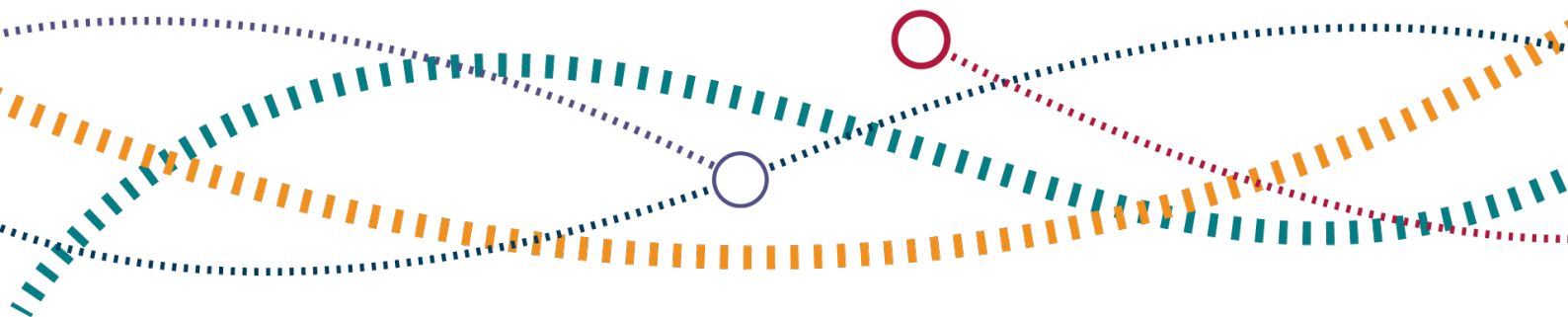




Digital Signalling Fleet Fitment Programme Assessment

Targeted Assurance Review

22 July 2026



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Executive summary

Purpose

This review assesses the deliverability, affordability, and efficiency of the fleet fitment programme in Control Period 7 (CP7) and provides findings that will feed into ORR's assessment of plans for the next funding period (FP1).

During CP7, decisions are being taken by Network Rail (NR) and funders which will need to align with the wider deployment of digital signalling. An assessment of how NR is managing this alignment and the progress of the fleet fitment programme is required.

The Secretary of State stated in the 2022 High Level Output Specification (HLOS) for CP7 that "...planning for cab fitment commensurate with overall progress on expected European Train Control System (ETCS) rollout" should be carried out as well as "...progressing design and cab fitment work where possible and appropriate...".

Objectives

The key objectives of the review are:

- (a) to evaluate whether NR is forecasting to spend fleet fitment budget as planned in CP7;
- (b) to assess whether the fleet fitment programme aligns with the infrastructure renewal programme;
- (c) to review governance arrangements related to fleet fitment changes;
- (d) to identify separate requirements for passenger, freight, charter & heritage and On Track Machine (OTM) fitment; and
- (e) to examine future funding mechanisms for fleet fitment.

Conclusions

Across all fleet fitment types (passenger, freight, charter & heritage, and OTM) plans are being rebaselined and contracts reviewed, contributing to ongoing schedule and budget uncertainty across the fleet fitment programme and wider digital signalling portfolio. Our assessment indicates that confidence in NR achieving its baseline CP7 delivery plan and delivering at scale is currently limited.

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We recognise that NR is using CP7 to establish the foundations for future delivery. Throughout our interviews, NR confirmed that it is developing new procurement strategies to address delays and incorporate lessons learned from CP7 delivery into FP1 planning. In doing so, it is seeking to improve the accuracy of delivery forecasts, pipeline readiness, and resource requirements, and enhancing organisational capability to meet anticipated future demand.

Recommendations

The findings of this review and output of these recommendations will be used for our ongoing holding to account of NR for CP7 performance. They will also inform our assessment of NR's plans for the next funding period (FP1).

Recommendation 1 - Re-baseline costs and schedules to support scalable delivery

Network Rail should rebaseline Industry Partnership Digital Railway (IPDR) fleet fitment programme schedules and cost estimates using current market evidence and realistic delivery assumptions to improve the accuracy and affordability of its forecasts.

In parallel, Network Rail should minimise bespoke solutions and adopt standardised fitment approaches wherever possible to enable scalable, repeatable delivery for greater efficiency.

Recommendation 2 - Prioritise "no regrets" investments and clarify OTM strategy

Network Rail should optimise the value of completed fleet fitments by targeting infrastructure renewals on routes where operational benefits can be more rapidly realised. The programme scope should be refined to focus on essential requirements and supported by a refreshed business case aligned to ongoing sector rebaselining activity.

Fleet fitment decisions that are required regardless of future programme outcomes ("no regrets" decisions) should be explored to maintain momentum and avoid unnecessary delays.

Key outputs from all IPDR fleet fitment sectors should be clearly defined and integrated into the wider portfolio, with critical dependencies identified and actively managed.

In addition, Network Rail should establish a clear long-term strategy for on-track machines (OTMs), setting out the preferred approach to fleet renewal, including the relative

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efficiency of retrofit, haulage, or procurement of new vehicles. To support this, a cross-sector assessment should be undertaken to compare the costs, benefits, risks, and operational implications of procuring new vehicles against retrofitting existing fleets, ensuring that the selected approach delivers the greatest value and efficiency.

Recommendation 3 - Streamline Governance, Change Control and Benefits Management

Network Rail should streamline reporting arrangements. Given the complexity of the programme, access to and visibility of governance needs to be improved by way of some form of central intelligence, such as a high-level dashboard or equivalent reporting tool.

Furthermore, shortening change control timescales would increase programme agility and enable faster, more effective decision-making. The recommendations of the March 2026 Change Management Independent Reporter review should be fully implemented, including running portfolio change activities in parallel with programme delivery wherever practical to minimise delays and improve reporting accuracy.

Governance should be strengthened through a single accountable function or team within Network Rail with clear authority for decision-making and oversight. In addition, a structured benefits management approach should be established to actively identify, monitor, and realise programme benefits. Funding responsibilities and allocations between East Coast Digital Programme (ECDP) and IPDR should also be clearly defined and documented for each sector to improve accountability and transparency.

Lessons learnt from the fitment programme should be captured and applied to improve the resolution of issues between suppliers and operators.

Recommendation 4 - Address funding, commercial assurance & delivery capability

Funding should be safeguarded from re-phasing within funding periods to maintain programme momentum and delivery certainty (note this is not current practice within a funding period).

The effectiveness and value for money of operator incentivisation should be reviewed, alongside an assessment of the impact of changes to the freight programme delivery strategy on unit rates and cost assumptions. Business cases and cost estimates should be updated to reflect the full cost of delivery, including fleet-specific hardware upgrade requirements to allow authorisation for placing into service.

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Following recent acquisitions, some suppliers now support multiple ETCS products. Given the incentive to rationalise portfolios and focus investment on a preferred product, Network Rail should consider its potential liabilities in the medium term should ETCS systems fitted either become obsolete or require major upgrades beyond the supplier's original support commitments. In parallel, Network Rail should continue to enhance its internal capability and capacity to support delivery, recognising the limitations of the previous thin-client delivery model.

1. Introduction

Purpose

- 1.1 This Targeted Assurance Review (TAR) was undertaken on the digital signalling fleet fitment programme from February to June 2026. We sought to assess whether the programme could deliver its intended CP7 scope within the available funding (£699m) and to understand any potential implications for funding requirements for Funding Period 1 (FP1). During the review period and throughout our business as usual monitoring activity, Network Rail has told us it is producing revised baselines, schedules and reporting products for many of its programmes. We do not consider sufficient information was presented to our review team to evidence this during the review period (February and June 2026). Our findings and recommendations are therefore evidence-based reflecting information provided during the review.
- 1.2 This document provides a record of the strategy, findings, analysis, and recommendations of the review. The TAR was based on responses to requests for information (RFI), as well as supplementary meetings with key personnel from Network Rail's digital signalling portfolio.

Background

- 1.3 ORR's Planning & Performance (PP) directorate is responsible for the monitoring and holding to account of Network Rail (NR) for the delivery of its outputs and obligations set out in funding period reviews.
- 1.4 Funding for digital signalling in our latest Periodic Review (PR23) was intended to support the migration to European Train Control System (ETCS) on some of NR's core signalling assets. ETCS uses in-cab technology and can remove the need for lineside signals.
- 1.5 The England & Wales High Level Output Specification (HLOS) required continued adoption of digital signalling, aimed at improving asset sustainability; increased capacity; safety; and reliability to provide greater value for money. In that document the Secretary of State recognises that renewing the network digitally at the point of renewal represents the most cost-effective way to move to an ETCS-controlled railway.

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- 1.6 The PR23 Final Determination set out the funding available for digital signalling operations, support, maintenance, and renewals in CP7. At that time there was limited detail available as to the detailed outputs that NR planned to deliver.
- 1.7 The total funding allocated was £1.505b (2023-24 prices (post-efficient)) across five categories:
- Infrastructure renewals: £557m
 - **Fleet Fitment: £699m**
 - Enabling projects: £121m
 - research, development and innovation projects: £68m
 - CP6 legacy projects: £60m
- 1.8 To deliver digital signalling in CP7, Network Rail set up the Industry Partnership Digital Railway (IPDR) team to oversee digital signalling-related national activities.
- 1.9 We concluded that in its £1.5b plan for the deployment of digital signalling, the fleet fitment programme was not sufficiently aligned with the infrastructure renewals programme. We asked NR to provide a fully aligned plan in its CP7 delivery plan's approach to digital signalling ([CP7ADS](#)).

Scope

- 1.10 The scope of this review included:
- (i) reviewing the changes in fleet fitment budget from Final Determination through Delivery Plan to RF11 reporting;
 - (ii) assessing the current delivery of the fleet fitment programme in CP7 and providing findings that will feed into our assessment for the next funding period (FP1);
 - (iii) considering the planning of fitment costs, particularly how the differences between a first-in-class fitment and the subsequent fitment for the same class fleet have been estimated, including decreasing costs for subsequent units;
 - (iv) consideration of programme schedule: how long has been estimated for each stage of fitment from start to finish, including first-in-class fitment,

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authorised for placing into service (APIS) and subsequent fleet fitment; and

- (v) deliverability of the programme: how is NR tracking progress, cost, and schedule against the CP7 fleet fitment baseline?

Network Rail Delivery Plan

- 1.11 Network Rail's CP7ADS lists the fleets to be fitted in CP7 ahead of infrastructure fitment in CP8 (now called FP1). During CP7 the plan committed to modifying around 180 passenger vehicles across six vehicle classes. These were:
- (i) first-in-class and the start of fleet fitment for selected Northern Trains Ltd and TransPennine Express (TPE) fleets for West Coast North;
 - (ii) Cross Country fleets to support the TransPennine Route Upgrade (TRU), that had not been funded by that project;
 - (iii) fleet fitment for Southern Railway and Gatwick Express fleets to operate on the Brighton Mainline;
 - (iv) first-in-class for East Midlands Railway fleets for future schemes on MML (noting that Thameslink will have already gone live because those trains use the south of the East Coast Mainline);
 - (v) continuing the national freight fleet fitment programme that began in CP6; and
 - (vi) developing a plan for on-track machines (OTM) and charter & heritage vehicles not already covered by ECDP.
- 1.12 While this TAR considers fleet fitment, it is important to be aware of the associated infrastructure rollout. In its Year 2 Delivery Plan update, NR lists these as follows:
- (i) during CP7: the south end of the East Coast Mainline enabling no signals on the Northern City Line from 2025, and overlaid signalling between Welwyn to Hitchin from 2027;
 - (ii) by the end of CP7: development work for the south end of the Midland Mainline (MML) and enabling works for CP8 (now FP1) deployment on West Coast North; and

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- (iii) early in CP8 (now FP1): development of schemes on the Great Western Mainline (Hayes to Paddington) and on the Brighton Main Line (BML).

Assumptions

1.13 The following areas are excluded from the scope of this TAR:

- (i) the East Coast Digital programme (ECDP) and TransPennine Route Upgrade (TRU) projects are delivering digital signalling. However, they were separately funded through the Rail Network Enhancements Pipeline (RNEP) and are therefore excluded from the wider fleet fitment scope of this review. Exceptions to this are the funding for OTM under the ECDP programme for which the budget (of £47m) transferred to IPDR in NR's CP7 delivery plan; and Cross-Country trains which are outside the TRU scope;
- (ii) Network Rail Scotland is not proposing to carry out infrastructure renewals using ETCS in CP7, and so Scotland is excluded from our scope;
- (iii) in Wales, the Cambrian Line upgrade was funded via RNEP in CP6 and the Class 197 trains to be used on that line by TfW were delivered fitted with ETCS and authorised in November 2022. This TAR only considers fleet fitment funded through the PR23 Final Determination and therefore excludes any fitment funded through other funding sources.
- (iv) other areas of the digital signalling portfolio funded via the PR23 final determination are excluded.
- (v) the current [NTSN for command, control and signalling](#) mandates fitment of ETCS to newly built vehicles unless transitional provisions apply as defined in that document's Appendix B. This TAR assumes that vehicles ordered after May 2025 will be procured with ETCS and are therefore out of the scope of this review.

Limitations

1.14 This TAR is based on evidence made available during the review period and is therefore an assessment at a point in time of the information available. We recognise that NR is currently undertaking significant re-baselining activities across all sectors, with an anticipated completion date of July 2026, after the publication of this report.

Methodology

1.15 The review was undertaken through the key activities listed below.

- (i) initial questions - A set of initial questions was issued to establish an understanding of the programme, delivery approach, governance arrangements, and key challenges;
- (ii) document review - relevant programme documentation was reviewed, including plans, forecasts, governance materials, and supporting reports, to assess the evidence underpinning delivery assumptions and plans;
- (iii) information gathering – interviews and discussions were conducted to gather insights on delivery performance, capability, planning assumptions, and future requirements. To minimise administrative burden ORR observed Currie & Brown's (Independent Reporter, Review of Digital Signalling Portfolio Deliverables and Financial Reporting Year 2) pre-arranged interviews with Network Rail IPDR leads; and
- (iv) analysis and reporting – information obtained through stakeholder engagement and document review was analysed to identify key findings, conclusions, and recommendations.

Acknowledgements

1.16 We extend our thanks to the NR colleagues who contributed their time, expertise, and supporting evidence, which were essential to the production of this report.

2. Assessment

- 2.1 There are four workstreams in the IPDR fleet fitment programme: passenger, freight, charter & heritage, and on-track machines. We discuss our findings in each of these areas separately below.
- 2.2 Across all workstreams, plans are being re-baselined and contracts reviewed, contributing to ongoing schedule and budget uncertainty. Our assessment indicates that confidence in NR achieving its baseline CP7 delivery plan and delivering at scale is currently limited. Many of the ECDP-funded first-in-class vehicles have not been authorised into use. This is a requirement before fitment can be expanded to the wider fleet.

Passenger

- 2.3 NR's Delivery Plan (DP24) committed to modifying circa 180 passenger vehicles across six vehicle classes. This forecast has now been significantly reduced in its current plans.
- 2.4 Some newer trains on the network such as Class 80X have been delivered with ETCS equipment on board. However, this is generally to an older specification and requires upgrade and authorisation before it can be used. While often a software change, some of these upgrades will also involve hardware. We note that upgrades can be cheaper than retrofit but it is not without cost. This cost needs to be planned into the train fitment programme.
- 2.5 NR reported that initial planning of fitment for Class 22X had used optimistic forecasts for procurement and funding agreement lead times, having assumed that first-in-class would be contracted in Year one of CP7, allowing roll-out of fitment in years four and five. Changes to the procurement approach and vehicle strategy mean that procurement is now anticipated to commence in year three and forecast schedule and spend will be rebaselined accordingly.
- 2.6 There have been ongoing negotiations to reach an agreement on the fitment of Class 331 vehicles, particularly around maintenance and support. While the initial bids were received in February 2024, the current forecast for contract execution is December 2026.

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- 2.7 TPE has advised NR that it may seek to defer fitment of part of the fleet to FP1, to better manage fleet availability while supporting other planned fitment and new vehicle procurement.
- 2.8 NR reports developing and setting up new contract mechanisms in CP7 to cover fleet family fitment into FP1, for example Turbostar fleets, which will be available to call off in FP1, to reduce the procurement lead time.
- 2.9 NR noted that delays in the fleet fitment programme mean that it is currently forecasting that trains will not be ready for the originally planned infrastructure dates.
- 2.10 It had been suggested by IPDR programme teams that changes to procurement processes, specifically the introduction of the Procurement Act 2023, had caused delays, extending expected timescales from around 12 months to around 30 months. However, NR's commercial strategy team reported that the Act itself had minimal impact; if anything, it provided clearer routes to market and improved definition of procurement approaches. The introduction of the Act has driven changes to some of the procurement and funding assumptions made at DP24.
- 2.11 Passenger trains require at least a seven-year path to full fleet fitment. However, this does not consider rolling stock availability which is a significant challenge.
- 2.12 We note that vehicles fitted by ECDP could be used elsewhere, such as the class 700s fitted for Thameslink which also run on MML and BML.

Freight

- 2.13 NR has temporarily paused work on other fleets to focus on fitting an initial batch of Class 66s in CP7. There is a significant volume reduction from the DP24 forecast.
- 2.14 The current forecast for authorisation of the first of these vehicles is December 2026, deferred from 2024. Given the complexity of this programme, we consider there is a significant risk around the revised forecast authorisation date. Each freight operator will need to undertake safety assurance activities to operate and maintain fitted vehicles.
- 2.15 NR has also introduced additional resources to assure supply chain performance and implemented a revised contract management approach. A new strategy for vehicle fitment is expected to give greater confidence in deliverability.

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- 2.16 NR continues to work with freight operators to agree the required vehicle scope to support delivery including the impact of new vehicles coming onto the network.. ETCS fitment is more time and cost effective for a new train because it can be integrated during design and manufacture, whereas retrofitting requires complex modifications, downtime, and re-validation.
- 2.17 Ten new Class 93s and thirty Class 99s without onboard ETCS have recently been authorised. However, the current [NTSN for command, control and signalling](#) mandates that future newly-built locomotives should arrive with ETCS fitted onboard.

Charter and heritage

- 2.18 While funding for charter and heritage (C&H) vehicles was not included in our PR23 final determination, NR reported in its delivery plan (DP24) that it planned to commence fitment of these vehicles in CP7
- 2.19 Work is underway to rebaseline the C&H proposal, with prioritisation of Class 43s (where an existing ECDP contract mechanism is already available). As with passenger, the intention is to set up procurement mechanisms in CP7 to allow for continued activity into FP1 and FP2, subject to funding.
- 2.20 This workstream currently has no programme plan or resources of its own, sharing those of ECDP.

On-Track Machines

- 2.21 ECDP, WCN and TRU infrastructure upgrade dates have been rebaselined since the start of CP7. This has led to significant review and change to the On-Track Machines (OTM) delivery strategy in particular as well as a reduction in scope of ECDP fleet fitment.
- 2.22 As the schemes have been deferred, Network Rail advised that there is an opportunity to consider the procurement of new vehicles as an alternative to undertaking substantial retrofit works, which could result in a lower overall cost. However, further delay to fitment could lead to OTMs that are equipped with ETCS being required to operate at increased utilisation levels until new OTMs are delivered. This impact could lead to a necessity for additional shifts for both the already fitted machines and their crews. The shift rate costs remain static on retrofitted machines, but newly procured OTMs carry an increase of shift rate, so cost impact is dependent on the specific machine deployed on the shift..

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- 2.23 Planned deployment is limited to Class 43s and OTMs, suggesting that the relatively low volumes may be manageable and support some confidence in successful implementation.

Programme delivery

- 2.24 The IPDR programme operates in a challenging stakeholder environment: engagement is required with multiple operators, safety validation panels, freight groups, contractors, conformity assessment bodies, and other parts of NR. Decision making processes can be extended due to the requirement for cross-industry consultation and agreement.
- 2.25 This complex environment can result in uncertainty of roles, and changes in specification as a project progresses; while NR leads the programme, the supplier is dependent on the vehicle owner for provision of design information and vehicle availability for testing.
- 2.26 However, we consider that where items fall within NR's control there may be opportunities to improve consultation of stakeholders and delivery of plans. NR should consider lessons learnt from the fitment programme to ensure that these opportunities are identified, and it understands how to best support effective resolution of issues between suppliers and operators.

3. Findings

3.1 This review has made the following findings against its objectives.

Evaluating whether Network Rail is forecasting to spend as planned in CP7

- 3.2 All plans are being rebaselined, contracts are under review, and there is schedule and budget instability.
- 3.3 For most sectors forecast costs are based on contract prices, delivery experience, and international benchmarking data. However, OTM cost data is drawn from a limited dataset and will only be ratified with further delivery.
- 3.4 There is low confidence that the current unit rates are achievable. For some sectors the examples provided are specific to that upgrade or first-in-class, not accounting for variation in fleets. NR is developing an updated cost model which will consider the latest international information on cost drivers. This work is due to complete at the end of August 26 and will inform future funding requests.
- 3.5 Our assessment indicates that confidence in NR achieving its baseline delivery plan and delivering at scale during CP7 is currently limited.

Assessing whether the fleet fitment programme aligns with the infrastructure renewal programme

- 3.6 The portfolio is renewals-funded but managed as a cross-industry collaboration. NR seeks to address the complexities associated with managing a whole-industry transformation programme.
- 3.7 The fleet fitment programme is defined by the infrastructure renewals programme. Compatibility requirements are largely determined by the infrastructure manager and trackside configuration. The onboard equipment must be at the same or higher specification than the trackside.
- 3.8 OTM vehicle readiness is significantly dependant on NR regions defining the equipment required to support infrastructure maintenance. For example; the initial stated OTM fitment forecast for ECDP has changed substantially. Some regions have no mobile maintenance trains whilst others state this as a requirement.

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- 3.9 NR is currently assessing whether specific machines within the fleet should be retrofitted or whether there is the opportunity to align with fleet replacement (coupled with fleet cascade where needed). The cost of fitment to a new build vehicle is lower than the cost of retrofitment. However, a new vehicle is still more expensive to procure than retrofitment and is only an efficient option where a vehicle is due for replacement.

Reviewing governance arrangements related to fleet fitment changes

- 3.10 The portfolio is complex and information is distributed across lengthy reports, making it hard to find and interpret relevant content. Some of it is outdated and not presented in a way that programme teams can easily understand or use.
- 3.11 NR intends to use the baseline cost and volume data provided for this TAR for future reporting. We recognise that this is a complex programme with many interdependencies and would support the production of a summary dashboard or similar.
- 3.12 The current change management process for the programme is focused on documenting change rather than assessing and influencing it.
- 3.13 Governance can lack agility and it is difficult to reconcile to the baseline PR23 or delivery plan positions.

Examining future funding mechanisms for fleet fitment

- 3.14 The current, compensation-based approach, is not delivering the required outputs. NR is considering how best to incentivise operators to deliver fleet fitment.
- 3.15 Following recent acquisitions, some suppliers now support multiple ETCS products. Given the incentive to rationalise portfolios and focus investment on a preferred product, Network Rail should consider its potential liabilities in the medium term should ETCS systems fitted either become obsolete or require major upgrades beyond the supplier's original support commitments.

4. Recommendations

- 4.1 The findings of this review and output of these recommendations will be used for our ongoing holding to account of NR for CP7. They will also inform our assessment of plans for the next funding period (FP1).
- 4.2 We recommend that NR develops an action plan to address the following:

Recommendation 1 - Re-baseline costs and schedules to support scalable delivery

Network Rail should rebaseline IPDR fleet fitment programme schedules and cost estimates using current market evidence and realistic delivery assumptions to improve the accuracy and affordability of its forecasts.

In parallel, Network Rail should minimise bespoke solutions and adopt standardised fitment approaches wherever possible to enable scalable, repeatable delivery for greater efficiency.

Recommendation 2 - Prioritise "no regrets" investments and clarify OTM strategy.

Network Rail should optimise the value of completed fleet fitments by targeting infrastructure renewals on routes where operational benefits can be more rapidly realised. The programme scope should be refined to focus on essential requirements and supported by a refreshed business case aligned to ongoing sector rebaselining activity.

Fleet fitment decisions that are required regardless of future programme outcomes ("no regrets" decisions) should be explored to maintain momentum and avoid unnecessary delays.

Key outputs from all IPDR fleet fitment sectors should be clearly defined and integrated into the wider portfolio, with critical dependencies identified and actively managed.

In addition, Network Rail should establish a clear long-term strategy for on-track machines (OTMs), setting out the preferred approach to fleet renewal, including the relative efficiency of retrofit, haulage, or procurement of new vehicles. To support this, a cross-sector assessment should be undertaken to compare the costs, benefits, risks, and operational implications of procuring new vehicles against retrofitting existing fleets, ensuring that the selected approach delivers the greatest value and efficiency.

Recommendation 3 - Streamline Governance, Change Control and Benefits Management

Network Rail should streamline reporting arrangements. Given the complexity of the programme, access to and visibility of governance needs to be improved by way of some form of central intelligence, such as a high-level dashboard or equivalent reporting tool.

Furthermore, shortening change control timescales would increase programme agility and enable faster, more effective decision-making. The recommendations of the March 2026 [Change Management Capability](#) review should be fully implemented, including running portfolio change activities in parallel with programme delivery wherever practical to minimise delays and improve reporting accuracy.

Governance should be strengthened through a single accountable function or team within NR with clear authority for decision-making and oversight. In addition, a structured benefits management approach should be established to actively identify, monitor, and realise programme benefits. Funding responsibilities and allocations between ECDP and IPDR should also be clearly defined and documented for each sector to improve accountability and transparency.

Lessons learnt from the fitment programme should be captured and applied to improve the resolution of issues between suppliers and operators.

Recommendation 4 - Address funding, commercial assurance, and delivery capability

Funding should be safeguarded from re-phasing within funding periods to maintain programme momentum and delivery certainty (note this is not current practice within a funding period).

The effectiveness and value for money of operator incentivisation should be reviewed, alongside an assessment of the impact of **changes to the freight programme delivery** strategy on unit rates and cost assumptions. Business cases and cost estimates should be updated to reflect the full cost of delivery, including fleet-specific hardware upgrade requirements to allow authorisation for placing into service.

Following recent acquisitions, some suppliers now support multiple ETCS products. Given the incentive to rationalise portfolios and focus investment on a preferred product, Network Rail should consider its potential liabilities in the medium term should ETCS systems fitted either become obsolete or require major upgrades beyond the supplier's original support

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commitments. In parallel, Network Rail should enhance its internal capability and capacity to support delivery, recognising the limitations of the previous thin-client delivery model.

- 4.3 We intend to follow-up with Network Rail and will carry out a further review of the fleet fitment programme as part of our FP1 activity.

Glossary of Terms

Abbreviation / Acronym	Description
APIS	Authorisation for Placing Into Service
BML	Brighton Main Line
CP6	Control Period 6
CP7	Control Period 7
CP8	Control Period 8, now referred to as FP1
CP7ADS	Network Rail CP7 delivery plan (CP7ADS, Mar24) for digital signalling: Our approach to digital signalling in CP7 , produced in response to our Final Determination for PR23
DfT	Department for Transport
DFTO	Department for Transport Operators
DP25	Network Rail delivery plan for digital signalling, year 2 update: Our-approach-to-Digital-Signalling-Year-2-update.pdf
ECDP	East Coast Digital programme , delivering in-cab digital signalling between London Kings Cross and Grantham. Currently in delivery with its own funding
ETCS	European Train Control System
FP	Funding periods replace Control Periods after CP7 with a funding period review (FPR) setting the levels of infrastructure funding.
GBRX	Great British Railways (strategic technology body)
IPDR	Industry Partnership Digital Railway
MDU	Maintenance Delivery Unit
NR	Network Rail
NTSN	National Technical Specification Notice
ORR	Office of Rail & Road
OTM	On-track machines
PR23	The ORR Periodic Review carried out to set the funding and obligations for Network Rail in Control Period 7
QLM	Quarterly Liaison Meeting

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RAM	Route Asset Manager
RFI	Request for Information
PP	Planning & Performance
SBP	Strategic Business Plans
TAR	Targeted Assurance Review
TPE	TransPennine Express
TRU	TransPennine Route Upgrade , a major programme of railway improvements between Manchester and York
WCN	West Coast North

References

During the review we have referred to the following documents that are in the public domain:

- (a) ORR final determination: [PR23 final determination: supporting document – sustainable and efficient costs](#) (chapter 8, page 143)
- (b) Network Rail CP7 delivery plan: [Network Rail CP7 Delivery Plan](#) (page 48)
- (c) Network Rail CP7 delivery plan (CP7ADS, Mar24) for digital signalling: [Our approach to digital signalling in CP7](#)
- (d) Network Rail delivery plan for digital signalling, year 2 update [Our-approach-to-Digital-Signalling-Year-2-update.pdf](#)
- (e) [NTSN command, control and signalling](#). issue 2 May 2025 (7.4.2.1, page 124)
- (f) Independent Reporter review of [Change Management Capability across Network Rail's Digital Signalling Portfolio](#)
- (g) [ERTMS on-board deployment - Publications Office of the EU](#)



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