BRAG documents are our main assurance documents, detailing the positive management actions taken, as well as calculations including baseline, risks, etc". In addition, Network Rail have stated that "BRAGs will be produced for initiatives in Blue or Green status."

8.3 Wales & Western Initiatives

Given the number of initiatives within the Region, we undertook a deep dive review of 5 of the initiatives; 2 for the Western Route and 3 for the Wales Route.

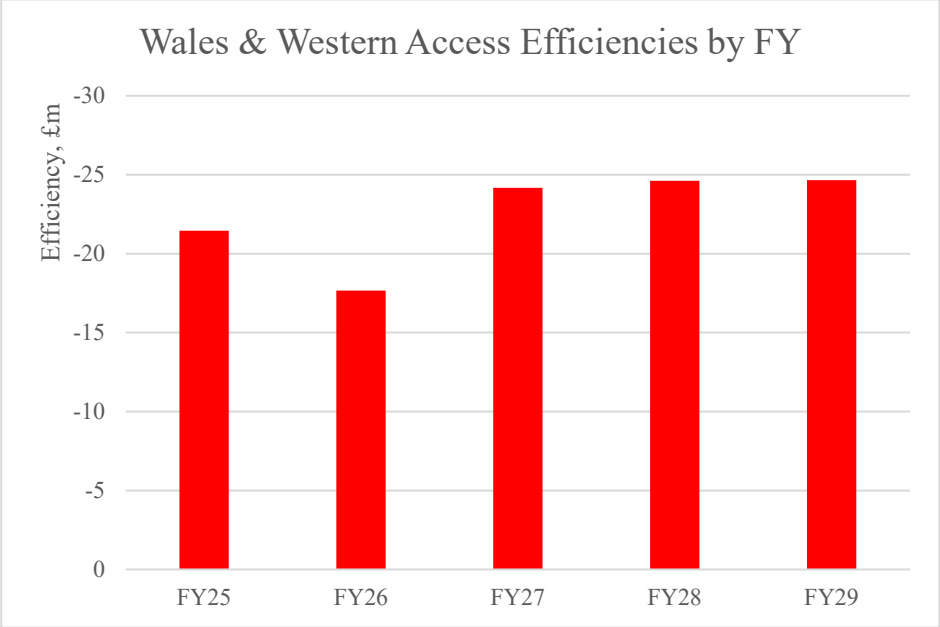


Figure 23: Wales & Western Region Access Efficiencies Forecast per Financial Year

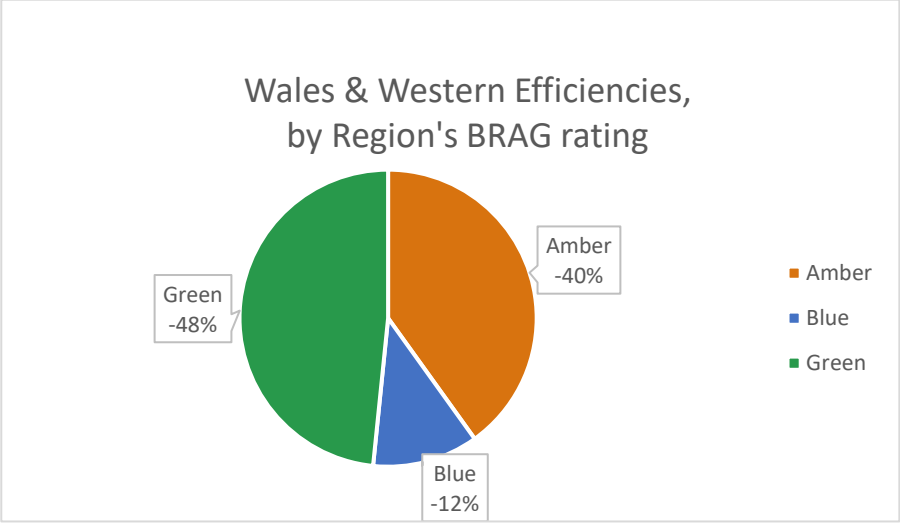


Figure 24: Wales & Western CP7 Efficiencies value, by Region's Own BRAG Rating

8.4 Initial Assessment of five selected initiatives and commentary of BRAG rating

The Wales & Western Region have a total of 73 access-related initiatives planned to be delivered in CP7 across the 2 Routes. The initial assessment of the 5 efficiencies selected for deep-dive is covered below:

Initiative ID	WWO0406
Initiative Name	Use of Drones to undertake Maintenance Scheduled Tasks (MST) inspections
Initiative description	The use of drones to conduct inspections in Wales and Borders Route will deliver access efficiency by reducing the number of line blockages required and resources needed such as extra staff on track. This frees up access for other teams within Network Rail and delivers productivity savings. It improves safety by removing 'boots on ballast'.
Individual BRAG Ratings	
Safety	Reducing 'boots on ballast' reduces the number of possible interactions with trains thus reducing the amount of time staff within the maintenance teams are near them
Efficiency	Productivity - Drone visual inspections can be completed by smaller teams and in less time resulting in resources being reallocated to complete other work as well as reducing overtime within maintenance. Clear financial savings provided within SOAP (Savings on a Page) pack
Planning	Trials have already been completed, and the process is beginning to be established but not yet in full use. Wales have already planned over 800 inspections using drones
Regulation/Governance	Wales Route hold a weekly, Monday, management team meeting, which captures the detail behind the initiative. A monthly efficiency review is held, led by the Route Finance Director and Finance team to also look at progress, planned works and to guarantee they are on track to deliver the committed efficiency. The SOAP pack process demonstrates a commitment to governance
Innovation	This clear use of technology makes this scheme innovative. Several 'drone operators' have been certified as competent from the various maintenance teams. 3 of the drones are also fitted with heat seeking technology to enable the teams to search for animals lineside, as well as overheating equipment (point heating strips; OLE etc).
Efficiency Forecast, £ 000s	-2,550 (figure taken from P12 tracker as not available within P9)
Overall BRAG Rating (Arup)	An innovative initiative that both improves safety and demonstrates a cost efficiency. This is underpinned by regular governance and monitoring and is on track to deliver throughout CP7.

Initiative ID	WWO0405
Initiative Name	Wales - Remote Disconnection Device
Initiative description	Use of Remote Disconnection Device (RDD) will provide a cost-effective additional protection solution for line blockages. An RDD is an electronic device that allows a member of staff to remotely restrict a signal to danger, using a mobile device.
Individual BRAG Ratings	
Safety	This initiative reduces the number of workers on the trackside, thus reducing the possibility of interaction with moving vehicles and trains. It also reduces the risk of placing possession protection/marker boards on the wrong line. It also removes the need for sole responsibility of protecting people and worksites by the signaller alone and affords an added level of protection.
Efficiency	Savings are based on a combination of reduced materials, reduced staff costs and improved productivity. The Route has identified clear savings for the devices installed so far and have extrapolated savings based on a glidepath for further savings across the Control Period.
Planning	Initially late starting, the programme of deployment has now caught up and is on target which is recorded on the glidepath to expand use of RDDs across the Route. There is some reliance on a technical authority standards change. The SOAP for this project does not detail milestones or risk
Regulation/Governance	This efficiency is tracked periodically by the Route Finance Director and Finance team. Weekly Monday MTMs (Management Team Meeting) capture the number installed and commissioned. This then feeds into the safety and planning teams so they know where they can be used.
Innovation	This is an innovation which utilises a central Technical Authority initiative, has been trialled successfully by the Route. The Route have seen potential improvements, leading to the Route requesting changes to standards to improve the approach.
Efficiency Forecast, £ 000s	-12.870 (figure taken from RF12-25 tracker as not available within RF09-25)
Overall BRAG Rating (Arup)	A positive innovation initiative, which will have repeat benefits across the Control Period and beyond. With trials completed, there is planned to be an uptake of activity with this equipment over the remainder of the control period, resulting in significant efficiencies being established.

Initiative ID	WWO0408
Initiative Name	Cambrian possession Blockade Management
Initiative description	The Cambrian Possession Blockade initiative is born out of collaboration with the Train Operators included the setting up of a Local Railway Board, to develop a better solution along the route to deliver projects and maintenance activities within extended possessions. These will now be planned in the months before and after the summer period/holidays. This is a first for this line of route where previously possessions were taking place on midweek nights and weekends, which impacted both holiday makers to North-West Wales and the students at Aberystwyth University. Undertaking this approach has allowed Network Rail to work closely with TfW and West Coast Railways (Charter operator) and is aimed at improving relationships and reputation.
Individual BRAG Ratings	
Safety	Possession blockades when managed correctly remove the need for several other possession requirements and means less time for staff to be on track working. It reduces the volume of possessions, for example, midweek nights.
Efficiency	Efficiencies have been calculated due to improvement in productivity and appears to be a change to previous practice.
Planning	The blockages referenced for this efficiency have either already happened or are already planned and agreed.
Regulation/Governance	The Local Railway concept has been introduced in line with collaboration with TfW. They have a monthly 'Value Board' meeting of senior staff who are leading from the respective organisations. As a result of this focus on this route more efficient ways of working have been established.
Innovation	The change in leadership approach with setting up of the local railway has established a better approach to access planning and use by utilising longer possessions outside of the summer period.
Efficiency Forecast, £ 000s	-0,240 (figure taken from RF12-25 tracker as not available within RF09-25)
Overall BRAG Rating (Arup)	Although blockade possessions are not new, this approach on the Cambrian line of route has opened opportunities for the train and charter operator in running more frequent services. This approach has reduced the number of possessions planned, changes to those plans, and staff working in numerous other possessions.

Initiative ID	WWO0010
Initiative Name	Western Possession Optimisation (PodFlo)
Initiative description	Automating the way possessions are taken and handed back, allows the possessions to be taken and handed back, more quickly and safely. This then means more time can be taken to undertake and deliver the work, reducing the risk of overruns.
Individual BRAG Ratings	
Safety	Removes the need for numerous communications thus allowing safer and quicker taking and hand back of possessions.
Efficiency	Taking and handing back possessions more quickly enables more work to be delivered and also completion of work reducing risk to overruns.
Planning	The first phase is complete, but phase 2 is not yet in use, as it is going through the required safety validation before being implemented Region-wide.
Regulation/Governance	4 weekly reviews led by the finance director and team. All efficiencies are tracked to completion.
Innovation	Digitising the taking and hand back of possessions reduces calls and errors. Gaining access to the track within possessions will also ensure work is delivered, and overruns are reduced.
Efficiency Forecast, £ 000s	-10,600
Overall BRAG Rating (Arup)	A positive innovation initiative with both a safety and cost efficiency benefit. Further work is needed to establish plans for roll-out across the Region.

Initiative ID	WWO0297/299
Initiative Name	Western - PICOP Pack
Initiative description	This efficiency is broken down into 3 parts: 1- PICOP Pack - development of digital tool for standard compliance/improved admin. 2 - Move to an online system, removing the need for reprographics/printing of pack. 3) - development of digital tool to supports system entry (PPS)
Individual BRAG Ratings	
Safety	The system pulls in details from the relevant planning tools and makes it compliant with the relevant planning standard. Less planning errors, leads to reduction in rework; both mean fewer chances of close calls and possession irregularities especially if the data and detail is correct.
Efficiency	The new digital system when implemented, will reduce the number of errors by getting details correct, reducing the number of hours to enter details into the system, time taken to issue the pack electronically as well as significantly reducing the level of rework. The Route has shared detailed calculations which demonstrate these savings.
Planning	A delivery plan is in place for delivery across the control period and mitigations of risk.
Regulation/Governance	Regular periodic reviews of programme, activities and efficiencies gained. Weekly MTMs are held as well as the Route Director running a monthly efficiency review.
Innovation	The new digital system will ensure errors are significantly reduced.
Efficiency Forecast, £ 000s	-596 (plus additional -622.53 scope efficiency)
Overall BRAG Rating (Arup)	An innovative way of working that reduces workload, having a direct time efficiency and associated reduction in safety risk. Given the planned volume of possessions to plan, this will support cumulative benefits across the Control Period and beyond.

8.5 Summary of Wales & Western Region sample results

The results of the deep-dive review are summarised below:

Initiative ID	WWO0406	WWO0405	WWO0408	WWO0010	WWO0297/299
Initiative Name	Use of drones	RDD	Cambrian extended possessions	Possession Optimisation (PODFLO)	Digital PICOP Packs/Reprographics
Individual Ratings (BRAG)					
Safety					
Efficiency					
Planning					
Regulation/Governance					
Innovation					
Efficiency Forecast £000's	2,550	12,870	0,240	10,600	-596
Overall Rating (NR Rating BRAG)					
Overall Rating (ARUP BRAG)					

Figure 25: Wales & Western deep-dive initiatives summary

8.6 Regional Findings

There are a number of themes that we have seen from our review of the initiatives provided by Network Rail Wales & Western:

Innovative Approach

The Region has shown an innovative approach with its access-related efficiencies, for example with its use of technology applications (drones and PodFlo).

Efficiencies management process is mature and high priority

The Region has shown us evidence of a well-governed process, with regular senior reviews. Use of SOAP Savings on a Page) documents gives detail and direction to the key initiatives.

Best Practice Sharing

The Region has been proactive in speaking to other Regions about its experiences using PodFlo.

8.7 Observations on Differences between Routes within the Region

Both Wales & Western Routes have a focus on both Access Optimisation and 'Ways of Working' efficiencies. Several initiatives seem to have both a 'Western' and a 'Wales' component i.e. the two Routes within the Region are co-ordinating on a number of key innovations through use of technology.

8.8 Best Practice Identified

The use of drones to undertake inspections will significantly reduce the amount of access required to undertake inspections, enabling more work to be delivered, the maintenance backlog to be reduced and supports planning ahead with less activity and people trackside. From discussions directly with the Maintenance Director, Project Director and Head of Planning, the Region have demonstrated their full engagement and commitment to delivering changes to current working practices.

9 National Initiatives and Whole System View

9.1 Number and type of initiatives

There are over 250 Access related initiatives listed across the Regional efficiencies fishbone trackers, with the overall number fluctuating at each Rolling Forecast Update. There are further initiatives identified both within the Regions and Routes, and in Network Rail's Central functions, that are access and possession related.

In general, our analysis of these initiatives has identified two broad types of initiative:

- **Access Optimisation initiatives**. These change the access footprint to achieve reduced cost of works delivery.
- **Ways of Working initiatives**. These focus on planning or delivering possessions in a way not previously utilised by Regions, for example using new technology.

All Regions have initiatives focussed on Access Optimisation; only some Regions are recording 'Ways of Working changes' in their efficiency tracker.

9.1.1 Matrix of initiatives

Figure 26 shows a matrix of initiatives by Route, Region and Central Functions E.g. System Operator, Technical Authority categorised by type (Access Optimisation vs Ways of Working) and split by discipline.

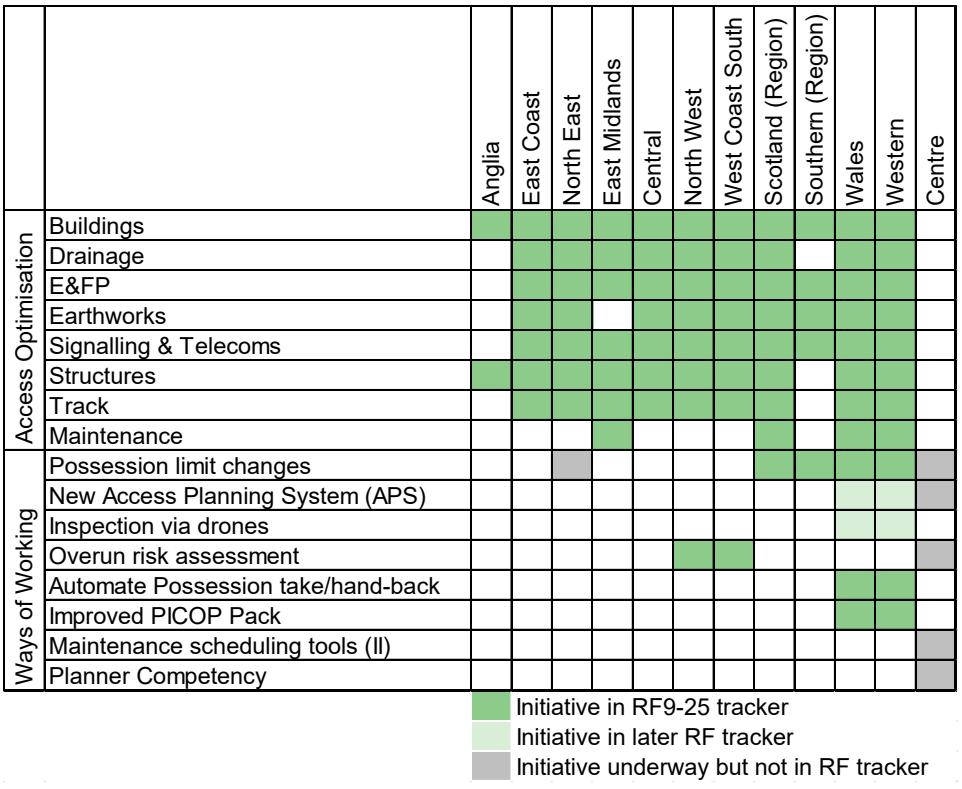


Figure 26: Matrix of initiatives by type

The majority of 'Ways of Working' changes are within Western & Wales Region.

9.2 Common Themes from Regional Reviews

We have identified some common themes that apply across some or all Regions' initiatives.

9.2.1 Confusion on how to define an 'Access Initiative'

This review focussed on initiatives that are recorded under the "Access" category on the efficiencies fishbone. Further initiatives were found that impacted on Access/Possessions ways of working (either directly or indirectly), not all of which were recorded within the 'Access' efficiency fishbones (potentially due to them not having an efficiency element. Figure 27 gives an overview of the types of initiative found, with those highlighted in red the main focus of this report

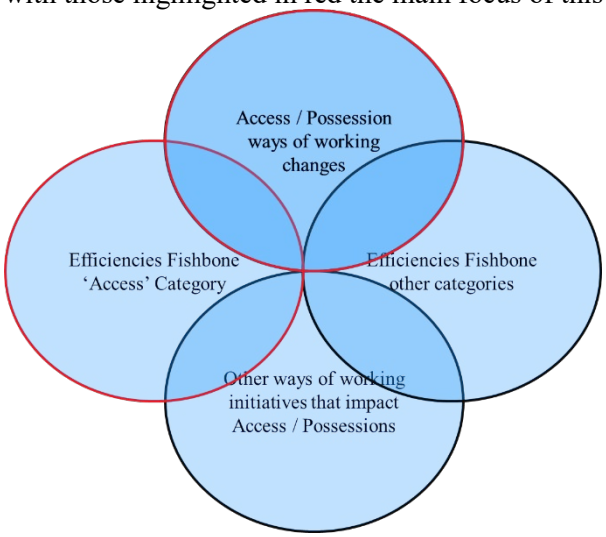


Figure 27: Types of initiatives investigated within this report

9.2.2 Low level of maturity of initiatives

- A substantial number of the initiatives in efficiency trackers are 'umbrella' placeholders/themes, with descriptions such as 'Access Planning'.
- Several initiatives are currently not mature, i.e. they are still in the planning stage and are due to be implemented later in CP7, therefore it is not possible to assess & rate them effectively.
- A particular concern is that many Access Optimisation initiatives will naturally experience a lag time before efficiencies can be realised, due to the long-term, advanced nature of strategic access planning and optimisation. For example, any improved disruptive access or work pattern that is to deliver efficiency during Year 1 of the Control Period, would need to be agreed well over 6 months in advance through the Engineering Access Statement and Confirmed Period Possession Plan processes. Given the absence of evidence presented that initiatives have achieved such plan changes, it seems likely that many of the Year 1 efficiencies in the fishbone trackers may not be fully achieved.
- The fishbone trackers do track efficiencies achieved through an "in delivery" flag and through 'Blue' BRAG scoring. Several Regions did provide details of their initiatives via spreadsheet which showed calculations used to achieve these figures, but these did not appear to be in a consistent format, with variability between Regions of the number of initiatives capturing such information. Furthermore, it is very difficult to ascertain actual delivery against original plan to judge whether an initiative has met expectations or to support identification of lessons learned from trend analysis.

9.2.3 Limited types of initiative

- The majority of initiatives (by number and by value) refer to long-term Access Optimisation, and generally follow a small selection of methods to achieve efficiencies:
    - Moving more work to be undertaken in longer possessions (including blockades), rather than in standard possession opportunities.
    - Planning the integration of different work types / disciplines together to achieve synergies of work within possessions.

- Issuing of the full five year work bank to those planning and delivering work, to enable cross-year optimisation decisions to be made.

- The first two of these methods could be considered BAU practice, rather than unique or new initiatives. The cross-industry planning process has always involved multiple stakeholders to refine and optimise the plan from an engineering work, resource utilisation and customer impact perspective. For the majority of initiatives in this category, it is not clear how CP7 optimisation practices are any different from CP6 (or previous Control Period) practice; in particular there is little clear evidence that savings have been measured against a specific efficiency baseline.

- Some examples of good practice have been observed, involving baselining the cost of delivery at a unit rate level against the CP6 year 5 exit (adjusting for inflation).

9.2.4 Large number of listed initiatives in Fishbones, including multiple 'Placeholders'

- This is a function of the overall efficiencies process, which categorises efficiencies at an asset discipline level. Whilst helpful for reporting purposes, it is less practical from an efficiencies management perspective – a large amount of the benefit from Access initiatives accrues from optimisation across disciplines (e.g. work integration) or sharing best practice ways of working change (e.g. possession limit controls)

9.2.5 Potential for negative impacts on the wider rail system

- In our experience, planning longer access (e.g. blockades) is very likely to deliver a significant efficiency saving in works delivery costs for Network Rail.

- However, evidence needs to be given of the whole industry cost / disbenefit of this approach. Not only is this likely to cost more in Train Operator compensation costs (i.e. Schedule 4 payments), it can have a disproportionate impact on end-customer confidence, impacting on immediate and repeat industry revenue (e.g. from mode shift caused by a 'railway that's always closed'). We have not seen evidence that this has been sufficiently factored into Network Rail's overall efficiency approach, although some of the efficiencies demonstrate some analysis of these factors.

9.2.6 Limited evidence that efficiency considerations are consistently embedded within day-to-day access planning decision making

- For example, we haven't seen evidence that consistent consideration and recording of cost and efficiency trade-off decisions is being made within the access planning process. (NB: the Network Code Part D refers to "the commercial interests of Network Rail" as a consideration that Network Rail may apply as part of the Decision Criteria).

9.2.7 Efficiencies management process is emerging and varies by Route & Region

- All Regions have a process in place to monitor and report on efficiencies, co-ordinated by Route and Regional finance teams. There is variability in how mature these are within different Regions, especially with how closely embedded such initiatives are within day-to-day working.

9.2.8 Inconsistent recording of National initiatives

- There is variation on whether National initiatives are incorporated into Regional fishbone efficiency trackers. For example, all Regions are incorporating changes to possession management techniques involving possession limit control changes (e.g. Remote Disconnection Devices), but only Scotland, Southern and Western & Wales have incorporated such initiatives into their fishbone trackers.

9.3 Common best practice identified

We identified examples of best practice in efficiency initiatives across the Regional teams, including:

- Improved work bank visibility by optimising plans across all years of a Control Period (rather than optimising within annual planning cycles only), enabling better optimisation of work into access footprints.

- Alterations to standard possession times within the permanent timetable, which deliver an annual efficiency benefit each year, rather than a one-off saving.
- Identification of 'tipping points' for cost efficiencies, where a small increase in possession time gives a large benefit. This arises because the cost & benefits of increasing access time is not linear e.g. there are fixed costs such as shift lengths or possession management costs. For example, some initiatives have identified that a 30 minute increase in possession time can add the opportunity to leverage an extra work shift.
- Use of 'line of route' strategies to support the integration of different types of work within possessions, usually supported by diagrams and maps to help planners visualise the work to be integrated.
- Increasing productive working time by reducing the contingency time within possessions. Whilst this is good practice, care must be taken to ensure that the reduction in contingency is appropriate for each worksite, with risk of overrun paramount in the decision-making process. There is a clear link here with the national initiative IR-PE-042 (Delivering Works Within Possessions), which is looking at reducing and releasing contingency within possessions.
- National renegotiation of contracts (e.g. for possession management) to reduce overall cost.
- Improvements to planning process that involves providing up-front options on access patterns to train operators, rather than traditional practice of having these emerge via the access negotiation process

9.4 Summary of Control Period efficiencies forecast

The overall forecast access efficiencies per Region are shown below. It is noted that there is a large variation between forecasts between the five Regions. The variance occurs due to differences in efficiency values per initiative, as most Regions (with the exception of Southern) have a similar number of initiatives. Without clear baseline information for Access Optimisation initiatives, it is hard to determine if this different in values is due to difference in the management actions being undertaken; difference in the starting point; or difference in the recording and calculation methods.

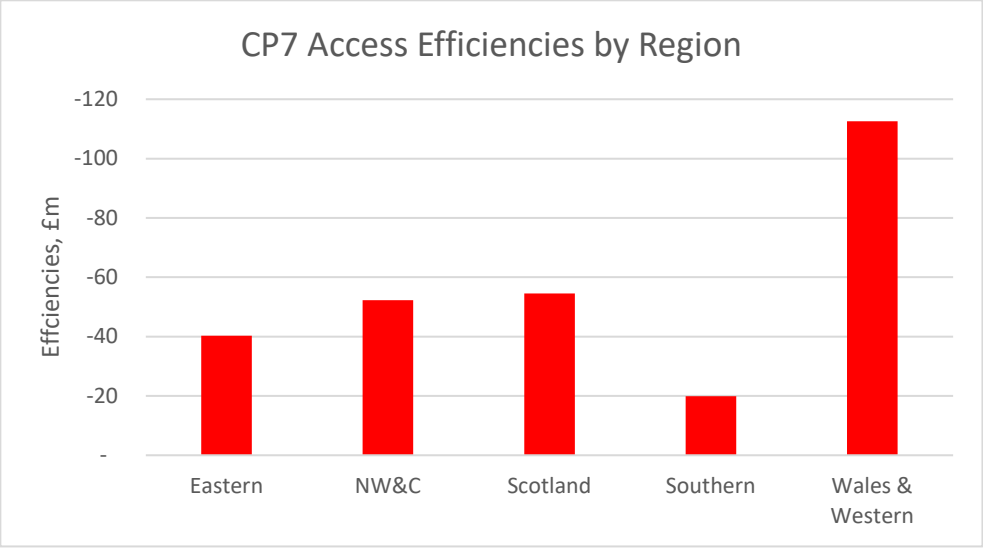


Figure 28: CP7 Access Efficiencies by Region

The following chart shows the split between 'Ways of Working' and 'Access Optimisation' type initiatives.

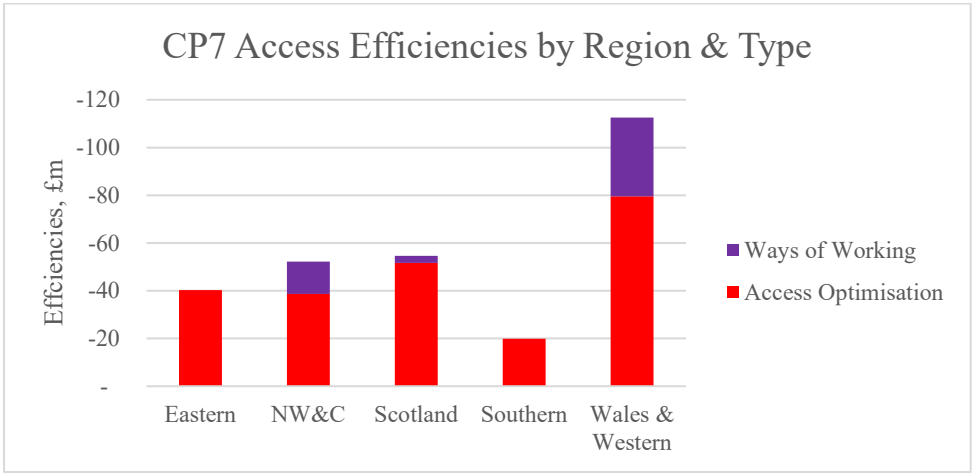


Figure 29: CP7 Access Efficiencies by Region & Type

The chart below shows Network Rail's stated confidence in its initiatives. Of particular note is the large proportion of 'Amber' ratings in several Regions (Eastern, North West & Central and Wales & Western). Whilst we have only reviewed a sample of initiatives in each Region, we have found that the majority of those rated 'Amber' by Network Rail are usually placeholders with no plan or baseline cost calculations. This leads us to conclude that there is probably a low delivery confidence in a large proportion of these initiatives.

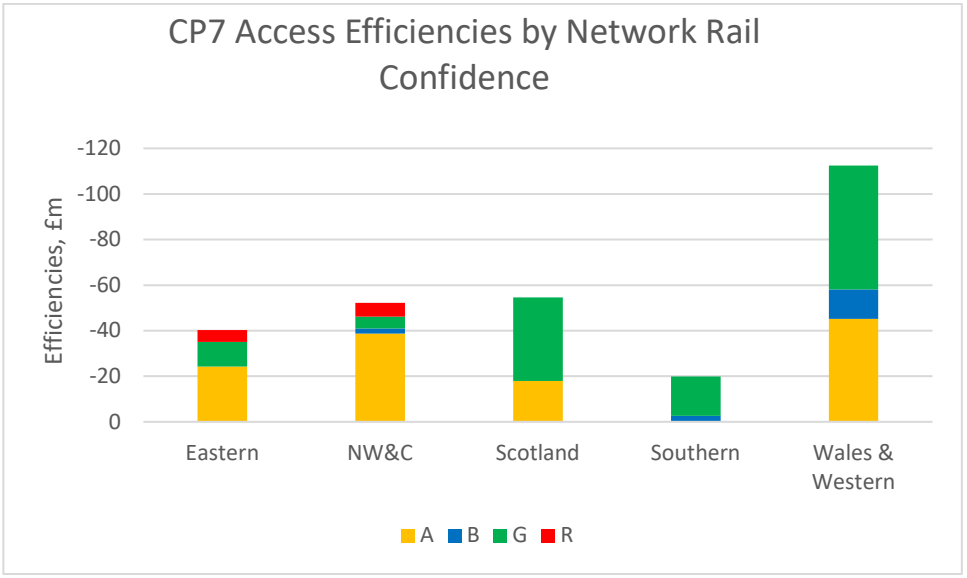


Figure 30: CP7 Access Efficiencies by Network Rail Confidence Rating

9.5 Whole System Economics

Access planning & optimisation is a trade-off between competing industry costs. At the simplest level, increasing the size of the access footprint (i.e. planning longer access such as blockages) reduces the cost to Network Rail due to work delivery efficiency savings, and increases the cost to Train and Freight Operators who will lose revenue. In theory, for any given item of Access, it should be possible to calculate the optimal 'sweet spot', as shown in Figure 31 below.

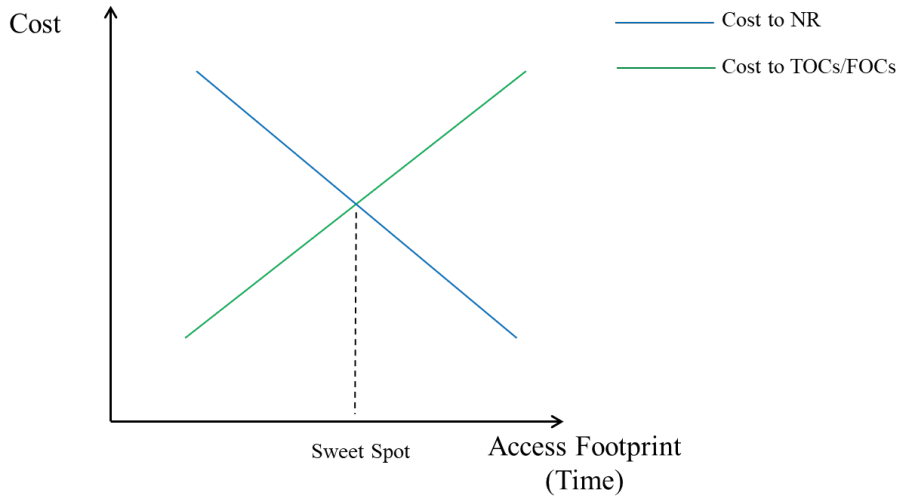


Figure 31: Access Trade-offs concept

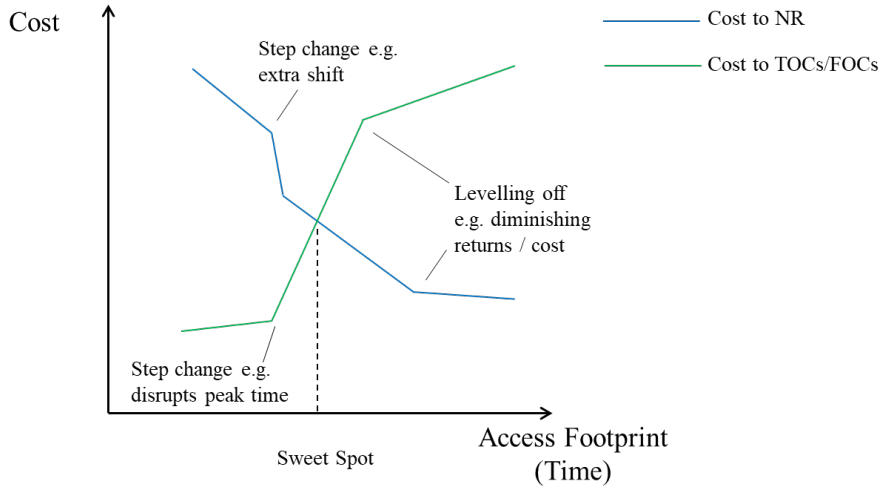


Figure 32: Access Trade-offs concept – step changes and levelling off

In reality, this is complicated due to the non-linear relationship between time and cost, caused, for example, by step changes in costs related to factors such as shift lengths, or peak time traffic, and levelling off due to diminishing returns and costs part a certain point.

This is further complicated by a number of factors:

- Each individual item of access will likely protect work from multiple work deliverers and impact on multiple Train and Freight Operators, each with their own particular cost equation to consider.
- Access cannot be considered in a vacuum. The impact of the disruption to Train Operators becomes cumulative from the effects of multiple access items on one route at one time (leading to economies of scale of bundling access together on one route at one time; but with potential dis-economies if a Train Operator is disrupted multiple times along a route or freight cannot reach its destination).
- The actual variance in cost to work deliverers is often not known to those making access decisions and/or is too complicated to calculate for each possible permutation of access.
- There are multiple other factors – including safety, overrun risk, reputation with end customers, loss of repeat business, regulatory adherence, availability of key people and equipment etc. – to consider alongside.

The current process involves Network Rail access planning teams acting as coordinator and broker of planning decisions between work deliverers and Train & Freight operators, via a multi-month and multi-version iterative planning and negotiation process. Decisions are made based on a combination of best information available, precedent & learning from past plans and negotiation between all parties.

Our review of access initiatives has identified that there is little information available to inform decision making on Access Optimisation with regards Works Delivery costs, or to measure its effectiveness over time. This is likely to be partly due to work deliverers being unable/unwilling to provide this information (for example, providing additional options for access delivery involves additional effort/cost) and partly due to the decision making within the access planning process not traditionally including detailed cost-benefit analysis of works delivery (as the prime focus is on negotiation with the Train Operators).

There is therefore a reliance on Schedule 4 forecasting to assess different access options, which only accounts for one part of the costs incurred in taking a possession and is not part of routine maintenance & renewals possession efficiencies that can be declared (noting there was some mixed practice on Schuele 4 savings being included).

Given the significant cost associated with taking access, and the large variance in cost between different options for access delivery, it will be useful if Network Rail focusses more attention on measuring costs and informing future decision making through such data.

9.6 Whole System Safety Impacts

During our review of access initiatives, we observed evidence of a positive safety culture. This included the use of 'safety moments' in many meetings and reference to safety needs being clearly identified in many initiatives (for example, several initiatives had clear line-of-sight to Rail Accident Investigation Board (RAIB) recommendations; and many initiatives have a safety element as part of their business case).

Specific examples of initiatives targeting safety improvements include:

- Changes to possession limits controls, to meet a stated target of 'reducing boots on ballast'.
- Use of drones for inspection activities, again, reducing worker time on track.
- Competency improvements for planners, to reduce risk of possession irregularities arising from planning.
- Improved information systems include requirements to highlight conflicts and clashes in plans.
- Implementation of the Governance, Risk, Assurance, Improvement (GRAI) process to improve assurance and monitoring of good practice across the Regions.

However, we did not see evidence that the potential increased risk from integrating additional work into access windows is being considered as part of such optimisation initiatives.

9.7 National Initiatives

As part of the review, three national initiatives were assessed:

- Access Planning System
- Possession Limits Controls
- Delivering Work Within Possessions/Planning for Delivery

Our assessments are summarised below.

9.7.1 Access Planning System

Initiative ID	N/A
Initiative Name	Access Planning System
Initiative description	System Operator led initiative, with prime focus to replace legacy Possession Planning System (PPS) with new APS system. Original starting point was to support Timetable Planners deconflicting timetables against the access plan, but has extended scope to improve tools available to planners.
Individual BRAG Ratings	
Safety	Aims to reduce errors and conflicts in plans, particularly Worksite vs Possession fit (which has been a contributary factor in RAIB reports and subject of recommendations to rectify) and Possession vs Train clashes (which can cause operational incidents and train delay if not resolved). Clear links to other safety-related initiatives and tools
Efficiency	Has been accepted up to senior (group board) level, with range of benefits linked to improve Schedule 4 and 8 position; reduced re-work in planning; improved time on tools. Economic analysis has been undertaken, and Routes signed up to benefits. Only appears on Western & Wales efficiency fishbone, so not (yet) seen an efficiency initiative consistently across Routes & Regions.
Planning	Phased delivery plan, based on proof of concept and trials of data. Offers improved visualisation tools to planners and automation to free them up to make better decisions.
Regulation/Governance	Exec Sponsorship with Route Director to influence peers. Contracts include Network Rail ownership of Intellectual Property and data. Reporting to Group Board to agree funding approach.
Innovation	Geospatial and data-driven approach to planning & visualisation a big step change from current legacy systems. Technology is proven (including re-use of a tool used elsewhere within Network Rail), so innovation risk is manageable
Efficiency Forecast, £ 000s	Not stated
Overall BRAG Rating (Arup)	Positive initiative that aims to improve foundational data and tooling approach for access and possession planners, supporting them to deliver better outcomes. Requires Regions to integrate into their efficiency plans over time to help track full benefits to fruition.

9.7.2 Possession Limits Controls

Initiative ID	IR-PE-040
Initiative Name	Possession Limits Controls
Initiative description	Updating rulebook to reduce use of detonators and increase use of T3-D / T3-A type possessions. Aiming to reduce possession setup time, and increase productive working time
Individual BRAG Ratings	
Safety	There is an assumed safety benefit attributed to the initiative, reducing the FWI (Fatality Weighted Index) Accident Risks per year from 0.898 to 0.308.
Efficiency	The initiative is forecasting a £25m saving in CP7, and between £100m and £125m in CP8. Efficiency is measured by the reduction in Possession Support Staff needed by utilising T3-D and T3-A methods of protection. These figures are not fully and consistently reflected within the Regional / Route efficiency fishbones, as some Routes are still trial phases. This area has been rated Amber until such time as the forecasted efficiency savings are fully incorporated into efficiency fishbones
Planning	The initiative appears to be well planned, with a high level of focus at a national level.
Regulation/Governance	Progress of this efficiency is reported via Group Finance. The progress of project delivery is reported to the Infrastructure Access Strategy Board and the Tactical Safety Group. The progress of overall project as part of the' Home Safe Plan'.
Innovation	This method of secondary protection is not innovative to Network Rail
Efficiency Forecast, £ 000s	-25,000 (CP7) & -100,000 to -125,000 (CP8)
Overall BRAG Rating (Arup)	This is a promising central initiative but has been rated as Amber until such time as the safety and efficiency benefits are fully articulated across all Regional fishbones

9.7.3 Delivering Work Within Possessions/Planning for Delivery

Initiative ID	IR-PE-042
Initiative Name	Delivering Work Within Possessions/Planning for Delivery
Initiative description	This workstream looks at how much contingency needs to be included within possessions, for red sites (complex worksites) only. This is undertaken within QSRAs for possessions.
Individual BRAG Ratings	
Safety	There is no tangible safety benefit – the initiative is focused on saving time.
Efficiency	In 2023, it is estimated that over 2.4 million minutes of access was released as a part of this initiative, however no data has been supplied to confirm this.
Planning	This initiative forms part of Network Rail's access planning processes for complex worksites
Regulation/Governance	Reporting has so far been qualitative, but in future will approximate numbers of minutes saved for complex worksites
Innovation	This appears to more of a business change exercise aimed at reducing the time taken for possessions rather than an innovative initiative
Efficiency Forecast, £ 000s	No figures have been provided
Overall BRAG Rating (Arup)	This appears to be a well-intentioned workstream with the aim of releasing large amounts of contingency within possessions for complex worksites. Further evidence is required (including minutes saved and translation of this into financial savings) to be able to further assess this work.

9.7.4 Other initiatives

Smarter Journeys, Smarter Information Programme

Although not directly an Access-related efficiency initiative, this programme is a good example of an initiative that is utilising better data and tools to improve end passenger experience. Network Rail and the Rail Delivery Group (RDG) have worked closely together on process changes and implement a new tool that enables passengers to buy tickets earlier than the normal T-12 "Informed Traveller" deadline. This includes the capability to warn passengers if their ticket booking changes after they have bought it, by comparing timetable changes and possession plans.

Intelligent Infrastructure Work Planning tool

This tool utilises data from multiple sources to optimise maintenance plans. Improvements that the tool offers are not yet incorporated into the Access efficiency fishbones, but have potential to support efficiency benefits in the future. A key observation is that due to the poor quality of access and possession data, work planners are required to undertake a level of re-keying data in order to visualise the plan; this is a common theme seen across several initiatives in this report (and one that the new Access Planning System project is intended to help solve over time).

Access Planning competency

This project is introducing a comprehensive competency standard for access and possession planners, with a view to improving quality of plans and reducing risk. Overall, the programme appears to be well-structured and comprehensive, although there are no direct efficiency benefits included in the fishbones.

Infrastructure Access Dashboard / The Way We Manage Our Business

In "The Way we Manage Our Business" (formerly known as GRAI) process, every Network Rail business process has an accountable owner that checks that the process fit for purpose and gives desired outcomes. Assurance is undertaken at three levels:

- Level 1 assurance by Route
- Level 2 assurance by Region
- Level 3 independent by central audit team

For access planning, the Head of Infrastructure Access works with the Heads of Planning to deliver this.

This includes development of an Infrastructure Access Dashboard, which aims to automates reporting as much as possible to gather intelligence to support assurance. This includes benchmarking and review trends, tied to 'red' requirements[31] in Network Rail standards. It is used to drive best practice process compliance. However, it has been noted that the Dashboard is still in development, and hasn't yet realised intended benefits.

9.8 Late Notice Change

9.8.1 Definition

Part of the Independent Reporter scope for this commission was to explore how late possession change is managed and reported upon, identifying any best practice and recommendations as to how this area could be improved upon.

Our approach to understanding this area formed four parts:

- Firstly, we met with key personnel from Network Rail and ORR to agree the remit for this part of the Independent Report;
- Secondly, we met with the National Access Planning Team to review what information is captured and reported on centrally;
- Thirdly, we surveyed the Route Access Planning teams via the Heads of Planning to review what information is captured and reported on at a route and regional level;
- Lastly, we reviewed all the information gathered and identified recommendations to explore and improve this area further.

It is important to note the definition of late possession changes as per the National Planning Standards is shown below in Figure 34 below and that we have used these definitions in our discussions with stakeholders and throughout this report.

Category	Definition
1 Disruptive Requests	Changes disruptive to the TOCs / FOCs and SCO services over and above disruptive levels agreed in the EAS and confirmed in the CPPP. These requests require the rebidding of train paths / rescheduling of train services by the Capacity Planning.
2 Non-Disruptive Requests	Changes that are 'Non-Disruptive' to the TOC / FOC that have been submitted after the Route defined deadline (no later than TW-7) and can have a significant negative impact on existing worksites, physical work plan and resource arrangements and increase the risk to the safe and efficient delivery of the possession.

Figure 33: late change as defined in the National Planning Standards NR/L2/OPS/202

9.8.2 Key questions

We adopted three lines of enquiry:

- *What KPIs and measures are in place to monitor and report on late change?*
- *How is late change managed between Routes, Regions and Centre?*

[32] NB: This is suggested as a Route-level activity, as there is a Head of Planning role within each Route. It may be desirable to manage some cross-cutting initiatives at Regional level to improve efficiency further, if the right governance and accountabilities can be determined

- *Are there any key challenges with late change that require action or attention?*

9.8.3 National Access Planning team

The National Access Planning team capture data on the 'Late Notice Change to Possessions' and report this periodically to ORR by email, alongside two other performance indicators. These are defined within each periodic report as shown in Figure 35 below. This data is mostly compiled manually from information supplied by the Route Access Planning teams (except for data on new possessions, which are counted from a report from the Possession Planning System (PPS)); other data is not independently verified or automatically generated from a system such as PPS.

Performance Indicator Definitions

Performance Indicators		
Metric	**Definition**	**Purpose**
1. CPPP & EAS Disputes	The level of access disputes escalated to the Access Disputes Committee (ADC) through the engineering access planning process, or after the Confirmed Period Possession Plan.	This is a leading indicator. This assesses whether the access planning processes, as set out in the Network Code, are working as they should.
2. Planned disruption - Late notice possession changes	Measures the number of new, cancelled, curtailed or extended disruptive possessions that were agreed between the CPPP and the WON as approved by the Engineering Access Planning unit (EAP).	It captures Network Rail driven changes which have an additional material impact that will be felt by the travelling public and/or freight customers (e.g. cancelled trains, re-timings and diversions away from stations), compared to what was published in the Confirmed Period Possession Plan (CPPP).
3. Capacity Studies	Measures the number of Capacity Studies requested, Completed, Work in Progress, Not Started and Not Progressed by the Requestor. Measure the number of Capacity Studies submitted for Assurance and how many have been complete or are Work in Progress.	These measures capture both the number of Capacity Studies undertaken and Assured by Network Rail. This supoports the enablement of agreement on capacity with operators via EAP so that the disruption does not require short notice intervention by planners at the Informed Traveller & LTP validation stage.

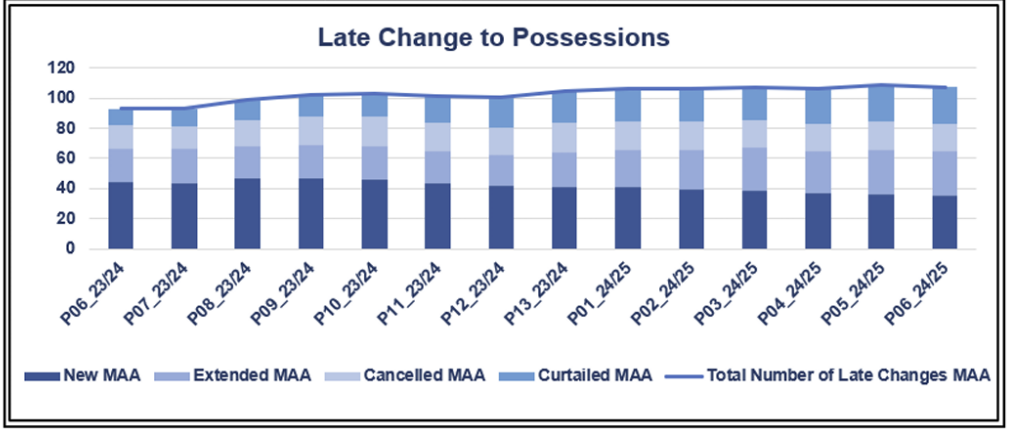
Figure 34: Performance Indicator Definitions

The report for Period 6 shown in Figure 36 (below) is an example of how Late Notice Change to Possessions' are reported upon each period. The reporting demonstrates that late changes are further defined in four categories – brand new possessions, amended possessions, curtailed possessions and cancelled possessions. A 'Moving Annual Average' and 12 month rolling position is also shown alongside a commentary for the specific period including broad reasons for late changes.

The National Access Planning team also advised us that they provide their leadership team with a quarterly update on the Schedule 4 costs incurred by the associated late changes to possessions. However, this is only the Schedule 4 costs and does not take into account any efficiency that maybe realised (e.g. reduced Schedule 8 from removing Temporary Speed Restrictions) or other costs.

Late Notice Change to Possession

Late Changes MAA	P06_24/25		P06_23/24	Control period : CP7		
				Min	Av.	Max
Total Late Changes	107	↓	93	93	112	131
New	35	↑	45	41	60	74
Extended	30	↓	21	20	27	32
Cancelled	18	↓	16	9	13	20
Curtailed	24	↓	11	9	13	22



Late Change to Possessions approved by route Engineering Access Planning teams for work being delivered in Period 6 2024/25 was 86 a large decrease when compared to the same period of the previous year of 102.

The moving annual average for Period 6 2024/25 was 107, increasing when compared to the same period in of the previous year of 93.

Period 6 2024/25 late changes saw various maintenance, enhancement, and renewal access requests. The total of 86 access requests included:

- 19 items (22 % of the National late change) on North & East route
    - Possessions on the projects for a new tram station at Magna Science Centre in South Yorkshire – due to changes some 8 of these possession have been proposed as new and subsequently cancelled accounted for a total of 16 of the items on North and East Route
- 15 items (17 % of the National late change) on Anglia route
    - The majority of the late items on Anglia route have been taken to support the Sizewell Project delivery
- 12 items (14 % of the National late change) on Wales route
    - Mid-weeknight access to improve issues around vegetation, a scheme of work instructed by Transport for Wales

Figure 35: Period 6 statistic for Late Notice Change to Possessions

9.8.4 Survey

We received responses from a selection of Heads of Planning, across all Regions. Key observations from this survey include:

- Regions are capturing detailed information on late changes (both disruptive and non-disruptive), including impact and justification.
- They follow a variety of processes to record data e.g. using SharePoint sites, forms, PowerBI application.
- Some Routes and Regions review Schedule 4 implications and may check on work cost implications as part of the change justification. But there does not appear to be a consistent approach that uses cost information to inform late change decision making.

- Heads of Planning expressed concern over volumes of late change (for example, the implication on workload); some are actively pursuing initiatives to reduce volumes. This is likely to be challenging as there is a spread of reasons given for the cause of late change (including budgetary changes, safety issues, performance improvement and infrastructure failures) and it is often not fully within their control to implement (for example, where senior managers insist on late change to meet business priorities).

9.8.5 Conclusions

- Levels of disruptive late change appear to be relatively stable and the process is reasonably well managed and co-ordinated between Routes and Centre.
- Varying and manual methods of data collection lead to a risk of data inaccuracies and inconsistency between Regions.
- Information collected records number of occurrences of change, but does not give clear indication of impact or cost/efficiency/risk.
- Late change is negotiated and communicated via email – this is inefficient for both those managing late change and those impacted, such as other works delivery teams within Network Rail. A particular issue is that Train Operators often have to review all late changes, even though many do not impact them directly.
- The Access Planning System (see Section 9.7.1) aims to improves measurement, recording and communication of late change for all parties.

10 Ongoing Reporting Structure for CP7 Years 2 – 5

10.1 What does a good initiative look like?

Following our review of Network Rail's Region's initiatives, we have developed some guidelines regarding what a 'good' access-related initiative could look like.

There are a number of factors that contribute to a successful and transparent initiative. These include:

- Benefit (e.g. efficiency) to be measured against a defined baseline, so that it is clear what is different / what is being delivered. This should also include any trade-offs e.g. reduced labour/works delivery costs vs increased Schedule 4 compensation costs, and an acknowledgement should be made of the whole industry impact (even if the benefit and measurement is for the efficiencies process is for Network Rail Controllable costs.)
  [NB: Although there is a clearly defined FY24 spend that enables an overall efficiency baseline, this is not defined in relation to the access footprint, so is not helpful in assessing individual access optimisation initiatives].
- Clear ownership, supported by an appropriate governance structure.
- Clear delivery plans, with risks identified and mitigated, resources secured and stakeholder buy-in.
- A view of the key success measures, with leading indicators to track these. This will vary depending on type of initiative, but could include:
  - For Access Optimisation initiatives, tracking that Possessions have been agreed, ideally by Final Engineering Access Statement (EAS) at D-44, or at latest, Confirmed Period Possession Plan (CPPP) at T-26.
  - For initiatives requiring innovative technology solutions, assurance that the technology has been proven (e.g. has achieved 'Product Acceptance', where this is required).
  - For initiatives involving changes to working practices, that Rulebook / Standards changes have been signed off by industry, and people change (e.g. change to shift patterns, negotiation with Unions) has been completed.

Based on the best practice identified, we have extended and formalised the BRAG rating system used within this report to propose the following rating mechanism for forward governance of initiatives. We have applied this rating mechanism in our review of all Regions based on RF09-25 data, based on a sample number of initiatives within each Region. This mechanism could also be used as a method to be employed after an initial review is completed.

Maturity Level ->	**1**	**2**	**3**	**4**
	Early	**'In flight'**	**Mature**	**Delivering**
Efficiency / Benefit	Efficiency / benefit not defined; or benefit is an aspiration, with no underpinning evidence	Efficiency / benefit is defined, but is not calculated against an agreed baseline	Efficiency / benefit is defined against an agreed baseline	Efficiency / benefit is defined against an agreed baseline, and benefits have started to be realised / 'banked'
Governance	No governance in place	Initiative has an owner, with clear lines of accountability. Governance	Initiative has an owner, with clear lines of accountability. Governance	Initiative has an owner, with clear lines of accountability. Governance

Maturity Level ->	1	2	3	4
	Early	**'In flight'**	**Mature**	**Delivering**
		mechanism has been identified but not initiated	mechanism e.g. sponsorship, steering board, reporting in place	mechanism e.g. sponsorship, steering board, reporting in place, and is effective
Planning & Risk	Initiative is a theme or placeholder, with no plan or milestones	Initiative is still in the planning stage; and/or little evidence of effective change and RAID management; and/or relies on unproven / not accepted innovation / technology; and/or Dependencies not achieved e.g. - access is not 'booked' in the latest version of the plan [where efficiency relies on access changes] - new working arrangements have not been agreed (inc. union consultation) - rulebook / standard changes have not been approved by industry process etc.	Initiative has a clear schedule, with reasonable evidence of effective change and RAID management; and, any innovation or new technology has been proven and undergone product / network acceptance; and, Dependencies are positive e.g. - access is 'booked' in the latest version of the plan [where efficiency relies on access changes] - new working arrangements have been agreed (inc. union consultation) - rulebook / standard changes have been approved by industry process etc.	Initiative can demonstrate realised efficiencies; Risks have been mitigated Initiative can demonstrate that the risk of integrating additional work into access windows has been considered (where applicable)
Stakeholder / Industry Management	No stakeholder / industry management plan	Key stakeholders (internal and across industry) have been identified, but no plan to manage	Key stakeholders (internal and across industry) including staff, supply chain, TOC/FOC, industry bodies have been identified, and stakeholder management and business changes plans are in place	Key stakeholders have confirmed that benefit is delivered, with any cost or inefficiency accounted for There is demonstrable consensus across stakeholder groups to support the initiative.
Resources & funding	Initiative no resources assigned	Initiative has identified resources and/or	Initiative has confirmed resources and/or	Initiative has confirmed resources and/or

Maturity Level ->	1	2	3	4
	Early	**'In flight'**	**Mature**	**Delivering**
	and/or no funding allocated	funding requirements, but these have not been confirmed (e.g. if budget line has been identified, but needs an investment paper to draw down); Or resource and/or funding is confirmed, but appears insufficient to meet project requirements; Or project is significantly overspent compared to delivery progress	funding and where the initiative is 'in flight', spending is within budget	funding and where the elements already delivered have been within budget

10.2 Ongoing Assessment

A potential approach to ongoing assessment is as follows:

- Each Route[32] to undertake grouping the management of initiatives at a higher level, ideally aligned to Positive Management action. For example, a set of integration access optimisation initiatives within a 'line of route' or specific area of the network should be specified. The aim of this would be to enable efficient and effective management for the large number of duplicated initiatives across each asset group within the efficiency fishbones (even if it is desirable to report these separately).
- Network Rail should define a template, drawing on the previous section 10.1 What does a good initiative look like? This template will enable consistent summary of scope and process of all access-related initiatives and should define specific metrics against which initiatives shall be measured
- Network Rail should refresh this information on a regular basis – ideally every six months – in order that they can confidently and consistently track progress, and to provide onwards reports to the ORR. Wherever possible, this should align with existing Rolling Forecast timescales and processes

This methodology is important in that it allows for the journey of each initiative to be assessed, allowing a review of forecast spend and deliverables. We have found that some initiatives do not have efficiencies forecast until the latter years of the Control Period (often due to being in the development stage); by continuing to assess throughout CP7, a view can be taken on whether initiatives can be deemed successful, based on forecast spend/volumes versus what is actually delivered.

[32] NB: This is suggested as a Route-level activity, as there is a Head of Planning role within each Route. It may be desirable to manage some cross-cutting initiatives at Regional level to improve efficiency further, if the right governance and accountabilities can be determined

11 Overall Conclusions and Recommendations

11.1 Regions

11.1.1 Eastern

Summary	Eastern have 34 named access-related efficiencies, totalling £40.3m
Safety	Our review has not identified any safety concerns. Some Routes trialling improved Possession Limit Controls to reduce 'boots on ballast'
Efficiency	Initiatives focus on Access Optimisation; not always clear what is different to BAU, but with some examples of clear benefits case built around comparison of baseline cost between control periods. Notable variance in number and value of initiatives between Routes within Region
Planning	Mixed level of maturity e.g. some placeholder initiatives; some initiatives not started; some well-defined and/or already demonstrating benefits
Governance	Process to track efficiencies in place, but lack of clarity on baseline information for many initiatives means that confidence in efficiency values is low
Innovation	Few innovations identified within current initiatives. Possession Limits Controls being trialled, but not reflected as efficiency initiative.

Table 14: Eastern Conclusions

11.1.2 North West & Central

Summary	NW&C have 65 named access-related efficiencies, totalling £52.2m
Safety	Our review has not identified any safety concerns
Efficiency	Initiatives focus on Access Optimisation; not always clear what is different to BAU, but with some examples of clear benefits case built around comparison of baseline cost between Control Periods.
Planning	Mixed level of maturity e.g. some placeholder initiatives; some initiatives not started; some well-defined and/or already demonstrating benefits
Governance	Process to track efficiencies in place (which varies between Routes), but risk on meeting overall plan, given slow progress so far within Control Period. Lack of clarity on baseline information for many initiatives means that confidence in efficiency values is low
Innovation	Good practice observed including analysis of schedule 4 impact; work visualisation tools, including a map (as shown in Appendix C) which allows planners to view worksites at-a-glance.

Table 15: North West & Central conclusions

11.1.3 Scotland

Summary	Scotland have 26 named access-related efficiencies, totalling £54.6m
Safety	Our review has not identified any safety concerns. Initiatives demonstrated alignment to safety needs; Scotland trialling improved Possession Limit Controls to reduce 'boots on ballast'
Efficiency	Access optimisation initiatives supported by new planning framework, visualisation tools and collaborative optioneering approach. Ways of working changes tailored to local Regional needs.
Planning	Most initiatives are mature, with clear delivery plans and approaches to expected savings. Good examples of ownership within the Region
Governance	Process to manage plans and track efficiencies in place; noted that efficiency benefits are 'backloaded' within Control Period – this demonstrates that the Region has been realistic with their planning, but presents a risk to overall delivery as benefits only accrue within years 3 – 5 of CP7.
Innovation	There was a mix of initiatives which were innovative (Possession Limit Controls) and others which introduced new Ways of Working for Access Optimisation, building on BAU practices and increasing collaboration

Table 16: Scotland Conclusions

11.1.4 Southern

Summary	Southern have 8 named access-related efficiencies, totalling £22.546m
Safety	Our review has not identified any safety concerns. Southern pursuing improved Possession Limit Controls to reduce 'boots on ballast'
Efficiency	Combination of work and possession optimisation (often linked to Southern Integrated Delivery - SID - and new Ways of Working (improved possession limit controls)
Planning	Mixed level of maturity e.g. some placeholder initiatives; some initiatives not started; some well-defined and/or already demonstrating benefits
Governance	Process to track efficiencies in place, but lack of clarity on baseline information for many initiatives means that confidence in efficiency values is low
Innovation	There was a mix of initiatives which were innovative (Possession Limit Controls) and others which introduced new Ways of Working in Access Optimisation, building on BAU practices and increasing collaboration

Table 17: Southern Conclusions

11.1.5 Wales & Western

Summary	W&W have 73 named access-related efficiencies, totalling £113m
Safety	Our review has not identified any safety concerns. Good focus on improving safety through initiatives. W&W pursuing numerous improvements, including improved Possession Limit Controls and use of drones aiming to reduce possession numbers and the staff interface with trains.

Efficiency	Good mix of optimisation and Ways of Working changes.
Planning	Mature initiatives with positive benefits case observed.
Governance	Robust process led by Regional finance to align plans and numbers, with Efficiency Board reviewing detailed efficiency plans - including challenge to provided evidence of Positive Management actions.
Innovation	W&W have several good examples of delivering efficiencies using innovation, technology and collaboration, including use of drones, improved PICOP packs, and use of PodFlo tool to automating processes for taking and giving up possessions.

Table 18: Western Conclusions

11.2 General Conclusions

11.2.1 Limited evidence of consistent cost savings approach

There are two broad types of initiatives seen:

- Access Optimisation i.e. changing the access footprint to achieve reduced cost of works delivery.
- Ways of Working changes, with focus on planning or delivery possessions in a new way.

All Regions have initiatives focussed on Access Optimisation; only some Regions are pursuing 'Ways of Working changes' effectively.

Access Optimisation shows significantly larger savings on the forecast trackers, but the evidence is generally poor (with some exceptions) that these offer a genuine saving. There is not a consistent and clear approach being applied to baseline costs (e.g. of works delivery linked to access options) and to effectively compare delivery costs over time. It is encouraging that some Regions are attempting to gather data. However, many such initiatives are at a low level of maturity, or are even placeholders, leading to low confidence that they will achieve significant efficiencies within the Control Period, especially given the long lead time for agreeing access plans.

Ways of Working changes (e.g. Technology & digital tools) offer the potential for repeatable, step change improvements in both access planning and delivery efficiency (e.g. works delivery, operations). These often target the freeing up of planners' and operators' time, enabling them to concentrate on making better decisions and producing good outcomes in optimisation. Again, there is limited evidence of a consistent approach to measure cost savings.

11.2.2 Access optimisation efficiency approaches are not fully embedded in day-to-day decision making

The majority of access optimisation efficiency initiatives appear to be disconnected from day-to-day decision making within the access planning process. This could be due to the efficiencies process for CP7 starting too late in the access planning cycle to proactively guide Year 1 efficiencies, and due to a lack of leadership involvement in the efficiencies process from access planning teams. Given the significant cost associated with taking access, and the large variance in cost between different options for access delivery, it would be beneficial if more attention on measuring costs and recording data to inform future decision making.

11.2.3 Large number of reported initiatives leads to difficulties in management

The extremely large number of access initiatives listed in fishbones (over 250 at RF09-25) makes understanding and managing these initiatives extremely difficult – for example, several Regional teams stated that they did not have the resources to manage them and/or that it wasn't reasonable to expect individual initiatives to have a plan (despite the stated efficiency values in the range of £millions).

Furthermore, there appears to be no prioritisation of initiatives, or methods to stop unsuccessful initiatives (i.e. “killing criteria”).

We see this as symptom of lack of coherent approach and vision to access efficiency initiatives. From our analysis of the initiatives, we observe only a relatively small number of types of Positive Management Actions that are being undertaken – for example, optimising access into blockade; integrating access across disciplines or annual plan cycles; reviewing possession contingency; reducing possession management setup time. (See section 1.4.2 for further examples). Managing initiatives at the level Positive Management Action would vastly decrease the number of initiatives and enable increased focus. Asset/discipline level reporting could still take place within the fishbone trackers.

11.2.4 Few supporting metrics are captured

Few metrics are captured that would help Network Rail track progress on access-related initiatives. This is a particular concern given that access optimisation initiatives have a long lead time, due to the need to agree access with Train & Freight Operators at an early stage of the planning process (ideally by “D-44”, which can be 10-16 months before the access / engineering work takes place).

There is a current “Access booked” metric within Network Rail reports to the ORR. However, this only records number of access hours agreed by volume, based on trends in previous years. This is virtually meaningless in that it gives no consideration of whether the right access has been booked for the work required, or whether that access has contributed to any planned efficiency saving.

The fishbone trackers do track efficiencies achieved through an “in delivery” flag and through ‘Blue’ BRAG scoring. Several Regions did provide details of their initiatives via spreadsheet which showed calculations used to achieve these figures, but these did not appear to be in a consistent format, with variability between Regions of the number of initiatives capturing such information. Furthermore, it is very difficult to ascertain actual delivery against original plan to judge whether an initiative has met expectations or to support identification of lessons learned from trend analysis.

The System Operator element of “The Way we Manage Our Business” programme (formerly known as Governance, Risk, Assurance, Improvement (GRAI)) sets out a method for Network Rail to govern its processes, identify risk, gain assurance and support Improvement activities. This also includes aims to improve access reporting that appears to be tailored towards reporting on adherence to planning processes – particularly important from a safety compliance perspective – but of limited value in supporting access initiatives. We also note that this initiative appears to have variable levels of support within the Region and Route teams, and is not yet fully implemented.

11.2.5 Variation in maturity of Regional approaches (including strategy and governance)

There is variation between Regions in terms of key elements of the access efficiencies approach. From a strategic perspective, the example observed in Scotland Region who were able to explain and target their efficiencies approach in the context of where their key assets are with regards to their renewals lifecycle. Similarly, Wales and Western appear to have a definite strategy to pursue data-driven ways of working changes. Other Regions did not demonstrate this overall strategic narrative, and appear to be more reactive to the needs of the efficiencies fishbone process.

From a governance perspective, those Regions (such as Scotland) who had joint accountability for access initiatives between finance and access planning teams, coupled with regular reviews, appeared to have clearer initiatives, with increased confidence of delivery.

11.2.6 Digital, Data and Technology changes enable savings, but need support & consistency

There is some evidence that Route or Region-defined initiatives are being shared with other Regions, but less evidence of adoption. For example, many of the innovative ‘Ways of Working’ changes being pursued by Western and Wales Region are being shared, but not adopted by other Regions. An example given for the ‘PodFlo’ usage initiative is that the additional licencing cost for a new Route or Region is too high to enable a compelling business case to be formed. However, several Routes & Regions have stated that innovations being observed elsewhere would not work for them due to differences in geography or ‘ways of working’ that exist between Regions. Some of these elements are likely to be genuine (e.g. 3rd Rail in Southern

requires a different approach to possession limit management), but others are likely to be examples of a *'not invented here'* culture.

There are two national Planning forums (National HoP and IASB) where Network Rail share best practice, but these do not appear to have a clear mandate to drive change or standardisation, with some Regions and teams observing that the forums are not always effective.

There is some evidence that central initiatives such as the change to possession management methods are being pursued in the majority of Regions, with several (e.g. Western & Wales, Scotland, Southern) including these on their efficiencies trackers.

A major change to replace the legacy Possession Planning System (PPS) offers the potential for more efficiency planning and better data (for example, to track possession change). Only one Region has referenced this on their efficiency tracker (Western and Wales) but several referenced it in conversations as a possible future step.

11.2.7 Overall Coordination – lack of a 'guiding mind' for access

The central Group Efficiency function does a good job of reporting on efficiency and initiatives via the Rolling Forecasts and efficiency fishbones, but there appears to be a lack of a single 'guiding mind' to co-ordinate a Network Rail wide approach to access and possessions, and improvement initiatives. This is not currently within the existing scope or terms of reference of the Infrastructure Access Strategy Board. The Board's governance and oversight over the Route and Regional structures are constrained, with limited authority to enforce compliance or operational directives. Actions are not adequately closed out, indicating deficiencies in control and assurance mechanisms.

Examples where such a guiding mind could be helpful include:

- Consistent and joined-up strategy for access across the Regions, Routes and central teams
- Development and roll-out of new technologies (e.g. drones, digital tools).
- Defining standard models for cost baselining and measurement to inform access planning decision making and to guide Access Optimisation efficiency initiatives.

At Regional level, we have seen evidence of good practice in leadership of initiatives, e.g. where senior leaders take responsibility for initiatives in their area. Likewise, some examples of robust governance of the initiatives process gives more certainty that desired and forecasted outcomes will be achieved.

11.3 Review of previous Independent Report

The previous Possessions Efficiency review[33] stated a number of recommendations. This section assesses the current progress of these actions within the CP7 context. It should be noted that no-one that we spoke to within the Network Rail teams referenced this previous report or recommendations, and we have found no evidence that Network Rail are actively tracking actions against these. We note as a general observation that many of these actions were made with reference to programmes, rather than to accountable owners within Network Rail, with many appear to be outside of those programme's scope. This has likely contributed to lack of action.

Ref	Action	Ownership	Current Status	Notes
P1	Conduct in-depth survey and analysis of (i) the causes of late changes and their impact on possessions efficiency; and (ii) the manual approaches to processing possessions data	Access Planning Programme, Intelligent Infrastructure	This has not been undertaken, as was not the scope of these programmes. The Access Planning System project is	

[33] https://www.orr.gov.uk/sites/default/files/2021-10/ghd-possessions-efficiency-review-independent-report-april-2021.pdf

	and information. Root-cause understanding of these two areas could significantly improve efficiency.		planning to streamline workflow for late change, which will reduce manual processing	
P2	Establish a dedicated long-term integrated possession planning team in each Route to promote devolved decision-making close to the impacted area and improve access planning and delivery efficiency	Access Planning Programme	This has not been undertaken, as was not the scope of this programme. Some Regions have achieved better levels of integrated decision making	See recommendation "R4 Define Strategic Intent for access"
P3	Undertake a full DWWP review to better integrate the guidelines surrounding the use of contingency time into wider systems. This should establish use of contingency within possession and integrate protocol with PICOPs and signallers.	Access Planning Programme	This has not been undertaken, as was not the scope of this programme. NW&C Region stated they were looking at contingency time as a driver of efficiency, but this appeared to be in early stages of maturity.	
P4	Implement a definitive set of KPI measures that integrate the System Operator scorecard structure tiers 1 -3 that focus on possession productivity and efficiency.	System Operator	Although "The Way we Manage Our Business" / GRAI work in System Operator has started to improve monitoring of Possessions, it has been much delayed, not well adopted by Regions, and does not cover productivity or efficiency elements	See recommendation "R2 Improve Data-driven decision-making approach for access optimisation, including providing access to relevant data to decision makers"
P5	Digitise the EAS tools of the possession planning process and formalise changes of the EAS	Access Planning Programme	Being delivered by the Access Planning System project, due 2028	NB: the APS programme is not aiming to meet this recommendation and is not aware of the 2021 IR report
P6	Characterise the Possession Planning System (PPS) and Network Rail Online Logistics (NROL) and centralise a "data lake" that is accessible by BI tools.	Access Planning Programme	Being partially met by the Access Planning System project, due 2028, for Possessions data only (not logistics, which isn't in scope)	NB: the APS programme is not aiming to meet this recommendation and is not aware of the 2021 IR report
NF1	Set-up a Centre of Excellence related to possessions in the System Operator. This should coordinate national	System Operator	This has not been met. The Infrastructure Access Strategy Board and National Access Planning team perform	See recommendation "R1 Clear 'guiding mind' and improved

	programme benefits and share best practice from regional initiatives. This should complement / amalgamate with the planners best practice forum.		some of these roles, but accountability is not clear, and effectiveness is limited	Governance of Access Initiatives, including roles & accountabilities, initiative levelling and ongoing monitoring"
NF2	We recommend that a wider model of industry risk, cost and value should be developed that takes into consideration asset risk, asset lifecycle cost, and disruption. This should be based on Green Book principles that underpin infrastructure investment decision-making within the UK government. Network Rail should also consolidate the quantum of rights, widows - based approach and socio-economic principles within the Network Code.	System Operator	This has not been undertaken, although some Regions (e.g. Scotland) are showing tentative steps towards considering some of these themes within access planning.	See recommendation "R3 Define Clear guidance on access efficiencies – definition, process, methods & metrics"
NF3	To inform the Period Review 2023 (PR23) and the next Control Period planning (CP7) preparations, there should be production of a white paper detailing a future strategy for the Network Code. This must set out a programme to align governance of Part D of the Network Code and access negotiation process protocols.	GRAI	This has not been undertaken, partly because "GRAI" is not a person, role or programme.	See recommendation "R2 Improve Data-driven decision-making approach for access optimisation, including providing access to relevant data to decision makers"

11.4 Recommendations

Recommendation	Detail	Rationale	Timescale
R1 Clear 'guiding mind' and improved Governance of Access Initiatives, including roles & accountabilities, initiative levelling and ongoing monitoring	Clarify roles and accountabilities & ownership related to access initiatives, reviewing ToRs of groups. To include: • Access efficiencies process and methods, in alignment with the existing RF process • Co-ordination of ways of working improvements, including sharing and adoption of ideas and best practice Manage & Govern access initiatives at a higher level - by Positive Management Action type. NB. reporting via discipline on the fishbones could still be continued under this model Define a template for each Route/Region to complete summarising overall scope and progress of access-related initiatives, enabling six monthly reporting to the ORR	See 11.2.7 Overall Coordination – lack of a 'guiding mind' for access See 11.2.3 Large number of reported initiatives leads to difficulties in management See 10.1 What does 'good look like' for an initiative	Within CP7 Year 2 (to inform next Independent Reporter possessions costing engagement)
R2 Improve Data-driven decision-making approach for access optimisation, including providing access to relevant data to decision makers.	Identify, source, manage and provide access for planners to data that enables better access decision making. Includes: • Customer impact (e.g. passenger numbers, freight impact, compensation estimates) • Cost of different work options for items of work • Cost / risk of planning work within the same possessions Review access planning decision making to ascertain if efficiencies requirements are adequately reflected in day-to-day decision making for access planning. Adapt access planning processes and tools so that decisions made during access planning (e.g. efficiencies and cost trade-offs) are clearly recorded and are available to support future decisions and governance and reporting of efficiencies	See 11.2.1 Limited evidence of consistent cost savings approach and 11.2.2 Access optimisation efficiency approaches are not fully embedded in day-to-day decision making See also Scotland Region 6.7 Best Practice identified for details of Decision Impact Assessment Model (DIAM)	An initial review of current state to be completed by end of CP7 year 2 (to inform next Independent Reporter possessions costing engagement). Full implementation likely to require longer timescale, tied to existing initiatives (e.g. new Access Planning System)
R3 Define Clear guidance on access efficiencies – definition, process, methods & metrics	Clear definition on 'what is an access initiative', to include the difference between initiatives and BAU practice. Include guidance based on 'best practice' identified (see 1.4.2 Best practice). Guidance on how to categorise access initiatives by positive management action Guidance on an initiative	See 11.2.1 Limited evidence of consistent cost savings approach & 11.2.3 Large number of reported initiatives leads	Within CP7 Year 2 to support Recommendation R1. Should also utilise this guidance to start efficiencies

	prioritisation approach (inc. 'killing criteria') Guidance on Benefits measurement approach and reporting, particularly in terms of baselining costs Consider improved metrics, including: Leading indicators • change to existing access booking metric, demonstrating that access needed to achieve efficiencies is being booked/agreed in line with project lifecycle stages Lagging indicators • Number and value planned vs achieved of initiatives, by category	to difficulties in management 10.1 What does 'good look like' for an initiative 11.2.4 Few supporting metrics are captured	process earlier for CP8, given long lead time to agree access
R4 Define Strategic Intent for access	Define and document strategic vision for access, including: - access efficiencies - ways of working changes - data & tech - workforce & competency Each region to develop high level regional access strategy, based on overall and tying into regional priorities e.g. current asset life, upcoming enhancements	See 11.2.7 Overall Coordination – lack of a 'guiding mind' for access See 11.2.5 Variation in maturity of Regional approaches (including strategy and governance)	Within CP7 Year 2 to support Recommendation R1
R5 Use of technology & data	Review approaches to better structure and share foundational data, to enable better management information and improved automation. Identify investment (e.g. funding and sponsorship) required for new tools and systems, such as new planning systems and improved possession management techniques, in order to boost consistent improvements to ways of working. Invest in structured business change approaches for access data and technology, including identifying and mitigating any barriers to successful adoption	See 11.2.1 Limited evidence of consistent cost savings approach See 11.2.6 Digital, Data and Technology changes enable savings, but need support & consistency	Initial review as part of "Strategic Intent for Access" recommendation. Delivery is longer term strategic objective Funding should consider existing budgets, efficiency and innovation programmes, and CP8 planning

Table 19: Table of Recommendations

Appendices

Appendix A - Statement of Works

[Redacted]

Appendix B – Statement of Works Response Map

[Redacted]

Appendix C – Network Rail NW&C Work Bank Planning Map

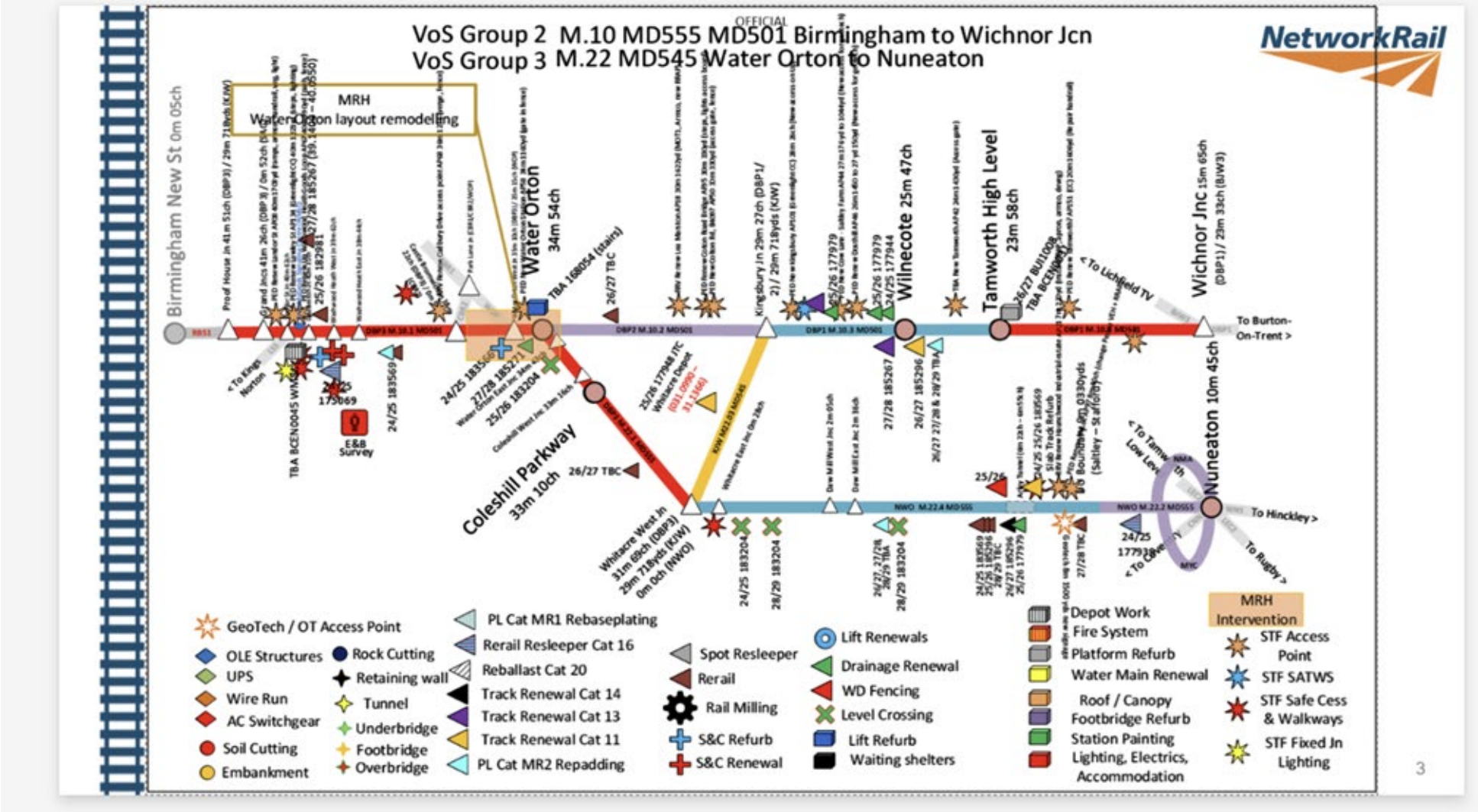


Figure 36: North Western & Central visualisation example

Appendix D – List of Network Rail Eastern initiatives

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25 [34]	FY 26	FY 27	FY 28	FY 29	CP7	FY 25 B [35]	FY 26 B	FY 27 B	FY 28 B	FY 29 B
ANGBD003	Anglia	Buildings	Planning Access in blockades rather than rules of the route	Planning to work in blockades allows for reduction of the number times the work will be carried out. Rotr is 4 hours, with blockades at 24-52 hours. These will reduce the access costs and labour cost for labour for work which requires access. The risk for these efficiencies is linked with ensuring the planned access is not cancelled. FS-Canopies	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-26	0	-10	-63	-85	-184	G	G	G	G	G

[34] Figures shown are £thousands, rounded to the nearest £1k. Negative numbers are an efficiency; positive numbers are an inefficiency

[35] BRAG ratings shown in the initiative lists are those attributed by Network Rail – this applies to all Regions where BRAG ratings appear in the Appendices section.

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25 [34]	FY 26	FY 27	FY 28	FY 29	CP7	FY 25 B [35]	FY 26 B	FY 27 B	FY 28 B	FY 29 B
ANGBD004	Anglia	Buildings	Planning Access in blockades rather than rules of the route	Planning to work in blockades allows for reduction of the number times the work will be carried out. Rotr is 4 hours, with blockades at 24-52 hours. These will reduce the access costs and labour cost for labour for work which requires access. The risk for these efficiencies is linked with ensuring the planned access is not cancelled. FS-Footbridges	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-16	-31	-31	-13	-53	-144	G	G	G	G	G
ANGBD005	Anglia	Buildings	Planning Access in blockades rather than rules of the route	Planning to work in blockades allows for reduction of the number times the work will be carried out. Rotr is 4 hours, with blockades at 24-52 hours. These will reduce the access costs and labour cost for labour for work which requires access. The risk for these efficiencies is linked with ensuring the planned access is not cancelled. FS Platforms	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	0	-9	-106	-217	-65	-397	G	G	G	G	G

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25 [34]	FY 26	FY 27	FY 28	FY 29	CP7	FY 25 B [35]	FY 26 B	FY 27 B	FY 28 B	FY 29 B
ANGBD006	Anglia	Buildings	Planning Access in blockades rather than rules of the route	Planning to work in blockades allows for reduction of the number times the work will be carried out. Rotr is 4 hours, with blockades at 24-52 hours. These will reduce the access costs and labour cost for labour for work which requires access. The risk for these efficiencies is linked with ensuring the planned access is not cancelled. FS-Footbridges	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-16	-31	-31	-13	-53	-144	G	G	G	G	G
ECDR008	East Coast	Drainage	Access Planning	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	0	-66	-76	-110	-38	-291	R	R	R	R	R
ECTEL008	East Coast	Telecoms	Access Planning	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-59	-57	-59	-73	-84	-333	R	R	R	R	R
ECEP103	East Coast	E&FP	Access Planning Cross Contact Bars	Realising synergies in access between two workstreams (Resilience and Cross Contact Bar Work). Identifying available blockade access and maximising access footprints in delivery plans.	Cost Efficiency	Work bank Planning / Synergies	Strategic Work Planning & Optimisation	-41	-39	0	0	0	-80	A	A	0	0	0

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25 [34]	FY 26	FY 27	FY 28	FY 29	CP7	FY 25 B [35]	FY 26 B	FY 27 B	FY 28 B	FY 29 B
ECEP104	East Coast	E&FP	Access Planning Resilience North	Identifying available blockade access and maximising access footprints in delivery plans. This is continually being reviewed throughout delivery.	Cost Efficiency	Workbank Planning / Synergies	Strategic Work Planning & Optimisation	-1433	0	0	0	0	-1433	G	0	0	0	0
ECEP008	East Coast	E&FP	Access Planning SBP	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	0	-468	-942	-1273	-1131	-3813	R	R	R	R	R
ECBD008	East Coast	Buildings	BNCE10 - Access	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-108	-53	0	0	0	-161	G	G	G	G	G
ECGT008	East Coast	Earthworks	GNE6 Access Planning	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-10	-180	-130	-200	-190	-710	G	A	A	A	A
ECGT020	East Coast	Earthworks	GNI11 Access Planning	Late or poor planning can lead to inefficiency related to track access.	Inefficiency	Access issues (use, agreement, planning)	Strategic Work Planning & Optimisation	0	0	0	0	0	0	R	R	R	R	R
ECTR157	East Coast	Track	Haulage costs	additional haulage costs due to need for locked in train (enhancements causation)	Inefficiency	Access issues (use, agreement, planning)	Detailed Engineering Planning (Work & Logistics)	187	0	0	0	0	187	G	0	0	0	0

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25 [34]	FY 26	FY 27	FY 28	FY 29	CP7	FY 25 B [35]	FY 26 B	FY 27 B	FY 28 B	FY 29 B
ECST008	East Coast	Structures	SNCE01 Work bank Alignment	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-92	0	0	-706	-64	-862	G	R	R	R	R
ECST046	East Coast	Structures	SNCE14 Disruptive Access	Utilise disruptive access for schemes where RotR access is inefficient	Cost Efficiency	Optimisation of access (use, agreement, planning)	Strategic Work Planning & Optimisation	0	0	0	0	0	0	G	A	A	A	A
EMST007	East Midlands	Structures	Access Planning	Workbank planning will follow where electrification is planned for the next route section to deliver a combination of asset projects, across a reduced number of possessions, taking advantage of longer blockades with less disruptive access.	Cost Efficiency	Optimisation of access (use, agreement, planning)	Strategic Work Planning & Optimisation	-200	-216	-158	-262	-236	-1073	G	A	A	A	A
EMTR006	East Midlands	Track	Access Planning	Work bank planning will follow where electrification is planned for the next route section to deliver a combination of asset projects, across a reduced number of possessions, taking advantage of longer blockades with less disruptive access.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-512	-433	-559	-507	-611	-2622	G	A	A	A	A

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25 [34]	FY 26	FY 27	FY 28	FY 29	CP7	FY 25 B [35]	FY 26 B	FY 27 B	FY 28 B	FY 29 B
EMSIG007	East Midlands	Signalling	Access Planning	Workbank planning will follow where electrification is planned for the next route section to deliver a combination of asset projects, across a reduced number of possessions, taking advantage of longer blockades with less disruptive access.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	0	-262	-375	-422	-384	-1443	G	A	A	A	A
EMDR005	East Midlands	Drainage	Access Planning	Work bank planning will follow where electrification is planned for the next route section to deliver a combination of asset projects, across a reduced number of possessions, taking advantage of longer blockades with less disruptive access.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-57	-63	-114	-140	-168	-541	G	A	A	A	A
EMEP007	East Midlands	E&FP	Access Planning	Work bank planning will follow where electrification is planned for the next route section to deliver a combination of asset projects, across a reduced number of possessions, taking advantage of longer blockades with less disruptive access.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-100	-230	-264	-299	-311	-1204	G	A	A	A	A
EMBD008	East Midlands	Buildings	Access Planning	Work bank planning will follow where electrification is planned for the next route section to deliver a combination of asset projects, across a reduced number of possessions, taking advantage of longer blockades with less disruptive access.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-130	-185	-223	-215	-154	-908	G	A	A	A	A

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25 [34]	FY 26	FY 27	FY 28	FY 29	CP7	FY 25 B [35]	FY 26 B	FY 27 B	FY 28 B	FY 29 B
EMTEL006	East Midlands	Telecoms	Access Planning	Work bank planning will follow where electrification is planned for the next route section to deliver a combination of asset projects, across a reduced number of possessions, taking advantage of longer blockades with less disruptive access.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-22	-16	-21	-27	-33	-120	G	A	A	A	A
NETR008	North & East	Track	Access Planning	Structural & Commercial – Improved Access	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-1097	-905	-1250	-1518	-1657	-6427	A	A	A	A	A
NESIG008	North & East	Signalling	Access Planning	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-576	-949	-1342	-1210	-908	-4986	A	A	A	A	A
NEDR008	North & East	Drainage	Access Planning	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-131	-89	-232	-235	-347	-1035	A	A	A	A	A
NEEP008	North & East	E&FP	Access Planning	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-164	-312	-450	-489	-713	-2128	A	A	A	A	A

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25 [34]	FY 26	FY 27	FY 28	FY 29	CP7	FY 25 B [35]	FY 26 B	FY 27 B	FY 28 B	FY 29 B
NETEL008	North & East	Telecoms	Access Planning	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-66	-58	-77	-97	-151	-450	A	A	A	A	A
NEBD008	North & East	Buildings	BNCE10 - Access	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-920	0	0	0	0	-920	G	G	G	G	G
NETR138	North & East	Track	Delivery - use of surplus stock	Stock management, utilising surplus stock	Cost Efficiency	Workbank Planning / Synergies	Detailed Engineering Planning (Work & Logistics)	0	0	0	0	0	9	G	A	A	A	A
NEGT008	North & East	Earthworks	GNE6 Access Planning	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	-10	-100	-150	-150	-150	-560	G	A	A	A	A
NEGT020	North & East	Earthworks	GNI11 Access Planning	Late or poor planning can lead to inefficiency related to track access.	Inefficiency	Other	Strategic Work Planning & Optimisation	0	0	0	0	0	0	A	A	A	A	A
NEST008	North & East	Structures	SNCE01 Work bank Alignment	Improved and advance planning can lead to improved efficiency and cost-effectiveness, providing better value for money for customers.	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Work Planning & Optimisation	0	0	0	-192	-58	-250	A	A	A	A	A

Appendix E – List of Network Rail North West & Central Initiatives

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
BCL_14	West Coast Mainline South	Structures	Extended land access on LLG lines	Utilising access to allow for a more efficient delivery	Cost efficiency	Optimisation of access (use, agreement, planning)	Engineering delivery	-575	0	0	0	0	-575	A				
BCL_15	West Coast Mainline South	Structures	Extended land access on LLG lines	Utilising access to allow for a more efficient delivery	Cost efficiency	Optimisation of access (use, agreement, planning)	Engineering delivery	0	-2925	0	0	0	-2925	G	G	G	G	G
BCL_38	West Coast Mainline South	Drainage	Access changes	"Blockade access allows longer working periods allowing work to be completed more efficiently.	Cost efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation	-1500	0	0	0	0	-1500	B	B	B	B	B
C45	Central	Drainage	Access planning optimisation	More efficient access as a result of integrated work bank planning	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-5	-4	-7	-16	A	A	A	A	A
C45.1	Central	Earthworks	Access planning optimisation	More efficient access as a result of integrated work bank planning	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-4	-1	-5	-10	A	A	A	A	A
C45.2	Central	Signalling	Access planning optimisation	More efficient access as a result of integrated work bank planning	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-5	-1	-1	-7	A	A	A	A	A

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
C45.3	Central	Structures	Access planning optimisation	More efficient access as a result of integrated work bank planning	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-21	-18	-30	-69	A	A	A	A	A
C45.4	Central	Track	Access planning optimisation	More efficient access as a result of integrated work bank planning	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-1	-1	-1	-2	A	A	A	A	A
C46	Central	Structures	Align access (different disciplines)	Same deliverer being able to deliver schemes at the same location (e.g. HNR 49 in CP7 year 1, geotechnical and structures are working side-by-side £300k saving, £750k alone, £450k. Assume 10 projects can do over CP7)	Cost efficiency	Structural & Commercial - Improved Access	Detailed Engineering Planning (Work & Logistics)	0	-1	-5	-6	-9	-21	R	R	R	R	R
C47	Central	Buildings	Early access planning	Enables projects to tender on a secure access strategy (Federica Labanca 6/10/22)	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-15	-9	-10	-34	R	R	R	R	R
C47.1	Central	Drainage	Early access planning	Enables projects to tender on a secure access strategy	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-6	-6	-11	-23	R	R	R	R	R

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
C47.2	Central	E&FP	Early access planning	Enables projects to tender on a secure access strategy	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-6	-6	-6	-19	R	R	R	R	R
C47.3	Central	Earthworks	Early access planning	Enables projects to tender on a secure access strategy	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-11	-5	-25	-40	R	R	R	R	R
C47.4	Central	Signalling	Early access planning	Enables projects to tender on a secure access strategy	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-12	-13	-20	-45	R	R	R	R	R
C47.5	Central	Structures	Early access planning	Enables projects to tender on a secure access strategy	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-4	-5	-8	-17	R	R	R	R	R
C48	Central	Drainage	Large access blockages	Removes inefficiencies derived by staging works	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-81	-314	-351	-746	R	R	R	R	R
C48.1	Central	E&FP	Large access blockages	Removes inefficiencies derived by staging works	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-159	-634	-426	-1219	R	R	R	R	R
C48.2	Central	Earthworks	Large access blockages	Removes inefficiencies derived by staging works	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-126	-193	-497	-816	R	R	R	R	R

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
C48.3	Central	Signalling	Large access blockages	Removes inefficiencies derived by staging works	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-62	-193	-395	-650	R	R	R	R	R
C48.4	Central	Structures	Large access blockages	Removes inefficiencies derived by staging works	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-172	-714	-794	-1679	R	R	R	R	R
C48.5	Central	Track	Large access blockages	Removes inefficiencies derived by staging works	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-22	-89	-88	-200	R	R	R	R	R
C49	Central	Buildings	Longer ROTR possessions	Look to agree early with TOCS to increase productivity time - WCML example of only 4 hrs a night	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-20	-20	-34	-73	R	R	R	R	R
C49.1	Central	Drainage	Longer ROTR possessions	Look to agree early with TOCS to increase productivity time - WCML example of only 4 hrs a night	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-10	-20	-44	-74	R	R	R	R	R

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
C49.2	Central	E&FP	Longer ROTR possessions	Look to agree early with TOCS to increase productivity time - WCML example of only 4 hrs a night. Benefits reduced as access is targeted by CD Transformation Programme	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-20	-40	-53	-113	R	R	R	R	R
C49.3	Central	Earthworks	Longer ROTR possessions	Look to agree early with TOCS to increase productivity time - WCML example of only 4 hrs a night	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-16	-14	-62	-92	R	R	R	R	R
C49.4	Central	Signalling	Longer ROTR possessions	Look to agree early with TOCS to increase productivity time - WCML example of only 4 hrs a night	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-7	-16	-33	-57	R	R	R	R	R
C49.5	Central	Structures	Longer ROTR possessions	Look to agree early with TOCS to increase productivity time - WCML example of only 4 hrs a night	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-21	-54	-99	-174	R	R	R	R	R

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
C49.6	Central	Track	Longer ROTR possessions	Look to agree early with TOCS to increase productivity time - WCML example of only 4 hrs a night	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	-7	-15	-29	-52	R	R	R	R	R
C81	Central	Signalling	Land purchase for the K11 renewal DPD & TPD.	Challenge of Energy Network Association P24 recommendation for a new substation	Cost efficiency	Optimisation of access (use, agreement, planning)	Detailed Engineering Planning (Work & Logistics)	0	0	0	0	-500	-500	B	B	B	B	B
CRSAFY25-14	Central	Track	Sadler LC	Farmer required £200K for access via his land to Sadlers LC worksite. In order to avoid this there was an agreement to tip the spoil retrieved from the worksite, reducting the land access by £180K and £20k reduction in SCO costs for unloading/disposing of spoil	Scope Efficiency	Structural & Commercial - Improved Access	Detailed Engineering Planning (Work & Logistics)	-200	0	0	0	0	-200	G	G	G	G	G
CRSAFY25-15	Central	Track	Garrison Street		Cost efficiency	Contracting strategies/packaging/rates	Strategic Works planning & optimisation	-555	0	0	0	0	-555	G	G	G	G	G

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
CEN_National29	Central	Track	Access - DWWP	Negotiation of national level contracts led by the Route Services function targeting a 3% cost reduction on CP7 contracts compared to CP6	Cost efficiency	Structural & Commercial - Improved Access	Detailed Engineering Planning (Work & Logistics)	0	-625	-952	-1292	-1647	-4516	A	A	A	A	A
NWC0001	North West	Track	Access - DWWP [Project Spear]	Taking a more risk based approach to the inclusion of float within possessions to allow greater time in existing possessions to be spent delivering work	Cost efficiency	Structural & Commercial - Improved Access	Detailed Engineering Planning (Work & Logistics)	0	-1251	-1904	-2584	-3294	-9033	A	A	A	A	A
NWC0052	North West	Buildings	Efficient Possession Planning [Project Spear]	Optimising the efficiency of work carried out during possessions by planning our work through a 'line of route' approach	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-546	0	-564	-575	-1684	A	A	A	A	A
NWC0052.1	North West	Drainage	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-194	0	-200	-204	-599	A	A	A	A	A
NWC0052.2	North West	E&FP	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-462	0	-477	-486	-1425	A	A	A	A	A

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
NWC0052.3	North West	Earthworks	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-357	0	-369	-376	-1102	A	A	A	A	A
NWC0052.4	North West	Signalling	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-2376	0	-2455	-2503	-7333	A	A	A	A	A
NWC0052.5	North West	Structures	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-685	0	-708	-722	-2115	A	A	A	A	A
NWC0052.6	North West	Telecoms	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-130	0	-134	-137	-401	A	A	A	A	A
NWC0052.7	North West	Track	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-1347	0	-1392	-1419	-4157	A	A	A	A	A
CEN_Regional1	Central	Buildings	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	0	-600	-611	-1211	A	A	A	A	A
CEN_Regional3	Central	Drainage	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	0	-316	-322	-638	A	A	A	A	A

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
CEN_Regional5	Central	E&FP	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	0	-635	-647	-1282	A	A	A	A	A
CEN_Regional7	Central	Earthworks	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	0	-897	-915	-1812	A	A	A	A	A
CEN_Regional10	Central	Signalling	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	0	-934	-953	-1887	A	A	A	A	A
CEN_Regional12	Central	Structures	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	0	0	-1004	-1024	-2028	A	A	A	A	A
CEN_Regional14	Central	Track	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-300	-300	-1612	-1649	-3861	A	A	A	A	A
WCS0001	West Coast Mainline South	Track	Access - DWWP [Project Spear]	Taking a more risk based approach to the inclusion of float within possessions to allow greater time in existing possessions to be spent delivering work	Cost efficiency	Structural & Commercial - Improved Access	Detailed Engineering Planning (Work & Logistics)	0	-625	-952	-1292	-1647	-4516	A	A	A	A	A

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
WCS0044	West Coast Mainline South	Track	Drainage blockades	£50m budget over CP7 (over 40 projects). Approximately £25m can be delivered in blockades generating a 10% saving of each	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-545	-294	-153	-85	-1077	A	A	A	A	A
WCS0046	West Coast Mainline South	Earthworks	Efficient 3rd party land access	Early land owner engagement and ongoing dialogue between parties. Faster legal agreements.	Cost efficiency	Structural & Commercial - Improved Access	Detailed Engineering Planning (Work & Logistics)	0	-119	-65	-77	-70	-332	A	A	A	A	A
WCS0063	West Coast Mainline South	Track	Level Crossing renewal	delivery in extended possessions or blockades	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-17	-17	-17	-18	-68	A	A	A	A	A
WCS0076	West Coast Mainline South	Track	Other Route Submissions	Longer ROTR possessions	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-17	-17	-17	-18	-68	A	A	A	A	A
WCS0552	West Coast Mainline South	Track	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-3765	0	0	0	-3765	A	A	A	A	A
WCS0552.1	West Coast Mainline South	Signalling	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-1193	0	0	0	-1193	A	A	A	A	A

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
WCS0552.2	West Coast Mainline South	Structures	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-2055	0	0	0	-2055	A	A	A	A	A
WCS0552.3	West Coast Mainline South	Earthworks	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-1042	0	0	0	-1042	A	A	A	A	A
WCS0552.4	West Coast Mainline South	Drainage	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-876	0	0	0	-876	A	A	A	A	A
WCS0552.5	West Coast Mainline South	Buildings	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-1529	0	0	0	-1529	A	A	A	A	A
WCS0552.6	West Coast Mainline South	E&FP	Efficient Possession Planning [Project Spear]	As per NWC0052	Cost efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-1735	0	0	0	-1735	A	A	A	A	A

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
BCL_65	North West	Structures	Change in delivery shifts	Original weekend only programme submitted by AMCO lasted around 3 years for delivery. By undertaking work during midweek nights as well as weekends, the overall programme has been decreased from 36 periods to 10 periods. Based on £16,986 prelim costs per period.	Cost efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation		-441				-441	G	G	G	G	G
BCL_69	North West	Buildings	Land usage savings	Sought agreement from TfGM to use their land for free for 18 months. Alternate options included £350-600 per week. Cash saving (78 weeks x £600 = £46,800)	Cost efficiency	Optimisation of access (use, agreement, planning)	Detailed Engineering Planning (Work & Logistics)	-19	-16	-11			-47	B	B	B	B	B
BCL_72	North West	Structures	Core blockade efficiencies	The project is utilising a 21 day core blockade to remove and install the new bridge structure. This methodology generates an efficiency of circa 500k.	Cost efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation	-70	-430				-500	G	G	G	G	G

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
BCL_78	Central	Buildings	Access opportunities	Access opportunities with the DC blockade were utilised to the full and access delays were not encountered"	Cost efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation	-141					-141	B	B	B	B	B
NW51	North West	Support	From the aligned PRE work banks from RIE, this produce optimised Access Strategy	From the aligned PRE work banks from RIE, this produce optimised Access Strategy	Cost Efficiency	Structural & Commercial - Improved Access	Strategic Works planning & optimisation	0	-26	-106	-108	-110.	-350.	A	A	A	A	A
HQ_Overlay 1	HQ	Buildings	Risk Reduction / Internal Stretch	Recognising that not all initiatives identified at this stage will deliver cashable savings and to mitigate the risk of double counting (if positive). Or, targeting those assets who have historically achieved higher efficiency in their portfolio to include an additional £50m stretch as part of Round 7b (if negative).	Cost Efficiency	Overlay		112	10	0	0	0	122	A	A	A	A	A
HQ_Overlay 15	HQ	E&FP	Risk Reduction / Internal Stretch	As above	Cost Efficiency	Overlay		52	0	547	0	0	599	A	A	A	A	A

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY25 B	FY26 B	FY27 B	FY28 B	FY29 B
HQ_Overlay 57	HQ	Signalling	Risk Reduction / Internal Stretch	As above	Cost Efficiency	Overlay		204	0	0	89	153	445	A	A	A	A	A
HQ_Overlay 64	HQ	Structures	Risk Reduction / Internal Stretch	As above	Cost Efficiency	Overlay		129	35	0	0	0	164	A	A	A	A	A
HQ_Overlay 71	HQ	Telecoms	Risk Reduction / Internal Stretch	As above	Cost Efficiency	Overlay		0	11	28	0	0	39	A	A	A	A	A
HQ_Overlay 78	HQ	Track	Risk Reduction / Internal Stretch	As above	Cost Efficiency	Overlay		304	0	0	154	440	898	A	A	A	A	A
HQ_Overlay 8	HQ	Drainage	Risk Reduction / Internal Stretch	As above	Cost Efficiency	Overlay		45	17	6	18	0	85	A	A	A	A	A
HQ32	HQ	Maintenance	Risk Reduction / Internal Stretch	As above	Cost Efficiency	Overlay		0	0	0	0	0	0					
HQ41	HQ	Operations	Risk Reduction / Internal Stretch	As above	Cost Efficiency	Overlay		0	0	0	0	0	0					
HQ49	HQ	Support	Risk Reduction / Internal Stretch	As above	Cost Efficiency	Overlay		0	0	0	0	0	0		A	A	A	A

Appendix F – List of Network Rail Scotland Initiatives

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B
SCC0071		Track	Access strategy	introduction of new strategic access framework to improve productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation	-1557	-3815	-4760	-5346	-5911	-21389	A	A	A	A	A
SCC0072		Track	Possession Limit Controls	introduction of new possession limit controls processes per National changes to deliver greater time on tools	Cost Efficiency	Optimisation of access (use, agreement, planning)	Possession Delivery	0	0	0	0	0	0	A	A	A	A	A
SCC0073		Signalling	Possession Limit Controls	introduction of new possession limit controls processes per National changes to deliver greater time on tools	Cost Efficiency	Optimisation of access (use, agreement, planning)	Possession Delivery	-66	-162	-202	-227	-251	-909	A	A	A	A	A
SCC0074		Signalling	Possession Limit Controls	introduction of new possession limit controls processes per National changes to deliver greater time on tools	Cost Efficiency	Optimisation of access (use, agreement, planning)	Possession Delivery	0	0	0	0	0	0	A	A	A	A	A
SCC0075		Structures	Possession Limit Controls	introduction of new possession limit controls processes per National changes to deliver greater time on tools	Cost Efficiency	Optimisation of access (use, agreement, planning)	Possession Delivery	-90	-219	-274	-307	-340	-1230	A	A	A	A	A
SCC0076		Earthworks	Possession Limit Controls	introduction of new possession limit controls processes per National changes to deliver greater time on tools	Cost Efficiency	Optimisation of access (use, agreement, planning)	Possession Delivery	-27	-67	-83	-94	-103	-374	A	A	A	A	A

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B
SCC0077		Drainage	Possession Limit Controls	introduction of new possession limit controls processes per National changes to deliver greater time on tools	Cost Efficiency	Optimisation of access (use, agreement, planning)	Possession Delivery	-12	-29	-36	-40	-44	-160	A	A	A	A	A
SCC0078		Buildings	Possession Limit Controls	introduction of new possession limit controls processes per National changes to deliver greater time on tools	Cost Efficiency	Optimisation of access (use, agreement, planning)	Possession Delivery	-8	-19	-24	-27	-30	-107	A	A	A	A	A
SCC0079		E&FP	Possession Limit Controls	introduction of new possession limit controls processes per National changes to deliver greater time on tools	Cost Efficiency	Optimisation of access (use, agreement, planning)	Possession Delivery	-	-10	-12	-13	-15	-53	A	A	A	A	A
SCC0080		Telecoms	Possession Limit Controls	introduction of new possession limit controls processes per National changes to deliver greater time on tools	Cost Efficiency	Optimisation of access (use, agreement, planning)	Possession Delivery	0	0	0	0	0	0	A	A	A	A	A
SCC0081		Other	Possession Limit Controls	introduction of new possession limit controls processes per National changes to deliver greater time on tools	Cost Efficiency	Optimisation of access (use, agreement, planning)	Possession Delivery	0	0	0	0	0	0	A	A	A	A	A
SCC0137		Buildings	Review of planned disruptive access and other major workstreams across Scotland's Railway to maximise opportunities	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation	-72	-136	-212	-432	-735	-1587	G	G	G	G	G

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B
SCC0150		Track	Cross functional planning of disruptive access opportunities on Longitudinal Timber Schemes	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Detailed Engineering Planning (Work & Logistics)	-206	-209	-212	-216	-220	-1062	G	G	G	G	G
SCC0155		Track	Tailored Access strategy & Cross Asset integration	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation	-1388	-2949	-2966	-4076	-4116	-15495	G	G	G	G	G
SCC0178		Signalling	Possession Reduction	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation	-123	-125	-127	-129	-131	-634	G	G	G	G	G
SCC0196		Structures	Appropriate, targeted access solutions - right access for right project	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Detailed Engineering Planning (Work & Logistics)	0	0	-6692	-3199	-1849	-11741	G	G	G	G	G
SCC0197		Structures	Cross functional planning of disruptive access opportunities.	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation	-103	-104	-106	-108	-110	-531	G	G	G	G	G
SCC0211		Structures	Align access availability with consents such as SEPA, SNH, etc.	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation	-514	-522	-530	-540	-549	-2654	G	G	G	G	G
SCC0212		Structures	Cross asset integration of work bank	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation	0	0	-78	-74	-63	-215	G	G	G	G	G

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B
SCC0216		Earthworks	Appropriate, targeted access solutions - right access for right project	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Detailed Engineering Planning (Work & Logistics)	-16	-598	-939	-831	-757	-3141	G	G	G	G	G
SCC0221		Earthworks	Planning team to support process whereby access conflicts are resolved between various asset managers to prioritise emergency / reactive works as required.	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)		-41	-52	-52	-53	-54	-253	G	G	G	G	G
SCC0236		Drainage	Appropriate, targeted access solutions - right access for right project	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Detailed Engineering Planning (Work & Logistics)	-116	-189	-206	-172	-186	-869	G	G	G	G	G
SCC0237		Drainage	Align access across assets	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation	0	0	-10	-17	-28	-55	G	G	G	G	G
SCC0239		Drainage	Planning team to support process whereby access conflicts are resolved between various asset managers to prioritise emergency / reactive works as required.	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation	-41	-52	-52	-53	-54	-253	G	G	G	G	G

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY 27	FY 28	FY 29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B
SCC0260		E&FP	Access Planning	Better planning of access to maximise productivity	Cost Efficiency	Unidentified	Strategic Works planning & optimisation	-308	-209	-106	0	-719	-1342	A	A	A	A	A
SCC0262		Telecoms	Possession Reduction	Better planning of access to maximise productivity	Cost Efficiency	Optimisation of access (use, agreement, planning)	Strategic Works planning & optimisation	-66	-67	-136	-139	-141	-549	G	G	G	G	G
SCC0143		Buildings	Overlay to reflect confidence / committed	Overlay	Cost Efficiency	Overlay		72	136	141	198	264	811	A	A	A	A	A
SCC0158		Track	Overlay to reflect confidence / committed	Overlay	Cost Efficiency	Overlay		354	546	664	466.	588	2618	G	G	G	G	G
SCC0233		Earthworks	Overlay to reflect confidence / committed	Overlay	Cost Efficiency	Overlay		0	313	636	756	659	2363	A	A	A	A	A
SCC0267		Telecoms	Stretch to Committed	Stretch	Cost Efficiency	Other		206	-261	-106	-162	-274	-598	A	A	A	A	A
SCC0213		Structures	Stretch to Committed	Stretch	Cost Efficiency	Other		0	0	5614	0	0	5614	A	A	A	A	A

Appendix G – List of Network Rail Southern Initiatives

N.B. Not all Southern initiatives are not included under ‘Access’ in the National Efficiency Fishbone Tracker, nor have the Region BRAG rated themselves.

Code	Route Split	Assets	Initiative Name	FY25	FY26	FY27	FY28	FY29	CP7 Total Efficiency (£000s)
SNO0273	Kent	Maintenance	Kent Maintenance - T3D Efficiency	-125.60					-125.60
SNO0175	Sussex	Maintenance	T3 Engineering Possessions		-200.00	-200.00	-200.00	-200.00	-800.00
SNO0123	Wessex	Maintenance	T3 Engineering Possessions		-743.60	-743.60	-743.60	-743.60	-2974.40
SNC0002	Not Stated	Buildings	Changes to Access - Station Closures		-100.00	-200.00	-300.00	-400.00	-1,000.00
SNC0005	Not Stated	Earthworks	Extend Hours of Possessions - Rules of Route	-250.00	-492.00	-492.00	-738.00	-738.00	-2,710.00
SNC0009	Not Stated	Buildings	Singular Controlling Mind for Access (One Coordinating Access Team)	-2400.00	-1920.00	-1920.00	-2880.00	-2880.00	-12,000.00
SNC0018	Not Stated	E&FP	Site Productivity – Use of Blockades and Cross-Discipline Working	-292.00	-465.20	-465.20	-697.80	-697.80	-2,618.00
SNC0045	Not Stated	Signalling	Telecoms - Non-complex SISS delivery		-320.00	-320.00	-480.00	-480.00	-1,600.00

Appendix H – List of Network Rail Wales & Western Initiatives

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)		FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B		FY 27 B	FY 28 B	FY 29 B	
WWC0023	Wales	Track	Greater time on Third Line (8hrs)	Greater time on Third Line (8hrs) within Four Track Area P2R achieved by negotiations with the TOCs. Currently assumed 6hrs, efficiency is based on 8hrs, the additional 2hrs allows more production within the time allotted saving on less machines in the time.	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-27	-26	-37	-17	-107		G	G	G	G
WWC0024	Wales	Track	Greater use of 50hr blockades	Change from 27hr to 50hr by negotiation with TOCs, Contractual saving with the Alliance	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-94	-90	-129	-59	-372		G	G	G	G
WWC0025	Wales	Track	Midweek working PSM	Smooth work bank to reduce PSM overhead cost paid by Alliance	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-237	-227	-327	-75	-866		A	A	A	A
WWC0026	Wales	Track	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-388	-744	-1,069	-489	-2,690		G	G	G	G

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.															
WWC0028	Wales	Track	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		0	-603	-578	-831	-381	-2,394		G	G	G	G	
WWC0051	Wales	Track	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-149	-302	-296	-345	-1,091		A	A	A	A	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.															
WWC0053	Wales	Track	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		0	-231	-235	-230	-268	-964		G	G	G	G	
WWC0069	Wales	Signalling	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-397	-645	-536	-153	-1,730		A	A	A	A	
WWC0071	Wales	Signalling	Possession Optimisation	Automating the way we take and hand	Cost Efficiency	Access	Optimisation of access		0	-617	-502	-417	-119	-1,654		G	G	G	G	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					back possessions and worksites			(use, agreement, planning)												
WWC0089	Wales	Signalling	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-72	-156	-240	-114	-583		A	A	A	A
WWC0091	Wales	Signalling	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		0	-113	-121	-187	-89	-510		G	G	G	G	
WWC0110	Wales	Structures	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-372	-774	-900	-1,084	-3,130		A	A	A	A	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.															
WWC0112	Wales	Structures	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		0	-579	-602	-700	-843	-2,724		G	G	G	G	
WWC0129	Wales	Earthworks	Wales Blockade Access Strategy	TfW and NR blockade opportunities	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-417	-424	-432	-440	-1,713		A	A	A	A	
WWC0130	Wales	Earthworks	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-66	-158	-271	-316	-812		A	A	A	A	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.															
WWC0132	Wales	Earthworks	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		0	-103	-123	-211	-246	-683		G	G	G	G	
WWC0158	Wales	Drainage	Greater time on Third Line (8hrs)	Greater time on Third Line (8hrs) within Four Track Area P2R achieved by negotiations with the TOCs. Currently assumed 6hrs, efficiency is based on 8hrs, the additional 2hrs allows more production within the time allotted saving on less machines in the time.	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-8	-9	-8	-9	-34		G	G	G	G	
WWC0159	Wales	Drainage	Greater use of 50hr blockades	Change from 27hr to 50hr by negotiation with TOCs, Contractual	Cost Efficiency	Access	Structural & Commercial -		0	-41	-44	-42	-45	-172		G	G	G	G	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					saving with the Alliance			Improved Access												
WWC0160	Wales	Drainage	Midweek working PSM	Smooth work bank to reduce PSM overhead cost paid by Alliance	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-33	-36	-34	-36	-138		A	A	A	A	
WWC0161	Wales	Drainage	Wales Blockade Access Strategy	TfW and NR blockade opportunities	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-626	-636	-647	-660	-2,569		A	A	A	A	
WWC0162	Wales	Drainage	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-46	-101	-95	-102	-344		A	A	A	A	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)		FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
WWC0164	Wales	Drainage		Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		0	-72	-78	-74	-79	-304		G	G	G	G	
WWC0188	Wales	Buildings		Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.	Cost Efficiency	Access	Structural & Commercial - Improved Access		-38	-174	-290	-223	-346	-1,071	A	A	A	A	A	
WWC0190	Wales	Buildings		Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		0	-271	-226	-173	-269	-939		G	G	G	G	
WWC0208	Wales	E&FP		Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-	Cost Efficiency	Access	Structural & Commercial -		0	-94	-225	-130	-210	-659		A	A	A	A	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.			Improved Access												
WWC0210	Wales	E&FP	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		0	-146	-175	-101	-163	-585		G	G	G	G	
WWC0397	Western	Track	Greater time on Third Line (8hrs)	Greater time on Third Line (8hrs) within Four Track Area P2R achieved by negotiations with the TOCs. Currently assumed 6hrs, efficiency is based on 8hrs, the additional 2hrs allows more production within the time allotted saving on less	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-68	-71	-61	-83	-283		G	G	G	G	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					machines in the time.															
WWC0398	Western	Track		Greater use of 50hr blockades	Change from 27hr to 50hr by negotiation with TOCs, Contractual saving with the Alliance	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-237	-246	-212	-289	-984		G	G	G	G
WWC0399	Western	Track		Midweek working PSM	Smooth work bank to reduce PSM overhead cost paid by Alliance	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-598	-620	-537	-365	-2,120		A	A	A	A
WWC0400	Western	Track		Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-978	-2,030	-1,756	-2,392	-7,155		G	G	G	G

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)		FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
WWC0402	Western	Track	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)			0	-1,521	-1,579	-1,366	-1,860	-6,326			G	G	G	G
WWC0425	Western	Track	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.	Cost Efficiency	Access	Structural & Commercial - Improved Access			0	-133	-270	-287	-249	-940			A	A	A	A
WWC0427	Western	Track	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)			0	-207	-210	-223	-194	-834			G	G	G	G
WWC0443	Western	Signalling	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-	Cost Efficiency	Access	Structural & Commercial -			-248	-519	-1,215	-1,358	-1,779	-5,119	A		A	A	A	A

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.			Improved Access												
WWC0445	Western	Signalling	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		0	-808	-945	-1,056	-1,384	-4,193		G	G	G	G	
WWC0463	Western	Signalling	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-115	-225	-148	-282	-771		A	A	A	A	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.															
WWC0465	Western	Signalling	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		0	-179	-175	-115	-219	-690		G	G	G	G	
WWC0484	Western	Structures	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-392	-778	-680	-527	-2,376		A	A	A	A	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)		FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
WWC0486	Western	Structures	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)			0	-609	-605	-529	-410	-2,153		G	G	G	G	
WWC0503	Western	Earthworks	Wales Blockade Access Strategy	TfW and NR blockade opportunities	Cost Efficiency	Access	Structural & Commercial - Improved Access			0	0	0	0	0	0						
WWC0504	Western	Earthworks	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.	Cost Efficiency	Access	Structural & Commercial - Improved Access			0	-236	-456	-354	-322	-1,369		A	A	A	A	
WWC0506	Western	Earthworks	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use,			0	-368	-355	-276	-250	-1,249		G	G	G	G	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
								agreement, planning)												
WWC0532	Western	Drainage	Greater time on Third Line (8hrs)	Greater time on Third Line (8hrs) within Four Track Area P2R achieved by negotiations with the TOCs. Currently assumed 6hrs, efficiency is based on 8hrs, the additional 2hrs allows more production within the time allotted saving on less machines in the time.	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-9	-8	-9	-9	-34		G	G	G	G	
WWC0533	Western	Drainage	Greater use of 50hr blockades	Change from 27hr to 50hr by negotiation with TOCs, Contractual saving with the Alliance	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-43	-40	-44	-43	-170		G	G	G	G	
WWC0534	Western	Drainage	Midweek working PSM	Smooth work bank to reduce PSM overhead cost paid by Alliance	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-34	-32	-35	-34	-136		A	A	A	A	
WWC0535	Western	Drainage	Wales Blockade Access Strategy	TfW and NR blockade opportunities	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	0	0	0	0	0						
WWC0536	Western	Drainage	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-	Cost Efficiency	Access	Structural & Commercial -		0	-48	-91	-100	-97	-338		A	A	A	A	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.			Improved Access												
WWC0538	Western	Drainage	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		0	-75	-71	-78	-76	-300		G	G	G	G	
WWC0562	Western	Buildings	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be	Cost Efficiency	Access	Structural & Commercial - Improved Access		-242	-393	-863	-951	-851	-3,301	A	A	A	A	A	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)		FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B		FY 27 B	FY 28 B	FY 29 B	
					established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.																	
WWC0564	Western	Buildings	Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)			0	-612	-671	-740	-662	-2,685			G	G	G	G	
WWC0582	Western	E&FP	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.	Cost Efficiency	Access	Structural & Commercial - Improved Access			-73	-122	-213	-315	-245	-968			A	A	A	A	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)		FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B		FY 27 B	FY 28 B	FY 29 B	
WWC0584	Western	E&FP		Possession Optimisation	Automating the way we take and hand back possessions and worksites	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		0	-190	-165	-245	-191	-791			G	G	G	G	
WWC0771	Western	Track		Greater use of midweek blockades - Westbury	Changing the way that we assess and negotiate the track access for significant renewals works which take abnormally large amounts of time to deliver the specified output, by engaging with asset management team, wider industry stakeholders and the contractor delivering the work earlier to define the delivery detail and better understand the most efficient delivery options, resulting in a more detailed appreciation of the impact on Passenger Train and Freight Operating Company (TOC and FOC) services and allowing an informed negotiation.	Cost Efficiency	Access	Structural & Commercial - Improved Access		-11,309	0	0	0	0	-11,309	B					
WWC0772	Wales	Track		Greater use of midweek blockades -	Changing the way that we assess and negotiate the track access for	Cost Efficiency	Access	Structural & Commercial -		-1,658	0	0	0	0	-1,658	B						

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
			Severn Tunnel	significant renewals works which take abnormally large amounts of time to deliver the specified output, by engaging with asset management team, wider industry stakeholders and the contractor delivering the work earlier to define the delivery detail and better understand the most efficient delivery options, resulting in a more detailed appreciation of the impact on Passenger Train and Freight Operating Company (TOC and FOC) services and allowing an informed negotiation process.				Improved Access											
WWC0774	Western	Track	Use of MFS+	Purchase of additional wagons to enable greater delivery during possession	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		-2,081	0	0	0	0	-2,081	G					
WWC0812	Wales	Earthworks	FPM Rec P8/FY25 184434 GeoWAL Y1 VOGs - Access	Scheme delivered under business plan rates by utilising blockades to gain efficient delivery.	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		-1,407	0	0	0	0	-1,407	G					

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)		FY25	FY26	FY27	FY28	FY29	CP7	FY25B	FY26B		FY27B	FY28B	FY29B	
WWC0817	Western	Track		FPM Rec P8/FY25 183812 WDWES 24/25 WESTERN TRACK EAST - Access	Circourt-Challow & Southall (£112k - improved productivity following switch from mid week to weekends), Wantage-Grove (£71k - longer than expected possessions), Tackley Dn (£40k - work planned in blockade).	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		-282	0	0	0	0	-282	G						
WWC0829	Wales	Track		FPM Rec P8/FY25 162615 WAL 23/24 SOUTH S&C REFURB - Access	Volumes decreased at East Usk. Only sufficient access at Christmas.	Inefficiency	Access	Access issues (use, agreement, planning)		381	0	0	0	0	381	G						
WWC0830	Wales	Track		FPM Rec P8/FY25 171353 CAPWAL 21/22 CONTROL RE-SURVEY - Access	Non-priority work that has continually lost access due to prioritised works, causing delay costs.	Inefficiency	Access	Access issues (use, agreement, planning)		490	0	0	0	0	490	G						
WWC0841	Wales	Track		Use of MFS+	Purchase of additional wagons to enable greater delivery during possession	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		-2,038	0	0	0	0	-2,038	G						
WWC0842	Western	Drainage		Use of MFS+	Purchase of additional wagons to enable greater delivery during possession	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		-635	0	0	0	0	-635	G						

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)		FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
WWC0843	Wales	Drainage	Use of MFS+	Purchase of additional wagons to enable greater delivery during possession	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)			-121	0	0	0	0	-121	G					
WWO0009	Wales	Maintenance	Possession Optimisation	Automating the way we take and hand back possessions and worksites.	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)			0	0	0	0	0	0		G	G	G	G	
WWO0010	Western	Maintenance	Possession Optimisation	Automating the way we take and hand back possessions and worksites.	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)			0	-521	-529	-539	-550	-2,139		G	G	G	G	
WWO0013	Wales	Maintenance	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency	Cost Efficiency	Access	Structural & Commercial - Improved Access			-239	-485	-984	-1,002	-1,022	-3,733	A	A	A	A	A	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					will be sought in Wales & Borders.															
WWO0014	Western	Maintenance	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	-212	-1,203	-1,239	-1,278	-3,932		A	A	A	A
WWO0015	Regional Functions	Maintenance	Access Optimisation	Create a mechanism to deliver safe engineering access in the most cost-effective ways to demonstrate tangible industry savings. The mechanism will consider the passenger/freight impacts on access options now and in future. To begin, a core team will be	Cost Efficiency	Access	Structural & Commercial - Improved Access		0	0	0	0	0	0					

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)		FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					established in Devon & Cornwall in order to establish these principles in a defined geography. In parallel, opportunities for access efficiency will be sought in Wales & Borders.																
WWO0016	Regional Functions	Maintenance	Optimising Blockades	Optimising Blockades with Train operators to deliver targeted vegetation work/ash die back	Cost Efficiency	Access	Structural & Commercial - Improved Access			-1,028	-1,043	-1,059	-1,078	-1,099	-5,306	A	A	A	A	A	
WWO0280	Western	Maintenance	Access Optimisation: Local Railways	The Devon & Cornwall Local Railway is a joint enterprise between Network Rail (NWR) and Great Western Rail (GWR) where we have been empowered to work as a single team to make the best decisions across organisational boundaries in turn driving growth, and ultimately reducing the taxpayer subsidy that we may require.	Cost Efficiency	Access	Structural & Commercial - Improved Access			-750	-750	-750	-750	-750	-3,750	G	G	G	G	G	
WWO0297	Western	Maintenance	Possession Optimisation - PICOP Pack - Standard Compliance	These hours were spent doing manual admin, downloads and merges of data, and then effort to make changes to	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)			-104	-107	-109	-112	-114	-547	G	G	G	G	G	

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					keep them up to date. It was the priority work, often requiring unpaid and unrecorded overtime to guide the team on all other activities. If errors were made or changes not updated then safety incidents and irregularities could occur.															
WWO0299	Western	Maintenance		Possession Optimisation - PICOP Pack - Reprographics	These hours were spent doing manual admin, downloads and merges of data, and then effort to make changes to keep them up to date. It was the priority work, often requiring unpaid and unrecorded overtime to guide the team on all other activities. If errors were made or changes not updated then safety incidents and irregularities could occur.	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		-9	-10	-10	-10	-10	-49	G	G	G	G	G	
WWO0302	Wales	Maintenance		Possession Optimisation - PICOP Pack - Standard Compliance	These hours were spent doing manual admin, downloads and merges of data, and then effort to make changes to	Cost Efficiency	Access	Optimisation of access (use,		-51	-52	-53	-54	-55	-266	G	G	G	G	G

Code	Route Split	Asset	Initiative Name	Positive Management Action/Business Change	Fishbone Type	Fishbone Category	Efficiency Grouping	Plan Stage (Arup View)	FY 25	FY26	FY27	FY28	FY29	CP7	FY 25 B	FY 26 B	FY 27 B	FY 28 B	FY 29 B	
					keep them up to date. It was the priority work, often requiring unpaid and unrecorded overtime to guide the team on all other activities. If errors were made or changes not updated then safety incidents and irregularities could occur.			agreement, planning)												
WWO0304	Wales	Maintenance	Possession Optimisation - PICOP Pack - Reprographics	These hours were spent doing manual admin, downloads and merges of data, and then effort to make changes to keep them up to date. It was the priority work, often requiring unpaid and unrecorded overtime to guide the team on all other activities. If errors were made or changes not updated then safety incidents and irregularities could occur.	Cost Efficiency	Access	Optimisation of access (use, agreement, planning)		-4	-4	-4	-4	-4	-20	G	G	G	G	G	

Appendix I – List of documentation from Network Rail

Received from Network Rail's Eastern Region:

- Investment Authority Template
- East Coast Works Delivery Re-railing Access Case Study
- East Coast Possessions Independent Reporter Slide Deck
- East Midlands Case Study: Integration Review Meetings
- East Midlands 'Speed up Sunday' Case Study
- Eastern CP7 Efficiency Reporting Process Flow
- Eastern Rolling Forecast Period 6 & 9 Access Tracker
- Eastern 'Access Planning Resilience North' Initiative Spreadsheet
- Eastern Integration Meeting Minutes (from September 2024)
- Terms of Reference for Eastern Integration Meeting
- Spreadsheet answering Arup questions for the 5 selected possession initiatives
- N&E Possessions Efficiencies Presentation

Received from Network Rail's Group Efficiencies Team:

- CP7 Fishbone (Efficiency) Reporting Pack (Period 8, Financial Year 2024-25)
- Fishbone Reporting Framework Version 9
- Fishbone Tracker Raw Data (Periods 8, 9, 11 & 12 Financial Year 2024-25)

Received from Network Rail's Head of Infrastructure Access:

- Possession Improvement Initiatives slide

Received from Network Rail's North West and Central Region:

- Benefits mapping summary
- Cumbrian Coast Yr 3 or 4 of CP7
- Framework benefits mapping
- Week 9 - Hampson/Brewery Jn CAT 14 Renewal Lanc's and Cumbria – Risk
- IASB Presentation possession limit controls
- Integrated Work bank & SPEAR
- IR possession Initiatives Final
- PLC North West Programme Plan
- Possession Optimisation recommendations share pack

- SPEAR Programme – Yr5 P11 Update
- Worcester Shrub Hill Complete Possession – SPEAR Analysis
- Central Efficiencies Pres 24_10_11
- DC Lines blockade Efficiency 110324
- Henwick LC & SB to Shelwick Jn SPEAR summary
- Project Tracker (central route)
- POP 11
- Benefit SS 060225
- FW EB Minutes 11-10-24
- FW Emailing Hanslope junction Job Sheet ver2.1 with preps and follow up works (version 1 updated) Updated 8th July 2024
- FW HNR 7 Deferral Y3
- Hanslope Jn S&C renewal Xmas 2025 overview
- WCML Sth Route - CD CP7 Stations Access Review 10th January 25
- WCS - CP7 Integrated Renewals Workbank - 23rd Jan 2025
- West Coast South CP7 disruptive access
- Copy of Engineering trains plus Tampers arrival and departure times for Hanslope Jn 11 day blockade

Received from Network Rail's Scotland Region:

- Structures Efficiency – Whiteboard
- SAF Y2 Snap analysis 260924 v3
- 20250217 - Strategic Access Lookahead
- 1950 Action - May Update 24
- IR Possessions Efficiencies Supporting Information
- ToR PLC Programme Board
- Template Possession Process Q&A 060924
- Possession Controls PMP2 (4)
- PCL - December Programme Board
- Deployment risk register 251124
- ARC-218-038-R05 Issue 1 Waverley PICOP room

Received from Network Rail's Wales & Western Region:

- Western 7 Wales CP7 Efficiencies Assurance & Process Guide
- Wales Route Efficiency Board pack 231024
- Possession & Access optimisation spreadsheet

- SOAP Access Planning Programme
- SOAP Cambrian Blockade week 37
- SOAP Drones MST Inspections v2
- SOAP RDD
- Wales Efficiency board TOR
- 09th Jan 2024 – Cambrian & Central Wales VB Pack
- Assured 230724 Possession Optimisation (Programme Pack)
- PICOP Pack
- Route efficiency Board TOR (July 2024)
- SOAP Systems Thinking Slough Access Optimisation
- Western Efficiency Board Pack P9

Received from Network Rail's Southern Region:

- Kent & Sussex T3-D Efficiency Project P11 report update and forecast figures
- Charing Cross Integration Package diagram
- Southern blockades calendar (February 2025)
- P9 Capex & Opex trackers
- Regional Efficiencies Governance slides
- Southern Integrated Delivery diagram
- CP7 Engineering TOC & FOC access lookahead document
- Southern Initiative list slides
- RF-P9 24/25 Efficiency Tracker slides
- Blockade Board Meeting Presentation

Appendix J – List of Network Rail Interviewees

Date	Purpose	Network Rail Attendees
23/10/24	Discuss initial list of possession initiatives	Network Rail Head of Infrastructure Access, **[Redacted]**
28/10/24	Discuss Eastern Region possession initiatives	Network Rail Eastern Business Planning & Analysis Team, **[Redacted]**
11/11/24	Discuss East Midlands Route possession initiatives	**[Redacted]**
13/11/24	Discuss East Coast Route possession initiatives	**[Redacted]**
14/11/24	Confirm requirements for the Draft Interim Report	**[Redacted]**
15/11/24	discuss centrally led possession initiatives and Governance	Network Rail Group Efficiencies team, **[Redacted]**
25/11/24	Discuss North & East and Anglia Routes Route possession initiatives	**[Redacted]**
03/12/24	Wales & Western introductory session	**[Redacted]**
10/12/24	Wales & Western access efficiencies & PodFlo	**[Redacted]** (Head of Access Planning), Wales & Western
06/01/25	Discuss North West & Central possession initiatives	Network Rail Head of Financial Control & Analysis, **[Redacted]**
06/01/25	Discuss Scotland possession initiatives	**[Redacted]** – Planning and Logistics Director; **[Redacted]** – Head of Efficiencies; **[Redacted]** – Finance Business Partner
17/01/25	Initial Southern Region Interview	**[Redacted]** (Head of Finance, Kent) **[Redacted]** (Head of Access Planning, Kent & Sussex) **[Redacted]** (Head of Access Planning, Wessex)
29/01/25	Update on efficiency developments (specifically Drones and RDD)	**[Redacted]** (Financial Director, Wales)
03/02/25	Late Change approach – National Planning Team	**[Redacted]**, Head of National Access Planning; **[Redacted]**, National Access Planning team
05/02/25	Discuss North West & Central possession initiatives	Network Rail Head of Financial Control & Analysis, **[Redacted]**; Network Rail Senior Project Engineer , System Integration Central) **[Redacted]**; Programme Manager (Integration WCS) **[Redacted]**; Network Rail Project Manager (Regional) **[Redacted]**

Date	Purpose	Network Rail Attendees
05/02/25	IR Possessions Efficiency - Structures Appropriate targeted access solutions - right access for right project	**[Redacted]**– Head of Efficiencies; **[Redacted]**– Programme Commercial Manager; **[Redacted]** – Senior Programme Manager; **[Redacted]** – Scheme Project Manager; **[Redacted]** – Financial Controller
05/02/25	Overview on Drones, access and efficiency savings	**[Redacted]** (Maintenance Director) **[Redacted]** (High Output Operations Director, Wales) **[Redacted]** (Head of Access Planning) **[Redacted]** (Head of Financial Control & Analysis – Wales)
10/02/25	IR Possession Efficiency – Strategic Access Framework	**[Redacted]** – Planning and Logistics Director; **[Redacted]** – Head of Efficiencies; **[Redacted]** – Route Access Strategy Manager; **[Redacted]** – Finance Business Partner
12/02/25	IR Possession Efficiency – Possession Limit Controls	**[Redacted]** – Planning and Logistics Director; **[Redacted]** – Head of Efficiencies; **[Redacted]** – Area Planning Manager; **[Redacted]** – Finance Business Partner
18/02/25	National Initiatives overview	**[Redacted]**, Head of Infrastructure Access
25/02/25	Southern T3-D Efficiencies	**[Redacted]** (Head of Access Planning, Kent & Sussex)
03/03/25	National Initiatives	**[Redacted]** (Senior Programme Manager, Safer Trackside Working & Operational Risk) **[Redacted]** (Operations)
04/03/25	National Initiatives - Delivering Work Within Possessions/Planning for Delivery	**[Redacted]** (Head of Capital Portfolio Deliverability)
05/03/25	National Initiatives - Blockade Planning & Delivery	**[Redacted]** (Project Director - Blockade and Assurance)
10/03/25	National Initiatives – Access Planning System	**[Redacted]** (Programme Manager); **[Redacted]** (Business Systems Owner
13/03/25	Infrastructure Access Strategy Board overview presentation	Infrastructure Access Strategy Board members
24/03/25	Overview presentation to Regions	Representatives of all Network Rail Regions, Routes and national teams

Table 20: List of Network Rail Interviewees