

Annual assessment of Network Rail

April 2019 – March 2020

Wales



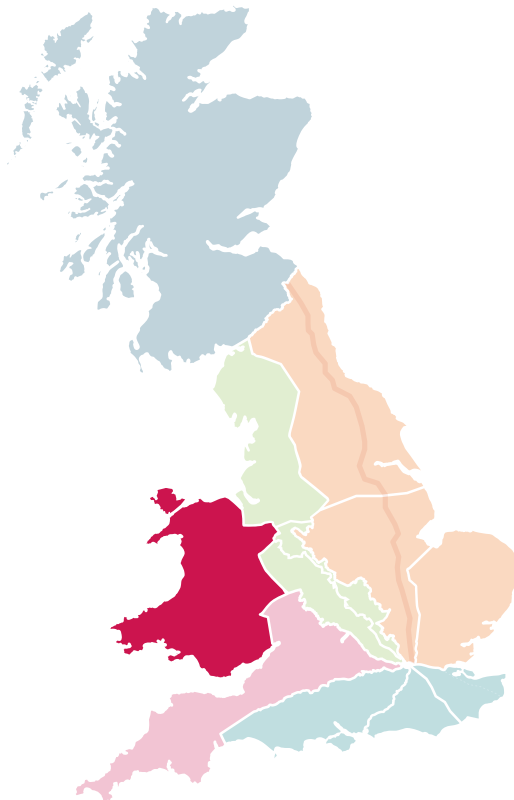
10. Performance of Network Rail's Wales route

10.1 Network Rail's Wales route⁸⁶ links the major towns and cities of Cardiff, Newport, Swansea, Wrexham and Shrewsbury, as well as providing connectivity in more rural areas. The route is part of the wider Wales & Western region. This chapter provides our assessment of Network Rail's delivery for its Wales route including commentary on train performance, expenditure and financial performance which is provided in response to stakeholder feedback.

10.2 Most passenger rail services in Wales are operated by Transport for Wales and Great Western Railway. CrossCountry and Avanti West Coast also operate passenger services between Wales and the rest of Great Britain.

10.3 Rail freight services are also very important, moving various commodities (particularly steel on the South Wales Main Line) within Wales and beyond.

10.4 As with the rest of Great Britain's rail network, rail infrastructure in Wales is managed by Network Rail. (The Core Valley Lines network was transferred from Network Rail to Transport for Wales on 28 March 2020.)



Performance of the Wales route was below target

10.5 Network Rail uses scorecards to align its priorities with those of its customers and to incentivise its management to deliver those priorities.

- Wales route's overall scorecard performance, at 45%, was poor and lower than its targeted 50%.
- There was weak delivery of train performance to operators, but there were positive outcomes in locally driven customer scorecard measures, such as through joint partnership agreements.
- Performance delivery in Wales has not been as expected and needs to improve.

⁸⁶ <https://www.networkrail.co.uk/running-the-railway/our-routes/wales/>

Train performance was below target

Passenger train performance in Wales, including Network Rail caused delays, has been significantly worse than expected. Freight performance was also lower than targeted.

- 10.6 Train performance is a priority for passengers and for freight operators. In our Periodic Review 2018 (PR18)^{87,88}, we set regional trajectories for passenger and freight performance.
- 10.7 For passenger performance we hold Network Rail's regions to account for delivery of the 'Consistent Region Measure for Performance' (CRM-P). This measures the delay minutes caused by each region, for every 100km of train travel, and allows comparisons between regions. For CP6, we set trajectories for CRM-P and minimum levels ('floors').

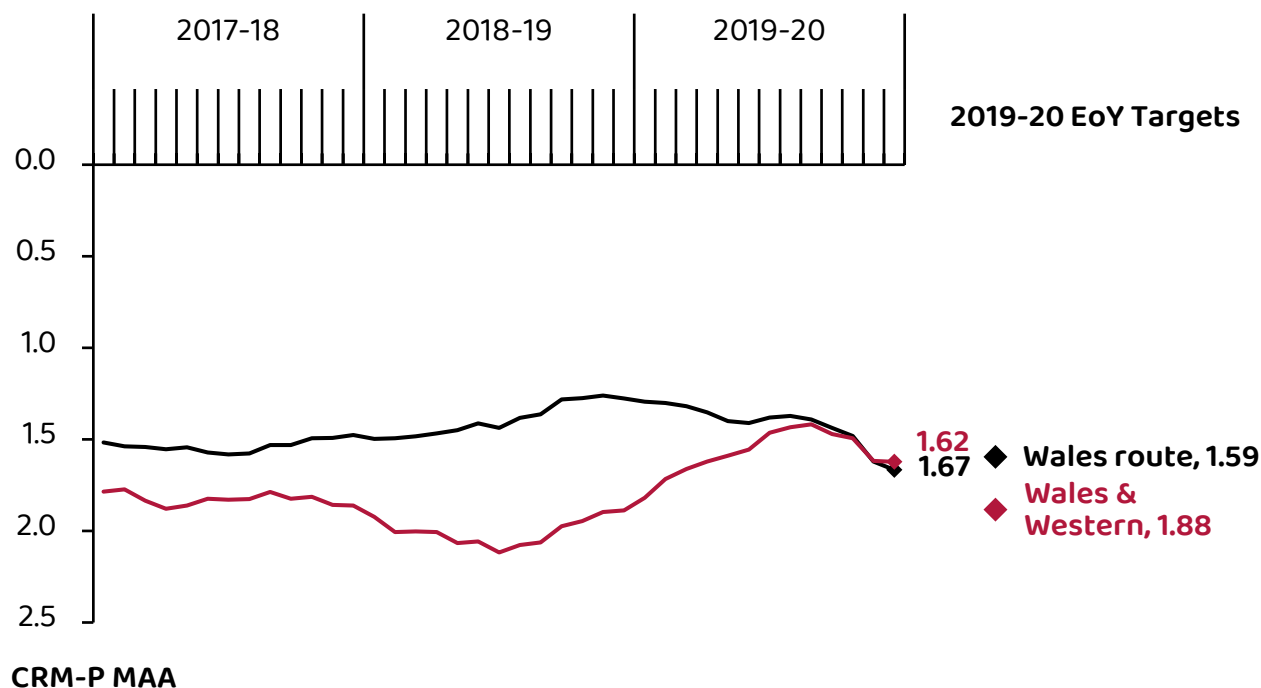


- 10.8 While we hold the Wales & Western region to account for delivery of its agreed scorecard targets and the CRM-P measure, we do not specifically regulate against a CRM-P floor for the Wales route. However, its scorecard has a target level of performance against this metric.
- 10.9 Wales' trajectory for CRM-P was based on it achieving 1.59 minutes delay per 100km of train travel. The route was performing well until a drop in the last quarter due to severe weather and it finished the year below target at 1.67 minutes of delay. It has therefore caused more delay to train operators than was anticipated. Figure 10.1 shows how the Wales route CRM-P has tracked over time, alongside Wales & Western region's performance.
- 10.10 The Wales route's share of delay to passenger rail increased from 45.2% in 2018-19 to 45.6% in 2019-20.

⁸⁷ <https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/price-controls/periodic-review-2018/publications/final-determination>

⁸⁸ https://orr.gov.uk/_data/assets/pdf_file/0010/41311/holding-network-rail-to-account-letter-2019-06-19.pdf

Figure 10.1: Passenger train performance (Network Rail caused delay minutes normalised, CRM-P) for Wales route and Wales & Western region, 2017-18 to 2019-20



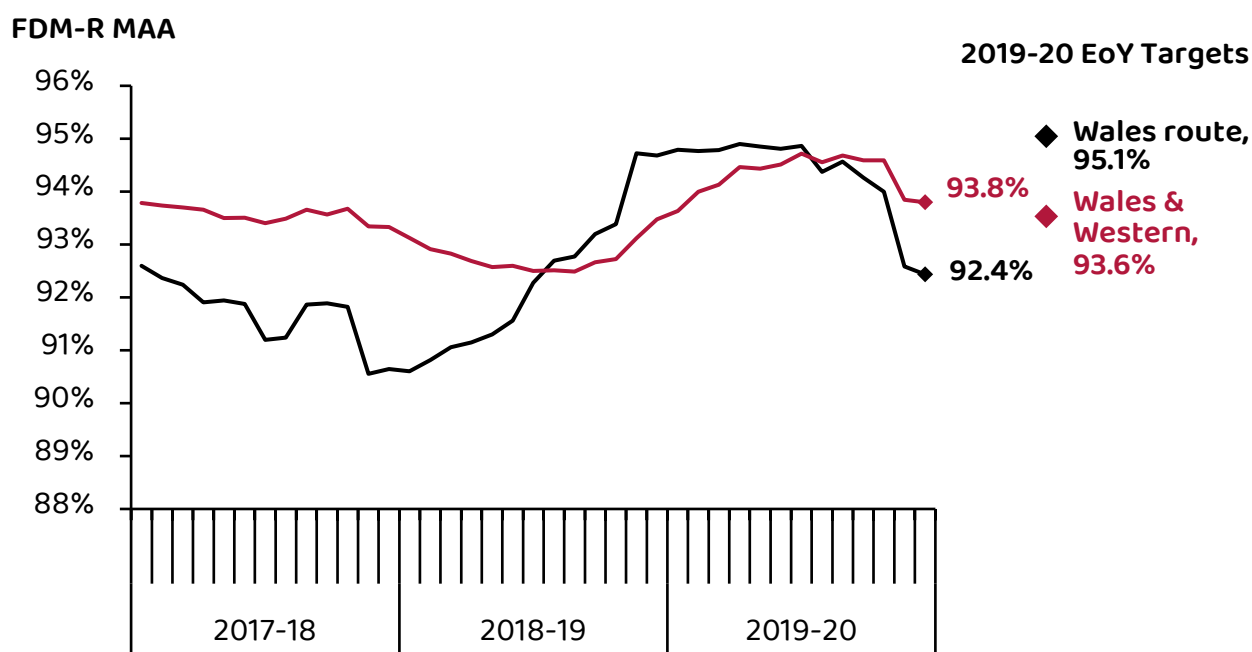
Source: ORR analysis of Network Rail data

10.11 We measure freight performance using the Freight Delivery Metric for Regions (FDM-R). This measures the percentage of commercial freight services that arrive at a planned destination within 15 minutes of their booked arrival time or with less than 15 minutes of Network Rail or passenger operator delay. As with CRM-P, we do not specifically regulate against an FDM-R floor for the Wales route, but the route scorecard has a target level of performance.



10.12 For the Wales route, the end-of-year FDM-R was 92.4%, worse than its scorecard target of 95.1%. For much of the year the route was performing better than target, before a drop in the last few months. This was due to severe weather (particularly Storms Ciara and Dennis) which caused damage to overhead lines and blew trees onto the line. Figure 10.2 shows how the Wales route FDM-R has tracked over time, alongside Wales & Western region's performance.

Figure 10.2: Freight performance (FDM-R) for Wales route and Wales & Western region, 2017-18 to 2019-20



Source: ORR analysis of Network Rail data

The Wales route has delivered its renewals plans but asset failures are increasing

Asset reliability in Wales has declined in 2019-20, including for track assets. The Wales route has contributed to Wales & Western delivering its internal scorecard for renewals – a good start to delivery in CP6. However more work needs to be done in the wider renewals portfolio.

10.13 Network Rail needs to secure the maintenance, renewal and replacement of the network so it is safe and operable, and do so in a way that is sustainable and efficient over the long-term. In CP6, we test this using a measure of asset sustainability (the Composite Sustainability Index, CSI). This is set at regional level so we cannot report on CSI for the Wales route. We have agreed Network Rail's target for the end of CP6, based on a defined level of change since the end of control period 4 (CP4).

10.14 Wales & Western finished 2019-20 with a CSI of 0.7%. This represents an improvement in overall asset sustainability of 0.7% since the end of CP4. The region's trajectory for CP6 is to end the control period with a CSI of 0.2%.

- 10.15 The measure of sustainability is slow-moving, because of the very long operational life of railway assets. We therefore also monitor asset failure rates (and their impact), volumes of maintenance and renewal delivery, and certain other asset-specific measures, which can be used as a proxy for longer-term sustainability.
- 10.16 Network Rail's regional scorecards contain some of these shorter-term measures – and Wales & Western region performed well against them. At a route level however, Wales achieved a composite reliability index (CRI) score of -4.2%. This means asset reliability on the route in 2019-20 was 4.2% worse than it was in the final year of CP5. In particular, the reliability of track has declined significantly, while other asset reliability has generally improved over 2019-20.
- 10.17 The CRI contribution from track has been impacted by a high number of track failures occurring on Wales' highest criticality track sections, meaning the impact of these failures has the potential to be high. It is a priority that Network Rail clarify the reasons for this and we will monitor improvements.
- 10.18 Earthworks failures are not included within the route CRI metric because they are relatively infrequent and are strongly linked to wet weather. Historically, large peaks in earthworks failures usually correspond to periods of adverse or severe weather conditions. In 2019-20, Wales was particularly impacted by severe weather resulting in flooding in multiple locations, which caused a number of delay incidents. The largest delay in February 2020, between Cardiff Central to Pontyclun, caused 4,948 delay minutes and resulted in 72 cancelled, and 426 delayed, trains.

Case Study – Marches line Flooding⁸⁹

In late October 2019, parts of the Marches Line between Abergavenny and Hereford were washed away due to heavy rainfall. The line was closed until 2 November 2019 when, after significant work which required 300 tonnes of foundation and 600 tonnes of ballast, the line reopened earlier than expected.

Flooding again closed the line in February 2020 for a further week when Storms Ciara and Dennis greatly impacted the region.



- 10.19 The Wales route does not have a separate route scorecard target for planned renewals volumes, but it did contribute to the Wales & Western region exceeding its internal scorecard target in 2019-20. In the larger scope of renewals work, Wales' route reported over-delivery in a number of areas, particularly structures due to additional scope at existing schemes such as Ffestiniog Tunnel, and the acceleration of planned future works. However the route has reported under-delivery in the area of signalling, due to the deferral of level crossing works, and electrical power due to the misallocation of work.

⁸⁹ <https://www.networkrail.co.uk/news/abergavenny-to-hereford-line-to-reopen-ahead-of-schedule-updated/>

The Wales route has benefited from large enhancement projects delivered in the Wales & Western region

Great Western Electrification Project

10.20 In 2019-20, the Wales & Western region delivered the final section of the Great Western Electrification Project (GWEP), enabling faster and more frequent electric rail services to run between London and Cardiff from January 2020 (excluding through the Severn Tunnel which was fully electrified on 31 May 2020). The project also included resignalling and station upgrades with train operating companies improving services through the introduction of new rolling stock.



10.21 The final GWEP milestone (electrification from Newport to Cardiff) was delayed by two months from November 2019 to January 2020 due to construction issues and worse than forecast productivity, as well as ongoing work at Severn Tunnel to resolve conductor beam corrosion issues.

10.22 Corrosion to the conductor beam caused by damp and salty conditions in the 7km Severn Tunnel provided a significant challenge for Network Rail in the final months of the project. As it was potentially unsafe to energise the beam, trains had to run through the tunnel under diesel mode resulting in a slight delay to services. Network Rail has now successfully managed to resolve this issue and following extensive testing the beam was safely commissioned at the end of May 2020. The tunnel will continue to be monitored going forward to check for any changes or potential failures.

- 10.23 The final delivery of GWEP provides faster, greener and more frequent services. However, over the lifetime of the scheme, GWEP suffered from delays, inefficiencies and substantial cost increases. More recently, performance improved, with the schedule and costs becoming more stable, but the final delivery milestone of November 2019 was missed. It is imperative that Network Rail continues to learn from GWEP and implements changes to its delivery of enhancements, and electrification schemes in particular, during CP6.
- 10.24 While some of these issues have been thoroughly reviewed, Network Rail has recognised the need to review lessons from the delivery of the scheme and has committed to do this in 2020-21.

Core Valley Lines divestment

- 10.25 The Core Valley Lines network consists of tunnels, track and associated infrastructure from Cardiff to Treherbert, Aberdare, Merthyr Tydfil, Coryton, and Rhymney. It connects to the Network Rail infrastructure at two points – Cardiff Central Station and to the north of Ninian Park Station.
- 10.26 During 2019-20, Network Rail managed this infrastructure, but on 28 March 2020 the infrastructure assets were transferred to Transport for Wales (Welsh Government). Transport for Wales leases the assets to Amey Keolis Infrastructure / Seilwaith Amey Keolis Limited (AKIL) who are the current Infrastructure Manager for the Core Valley Lines network.
- 10.27 In preparing for the transfer, Network Rail worked closely with Transport for Wales to set out clear agreements on management of the network (including at the interfaces) and operational arrangements. Network Rail also worked with ORR to ensure that authorisations (licensing, safety and track access) required under statutory obligations, were granted approval before the transfer took place.
- 10.28 The transfer has created one of the few instances on the rail network where rail services move between two different railway networks. Given this complexity, the transfer went well.
- 10.29 The Wales & Western region has engaged with ORR on the Core Valley Lines divestment, setting out the safety, financial and performance impacts. It has also updated its business plans accordingly to reflect this change to the Wales route network. ORR, as the health and safety regulator for the rail industry, will continue to deliver advice and enforcement on this network.

Two track workers tragically lost their lives in July 2019

In July 2019, two track workers tragically lost their lives when they were struck by a train in South Wales. The industry must make sure it learns lessons to prevent this happening again. We have seen long-term improvements in the region in asset safety management but there is a need for significant change in how staff working on the ground are monitored.

- 10.30 The Wales route had a mixed health and safety performance in 2019-20. The Lost Time Injury Frequency Rate (LTIFR) has risen (i.e. worsened) over the year. Level crossing risk has also risen slightly, due to increasing numbers of trains and crossing users, which shows the importance of continuing to look for improvements in risk controls at level crossings.

- 10.31 In July 2019, two track workers tragically lost their lives when they were struck by a train and killed while working on lines open to traffic at Margam, near Port Talbot. We are currently undertaking an investigation into the event and will report on the outcome in due course.
- 10.32 Whilst not specific to the Wales & Western region, Network Rail is looking at the potential impact of changes of working on a live railway, across its whole network. Our Improvement Notices on Track Worker Safety⁹⁰ aim to reduce such 'unprotected' working, and while the Wales & Western routes are responding to the track worker safety improvement notices, this is still at an early stage and progress is slow.
- 10.33 As part of our safety reviews, we have looked at whether the region is doing all that is reasonably practicable to install automatic warning systems at footpath and user-worked level crossings that do not have active protection (such as lights, alarms and barriers). Our analysis suggests that Wales & Western's plans may not be sufficiently ambitious and we have encouraged it to review its plans as a result. Follow up work after near-miss incidents at user-worked and footpath crossings suggests that risks are generally well-controlled.

The Wales route's efficiency has improved but there is financial underperformance for enhancements

Wales has exceeded its efficiency target for 2019-20 and has made good progress in preparing to deliver efficiently in 2020-21 and later years of CP6, but there is an underperformance for enhancements. The route has identified that more work remains to be done around planning of renewals efficiencies. This may be hampered by the current disruption to renewals work due to the coronavirus pandemic – and ORR will continue to monitor its impact.

Financial performance was below target

- 10.34 Our primary measure of Network Rail's financial performance, the financial performance measure (FPM), covers most of Network Rail's activities. It provides a better understanding of Network Rail's financial performance than simple income and expenditure variances.
- 10.35 FPM compares actual income and expenditure to Network Rail's annual budgets, and to the financial assumptions in our PR18 final determination (which underpins the company's funding). It ensures that Network Rail does not benefit from delaying work or not delivering required outputs. A positive FPM means that Network Rail has outperformed and vice versa.
- 10.36 The Wales route financially underperformed against its CP6 delivery plan by £32m in 2019-20. This equates to a 1.1% overspend. This underperformance was primarily due to enhancements, and predominantly GWEP.

⁹⁰ ORR improvement notices:

<https://orr.gov.uk/rail/publications/enforcement-publications/improvement-notices/improvement-notices-2019>

Efficiency has improved

10.37 In the previous control period (CP5) Network Rail delivered poorly across renewals and efficiency targets. In PR18 we set Network Rail a £3.5bn efficiency improvement challenge for its core operations, support, maintenance and renewals activities.

10.38 Network Rail responded to this by developing an efficiency improvement plan, which we have reviewed. In 2019-20, the Wales route delivered £19.5m of efficiency improvements, which was ahead of the £15.2m assumed in its delivery plan.

10.39 This level of efficiency is good news. The efficiency challenge increases in future years – the route is forecasting to deliver between £120m and £160m efficiencies over CP6 (with a central forecast of £138m) – so continued focus on efficiency planning is needed.

10.40 The Wales route considers that 88% of the target efficiencies for 2020-21 will be achieved from projects that have already been delivered or have clear project plans. The remaining 12% of efficiencies have no clear project plans or have plans with low confidence of efficiency delivery. Therefore the Wales route still needs to firm up plans for delivering these efficiencies.

There is more to do on planning efficient delivery

10.41 Learning from declining efficiency in CP5, we required Network Rail to demonstrate that it was better prepared to deliver efficiently from the start of CP6 – in part through developing and reporting on new, leading indicators.

10.42 We have seen progress with these leading indicators of efficient delivery. The table below provides an update on the Wales route's preparations to deliver efficiently in 2020-21⁹¹. Network Rail's underpinning analysis was undertaken before the significant recent impact of the coronavirus pandemic so there is likely to be disruption, which we will report on in due course.

Figure 10.3: Leading indicators for efficiency delivery in 2020-21, Wales route

Route/ Region	Renewals Planning			Securing Engineering Access			Maintenance requirement 2020-21		
	Work authorised in Oracle		Target	% of required access booked		Target	Current headcount		Target
Wales	46%		88%	78%		90%	91%		100%
National/ GB	69%		83%	76%		93%	95%		99%

Source: Network Rail CP6 readiness report

⁹¹ This section is disaggregated by route rather than region. This is because some of the internal reorganisation from routes into regions as part of Putting Passengers First reorganisation have not yet been implemented.

- 10.43 Efficient renewals planning is important to ensure a stable profile of work over time within Network Rail's supply chain. To track this, Network Rail measures the percentage of renewal projects which have financial authorisation. The Wales route is significantly behind its own internal targets, and behind the national average.
- 10.44 This level of financial authorisation is concerning. However, we also consider earlier stages of the planning lifecycle, such as remits issued and accepted by the supply chain. Under this measure the supply chain has accepted 77% of planned renewals for the Wales route for 2020-21.
- 10.45 The route also underperformed against its internal target for booking disruptive access to the network for planned engineering work in 2020-21. In addition, the Wales route has a shortfall (9%) compared to its required maintenance headcount for 2020-21.
- 10.46 Wales route has made further progress including strengthening of resources and more robust programme-level oversight. However, substantially more still needs to be done, particularly in relation to the quality of renewals efficiency plans, as these are critical to delivering required renewals volumes and the increasing efficiency challenge in later years of CP6.
- 10.47 Further information on Network Rail's financial performance, efficiency initiatives and preparations for 2020-21 will be published in ORR's Annual Efficiency and Finance Assessment (due for publication in summer 2020).

Annual assessment of Network Rail

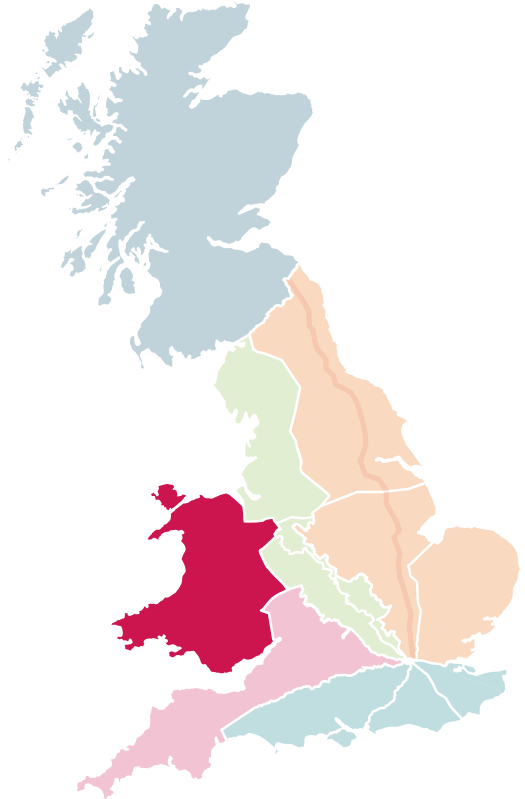
Ebrill 2019 - Mawrth 2020

Cymru



11. Perfformiad Ilwybr Cymru Network Rail

- 11.1 Mae Llwybr Cymru Network Rail⁹² yn cysylltu'r prif drefi a dinasoedd Caerdydd, Casnewydd, Abertawe, Wrecsam ac Amwythig, yn ogystal â chysylltu ardaloedd mwy gwledig. Mae'r rheilffordd yn rhan o ranbarth ehangach Cymru a'r Gorllewin. Mae'r bennod hon yn rhoi ein hasesiad o'r hyn a gyflawnodd Network Rail i'w reilffyrdd yng Nghymru, gan gynnwys sylwadau ar berfformiad trenau, gwariant a pherfformiad ariannol a roddir mewn ymateb i adborth rhanddeiliaid.
- 11.2 Caiff y mwyafrif o wasanaethau teithwyr rheilffordd yng Nghymru eu gweithredu gan Trafnidiaeth Cymru a'r Great Western Railway. Mae CrossCountry ac Avanti West Coast hefyd yn gweithredu gwasanaethau teithwyr rhwng Cymru a gweddill Prydain.
- 11.3 Mae gwasanaethau cludo nwyddau ar y rheilffyrdd hefyd yn bwysig, sy'n symud amrywiol nwyddau (yn enwedig dur ar brif reilffordd De Cymru) o fewn Cymru a'r tu hwnt.
- 11.4 Fel gyda gweddill rhwydwaith rheilffyrdd Prydain, caiff seilwaith rheilffyrdd yng Nghymru ei reoli gan Network Rail. (Cafodd rhwydwaith Rheilffyrdd Craidd y Cymoedd ei drosglwyddo o Network Rail i Trafnidiaeth Cymru ar 28 Mawrth 2020.)



Roedd perfformiad Ilwybr Cymru yn is na'r targed

- 11.5 Mae Network Rail yn defnyddio cardiau sgorio i gysoni ei flaenoriaethau â blaenoriaethau ei gwsmeriaid ac i gymhell ei reolwyr i gyflawni'r blaenoriaethau hynny.
- Roedd perfformiad cyffredinol cerdyn sgorio Ilwybr Cymru – 45% – yn wael ac yn is na'r targed o 50% a bennwyd ar ei gyfer.
 - Roedd perfformiad trenau i weithredwyr yn wan, ond roedd canlyniadau cadarnhaol mewn mesurau a yrrwyd yn lleol gan gardiau sgorio cwsmeriaid, megis trwy gytundebau partneriaeth ar y cyd.
 - Nid yw perfformiad yng Nghymru wedi cael ei gyflawni cystal â'r disgwyl ac mae angen iddo wella.

⁹² <https://www.networkrail.co.uk/running-the-railway/our-routes/wales/>

Roedd perfformiad trenau yn is na'r targed

Mae perfformiad trenau teithwyr yng Nghymru, gan gynnwys oedi a achoswyd gan Network Rail, wedi bod yn sylweddol waeth na'r disgwyl. Roedd perfformiad cludo nwyddau hefyd yn is na'r hyn a dargedwyd.

- 11.6 Mae perfformiad trenau yn flaenoriaeth i deithwyr ac i weithredwyr cludo nwyddau. Yn ein Adolygiad Cyfnodol 2018 (PR18)^{93,94}, fe wnaethom bennu trywyddau rhanbarthol ar gyfer perfformiad cludo teithwyr a nwyddau.
- 11.7 Ar gyfer perfformiad cludo teithwyr rydym yn dal rhanbarthau Network Rail i gyfrif am gyflawni'r 'Mesur Rhanbarthol Cyson ar gyfer Perfformiad' (CRM-P). Mae hyn yn mesur y munudau o oedi a achosir gan bob rhanbarth, am bob 100km o deithio ar drên, ac mae'n caniatáu ar gyfer cymariaethau rhwng rhanbarthau. Ar gyfer cyfnod rheoli 6, gosodasom drywyddau ar gyfer CRM-P a lefelau isafswm ('lloriau').

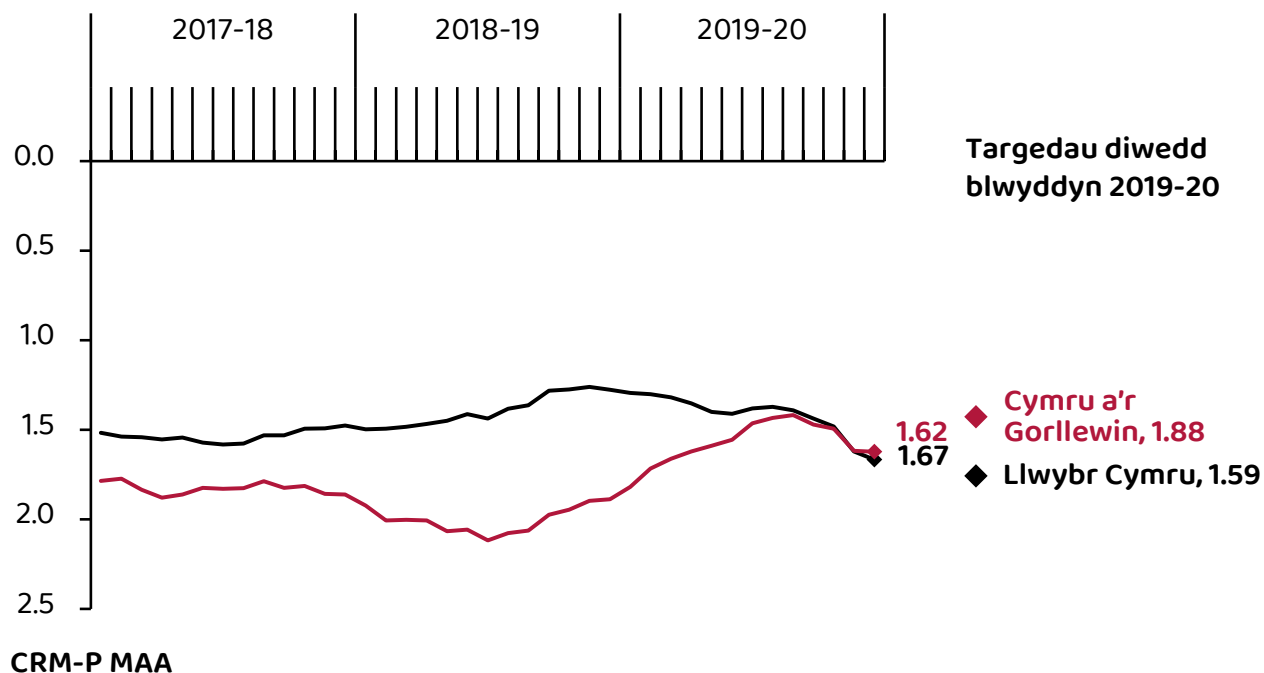


- 11.8 Er ein bod yn dal rhanbarth Cymru a'r Gorllewin yn gyfrifol am gyflawni ei dargedau cardiau sgorio ac am fesur CRM-P, nid ydym yn rheoleiddio'n benodol yn erbyn llawr CRM-P ar gyfer rheilffordd Cymru. Fodd bynnag, mae gan ei gerdyn sgorio lefel targed o berfformiad yn erbyn y metrig hwn.
- 11.9 Roedd trywydd Cymru ar gyfer CRM-P yn seiliedig arno'n cyflawni 1.59 munud o oedi am bob 100km o deithio ar drên. Roedd llwybr Cymru'n perfformio'n dda tan y bu cwmp yn y chwarter olaf yn sgil tywydd garw a gorffennodd y flwyddyn yn is na'r targed gyda 1.67 munud o oedi. Mae felly wedi achosi mwy o oedi i weithredwyr trenau nag a ragwelwyd. Dengys Ffigur 10.1 sut mae CRM-P rheilffordd Cymru wedi'i wneud dros amser, ochr yn ochr â pherfformiad rhanbarth Cymru a'r Gorllewin.
- 11.10 Cynyddodd cyfran llwybr Cymru o oedi i deithwyr rheilffyrdd o 45.2% yn 2018-19 i 45.6% yn 2019-20.

⁹³ <https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/price-controls/periodic-review-2018/publications/final-determination>

⁹⁴ https://orr.gov.uk/_data/assets/pdf_file/0010/41311/holding-network-rail-to-account-letter-2019-06-19.pdf

Ffigur 10.1: Perfformiad trenau teithwyr (wedi normaleiddio munudau oedi a achoswyd gan Network Rail, CRM-P) ar lwybr Cymru a rhanbarth Cymru a'r Gorllewin, 2017-18 i 2019-20



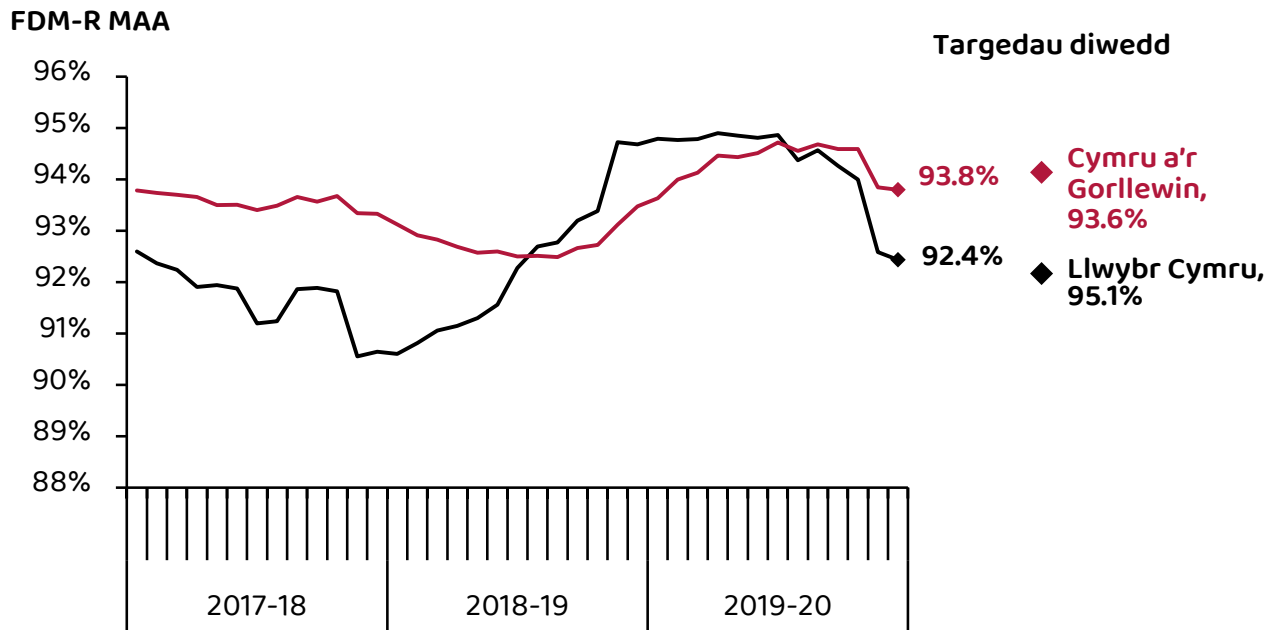
Ffynhonnell: Dadansoddiad ORR o ddata Network Rail

- 11.11 Rydym yn mesur perfformiad cludo nwyddau trwy ddefnyddio'r Metrig Dosbarthu Nwyddau ar gyfer Rhanbarthau (FDM-R). Mae hwn yn mesur y ganran o wasanaethau cludo nwyddau masnachol sy'n cyrraedd cyrchfan a fwriadwyd o fewn 15 munud i'r amser cyrraedd a archebwyd neu gyda llai na 15 munud o oedi wedi'i achosi gan Network Rail neu weithredwyr cludo nwyddau. Fel gyda CRM-P, nid ydym yn rheoleiddio'n benodol yn erbyn llawr FDM-R ar gyfer llwybr Cymru, ond mae gan gerdyn sgorio'r rheilffordd lefel targed o berfformiad.



11.12 Ar gyfer llwybr Cymru, roedd yr FDM-R diwedd blwyddyn yn 92.4%, a oedd yn waeth na'i darged cerdyn sgorio o 95.1%. Am lawer o'r flwyddyn, roedd y llwybr yn perfformio'n well na'r targed, cyn cwmp yn yr ychydig fisoedd olaf. Roedd hyn yn sgil tywydd garw (yn enwedig Stormydd Ciara a Dennis) a achosodd ddifrod i linellau uwchben ac a chwythodd goed ar y rheilffordd. Mae Ffigur 10.2 yn olrhain FDM-R llwybr Cymru dros amser, ochr yn ochr â pherfformiad rhanbarth Cymru a'r Gorllewin.

Ffigur 10.2: Perfformiad cludo nwyddau (FDM-R) llwybr Cymru a rhanbarth Cymru a'r Gorllewin, 2017-18 i 2019-20



Ffynhonnell: Dadansoddiad ORR o ddata Network Rail

Mae llwybr Cymru wedi cyflawni ei gynlluniau adnewyddu ond mae cynnydd mewn methiannau asedau

Mae dibynadwyedd asedau yng Nghymru wedi dirywio yn 2019-20, gan gynnwys asedau trac. Mae llwybr Cymru wedi cyfrannu at ranbarth Cymru a'r Gorllewin gan gyflawni ei gerdyn sgorio mewnol ar gyfer adnewyddiadau – cychwyn da ar gyfer cyflawni yng Nghyfnod Rheoli 6. Fodd bynnag mae angen i fwy o waith gael ei wneud ym mhorthffolio ehangach adnewyddu.

11.13 Mae angen i Network Rail sicrhau cynnal a chadw ac adnewyddu'r rhwydwaith fel ei fod yn ddiogel a modd ei weithredu, a gwneud hynny mewn modd sy'n gynaliadwy ac effeithlon dros yr hirdymor. Yng nghyfnod rheoli 6, byddwn yn profi hyn wrth ddefnyddio mesur o gynaliadwyedd asedau (Mynegai Cynnaliadwyedd Cyfansawdd, CSI). Caiff hyn ei bennu ar lefel ranbarthol felly ni allwn adrodd ar CSI ar gyfer llwybr Cymru. Rydym wedi cytuno ar darged Network Rail ar gyfer diwedd Cyfnod Rheoli 6, ar sail lefel ddiffiniedig o newid ers diwedd cyfnod rheoli 4.

- 11.14 Fe wnaeth rhanbarth Cymru a'r Gorllewin ddiweddu 2019-20 gyda CSI o 0.7%. Mae hyn yn cynrychioli gwelliant mewn cynaliadwyedd asedau cyffredinol o 0.7% ers diwedd cyfnod rheoli 4. Nod y rhanbarth ar gyfer cyfnod rheoli 6 yw diweddu'r cyfnod rheoli gyda CSI o 0.2%.
- 11.15 Mae'r mesur o gynaliadwyedd yn symud yn araf, oherwydd bywyd gweithredol hir iawn asedau rheilffyrdd. Rydym felly yn monitro cyfraddau methiannau asedau hefyd (a'u heffaith), symiau cyflawni cynnal a chadw ac adnewyddu, a rhai mesurau penodol i asedau eraill, y gellir eu defnyddio fel procsi ar gyfer cynaliadwyedd mwy hirdymor.
- 11.16 Mae cardiau sgorio rhanbarthol Network Rail yn cynnwys rhai o'r mesurau mwy byrdymor hyn – ac fe wnaeth rhanbarth Cymru a'r Gorllewin berfformio'n dda ochr yn ochr â hwy. Ar lefel llwybr fodd bynnag, cyflawnodd Cymru sgôr mynegai dibynadwyedd cyfansawdd (CRI) o -4.2%. Golyga hyn fod dibynadwyedd asedau ar y llwybr yn 2019-20 yn 4.2% gwaeth nag roedd yn mlwyddyn olaf cyfnod rheoli 5. Yn benodol, mae dibynadwyedd y trac wedi dirywio'n sylweddol, tra bod dibynadwyedd asedau eraill wedi gwella'n gyffredinol dros 2019-20.
- 11.17 Effeithiwyd ar gyfraniad CRI o'r trac gan nifer uchel o fethiannau trac yn digwydd ar adrannau mwyaf allweddol trac Cymru, gan olygu bod gan effaith y methiannau hyn y potensial o fod yn uchel. Mae'n flaenoriaeth i Network Rail egluro'r rhesymau dros hyn a byddwn yn monitro gwelliannau.
- 11.18 Ni chynhwysir methiannau gwrthgloddiau o fewn metrig CRI y llwybr oherwydd maent yn gymharol anaml ac â chysylltiad cryf â thywydd gwlyb. Yn hanesyddol, mae pegynnau mewn methiannau gwrthgloddiau yn cyfateb fel arfer â chyfnodau o amodau tywydd andwyol a garw. Yn 2019-20, cafodd Cymru ei tharo'n neilltuol o galed gan dywydd garw a arweiniodd at lifogydd mewn llawer o leoedd, gan achosi nifer o achosion o oedi. Fe wnaeth yr oedi mwyaf ym mis Chwefror 2020, rhwng gorsafoedd Caerdydd Canolog a Pontyclun, achosi 4,948 o funudau oedi ac arweiniodd at ganslo 72 o drenau, a pheri oedi i 426 o drenau.

Astudiaeth Achos – Llifogydd ar reilffordd y Gororau⁹⁵

Tuag at ddiwedd mis Hydref 2019, cafodd rhannau o reilffordd y Gororau rhwng y Fenni a Henffordd eu golchi ymaith yn sgil glawiad trwm. Bu'r rheilffordd ar gau hyd at 2 Tachwedd 2019, pryd y gwnaeth y rheilffordd ailagor yn gynt na'r disgwyl, ar ôl gwaith sylweddol a olygai'r angen am 300 tonnell o sylfaen a 600 tonnell o balast.

Achosodd llifogydd gau'r rheilffordd eto ym mis Chwefror 2020 am wythnos arall pan wnaeth Stormydd Ciara a Dennis daro'r rhanbarth yn ddrwg.



- 11.19 Nid oes gan lwybr Cymru darged cerdyn sgorio ar wahân i'r llwybr ar gyfer faint o adnewyddu a gynllunir, ond fe wnaeth gyfrannu at lwyddiant rhanbarth Cymru a'r Gorllewin i ragori ar ei darged cerdyn sgorio mewnol yn 2019-20. Yng nghwmpas ehangach gwaith adnewyddu, fe wnaeth llwybr Cymru adrodd gor-gyflawni mewn nifer o feysydd, yn enwedig adeiladweithiau yn sgil cwrpas ychwanegol mewn cynlluniau a oedd yn bod eisoes megis Twnel Ffestiniog, a chyflymu gweithiau a gynlluniwyd ar gyfer y dyfodol. Fodd bynnag, fe wnaeth y llwybr adrodd tan-gyflawni ym maes signalau, yn sgil gohirio gweithiau croesfannau rheilffordd, a phŵer trydanol yn sgil camddyrannu gwaith.

⁹⁵ <https://www.networkrail.co.uk/news/abergavenny-to-hereford-line-to-reopen-ahead-of-schedule-updated/>

Mae llwybr Cymru wedi elwa o brosiectau gwella mawr a gyflawnwyd yn rhanbarth Cymru a'r Gorllewin

Prosiect Trydaneiddio'r Great Western

11.20 Yn 2019-20, fe wnaeth rhanbarth Cymru a'r Gorllewin gwblhau adran derfynol Prosiect Trydaneiddio'r Great Western (GWEP), gan alluogi gwasanaethau trên trydan cyflymach ac amlach rhwng Llundain a Chaerdydd o fis Ionawr 2020 (ac eithrio trwy Dwnel Hafren a gafodd ei drydaneiddio'n llawn ar 31 Mai 2020). Roedd y prosiect hefyd yn cynnwys ail-signalu ac uwchraddio gorsafoedd gyda chwmnïau rhedeg trenau'n gwella gwasanaethau trwy gyflwyno cerbydau newydd.



11.21 Cafodd cam olaf GWEP (trydaneiddio o Gasnewydd i Gaerdydd) ei oedi ddau fis o fis Tachwedd 2019 tan fis Ionawr 2020 yn sgil problemau adeiladu a chynhyrchiant gwaeth na'r hyn a ragwelwyd, yn ogystal â gwaith parhaus yn Nhwnel Hafren i ddatrys problemau rhwd mewn trawstiau dargludo.

11.22 Fe wnaeth rhwd yn y trawst dargludo a achoswyd gan amodau llaith a hallt yn Nhwnel 7km Hafren achosi anhawster sylweddol i Network Rail ym misoedd olaf y prosiect. Gan y gallai fod yn beryglus egnioli'r trawst, roedd yn rhaid i drenau redeg trwy'r twnel o dan bŵer diesel gan arwain at ychydig o oedi i wasanaethau. Mae Network Rail bellach wedi llwyddo i ddatrys y broblem hon yn llwyddiannus ac yn dilyn profi helaeth cafodd y trawst ei gomisiynu'n ddiogel ddiwedd mis Mai 2020. Bydd y twnel yn dal i gael ei monitro wrth wirio am unrhyw newidiadau neu fethiannau posibl.

- 11.23 Mae cwblhau terfynol GWEP yn golygu gwasanaethau cyflymach, gwyrddach ac amlach. Fodd bynnag, dros oes y cynllun, mae GWEP wedi dioddef o oedi, aneffeithlonrwydd a chynnydd sylweddol mewn costau. Yn fwy diweddar, mae'r perfformiad wedi gwella, gyda'r amserlen a'r costau'n dod yn fwy sefydlog, ond methwyd â chyrraedd nod y cwblhau terfynol ym mis Tachwedd 2019. Mae'n hanfodol fod Network Rail yn parhau i ddysgu oddi wrth GWEP ac yn gweithredu newidiadau i'r ffordd mae'n cyflawni gwelliannau, a chynlluniau trydaneiddio yn enwedig, yn ystod cyfnod rheoli 6.
- 11.24 Er bod rhai o'r materion hyn wedi cael eu hadolygu'n drylwyr, mae Network Rail wedi cydnabod yr angen i adolygu gwersi o weithredu'r cynllun ac mae wedi ymrwymo i wneud hyn yn 2020-21.

Gwaredu Rheilffyrdd Craidd y Cymoedd

- 11.25 Mae rhwydwaith Rheilffyrdd Craidd y Cymoedd yn cynnwys twnelau, trac a seilwaith cysylltiedig o Gaerdydd i Dreherbert, Aberdâr, Merthyr Tudful, Coryton, a Rhymni. Mae'n cysylltu â seilwaith Network Rail mewn dau bwynt – Gorsaf Ganolog Caerydd ac i'r gogledd o Orsaf Parc Ninian.
- 11.26 Yn ystod 2019-20, Network Rail oedd yn rheoli'r seilwaith hwn, ond ar 28 Mawrth 2020 cafodd yr asedau seilwaith eu trosglwyddo i Trafnidiaeth Cymru (Llywodraeth Cymru). Mae Trafnidiaeth Cymru yn prydlesu'r asedau i Amey Keolis Infrastructure / Seilwaith Amey Keolis Limited (AKIL) sy'n gweithredu fel Rheolwr Seilwaith presennol rhwydwaith Rheilffyrdd Craidd y Cymoedd.
- 11.27 Wrth baratoi ar gyfer y trosglwyddo, cydweithiodd Network Rail yn agos gyda Trafnidiaeth Cymru i osod cytundebau clir ar reoli'r rhwydwaith (gan gynnwys ar y rhyngwynebau) a'r trefniadau gweithredu. Gweithiodd Network Rail hefyd gydag ORR i sicrhau bod awdurdodaethau (trwyddedu, diogelwch a mynediad i'r trac) gofynnol o dan rwymedigaethau statudol, yn cael eu cymeradwyo cyn i'r trosglwyddo ddigwydd.
- 11.28 Mae'r trosglwyddo wedi creu un o'r ychydig enghreifftiau ar y rhwydwaith rheilffyrdd lle mae gwasanaethau rheilffyrdd yn symud rhwng dau rwydwaith rheilffyrdd gwahanol. O ystyried y cymhlethdod hwn, aeth y trosglwyddo'n dda.
- 11.29 Mae rhanbarth Cymru a'r Gorllewin wedi bod yn cydweithio â'r ORR ar waredu Rheilffyrdd Craidd y Cymoedd, gan ddangos yr effeithiau ar ddiogelwch, cyllid a pherfformiad. Mae hefyd wedi diweddarau ei gynlluniau busnes yn unol â hynny i adlewyrchu'r newid hwn i rwydwaith llwybr Cymru. Bydd ORR, fel rheoleiddiwr iechyd a diogelwch y diwydiant rheilffyrdd, yn parhau i gynghori a gorfodi ar y rhwydwaith hwn.

Collodd dau weithiwr trac eu bywydau mewn trychineb ym mis Gorffennaf 2019

Ym mis Gorffennaf 2019, collodd dau weithiwr trac eu bywydau mewn trychineb wrth iddynt gael eu taro gan drên yn ne Cymru. Rhaid i'r diwydiant sicrhau ei fod yn dysgu gwersi i rwystro hyn rhag digwydd eto. Rydym wedi gweld gwelliannau hirdymor i reoli diogelwch asedau yn y rhanbarth ond mae angen am newid sylweddol mewn monitro sut mae staff yn gweithio ar lawr gwlad.

- 11.30 Cafodd llwybr Cymru berfformiad cymysg o ran iechyd a diogelwch yn 2019-20. Mae'r Gyfradd Amllder Amser a Gollwyd yn sgil Anafiadau (LTIFR) wedi codi (sef wedi gwaethgu) dros y flwyddyn. Mae risg croesfannau rheilffordd hefyd wedi codi ychydig, yn sgil niferoedd cynyddol o drenau a defnyddwyr croesfannau. Dengys hyn bwysigrwydd parhau i chwilio am welliannau mewn rheolaethau risg ar groesfannau rheilffordd.
- 11.31 Ym mis Gorffennaf 2019, collodd dau weithiwr trac eu bywydau mewn trychineb pan gawsant eu taro gan drên a'u lladd wrth weithio ar reilffordd agored i draffig ym Margam, ger Port Talbot. Rydym wrthi ar hyn o bryd yn cynnal ymchwiliad i'r digwyddiad a byddwn yn adrodd ar y canlyniad maes o law.
- 11.32 Er nad yw hyn yn benodol i ranbarth Cymru a'r Gorllewin, mae Network Rail yn edrych ar effaith posibl newidiadau i weithio ar reilffordd fyw, ar draws ei holl rwydwaith. Nod ein Hysbysiadau Gwella ar Ddiogelwch Gweithwyr Trac⁹⁶ yw lleihau gweithio 'diamddiffyniad' o'r fath, ac er bod llwybrau Cymru a'r Gorllewin yn ymateb i'r hysbysiadau gwella diogelwch gweithwyr trac, mae'n dal yn gynnar ar hyn o bryd ac araf yw'r cynnydd.
- 11.33 Fel rhan o'n adolygiadau diogelwch, rydym wedi edrych a yw'r rhanbarth yn gwneud popeth sy'n rhesymol ymarferol i osod systemau rhybudd awtomatig ar groesfannau llwybrau troed, a chroesfannau a weithredir gan ddefnyddwyr, sydd heb amddiffyniad gweithredol (megis goleuadau, larymau a rhwystrau). Awgryma'n dadansoddiad nad yw cynlluniau Cymru a'r Gorllewin yn ddigon uchelgeisiol ac rydym wedi eu hannog i adolygu eu cynlluniau o ganlyniad. Mae gwaith dilynol ar ôl digwyddiadau lle osgowyd trychineb trwy drwch blewyn ar groesfannau a weithredir gan ddefnyddwyr a chroesfannau llwybrau troed yn awgrymu bod risgiau'n cael eu rheoli'n dda ar y cyfan.

Mae effeithlonrwydd llwybr Cymru wedi gwella ond mae tanberfformiad ariannol sy'n gofyn am welliannau

Mae Cymru wedi rhagori ar ei darged effeithlonrwydd ar gyfer 2019-20 ac wedi gwneud cynnydd da wrth baratoi i gyflawni'n effeithlon yn 2020-21 a blynyddoedd diweddarach cyfnod rheoli 6, ond mae tanberfformiad sy'n gofyn am welliannau. Mae'r llwybr wedi nodi bod mwy o waith sy'n dal angen ei wneud ynghylch cynllunio effeithlonrwydd adnewyddu. Gall hyn gael ei lesteirio gan y tarfu presennol ar weithiau adnewyddu yn sgil y pandemig coronafeirws (Covid-19) – a bydd ORR yn parhau i fonitro ei effaith.

Roedd y perfformiad ariannol yn is na'r targed

- 11.34 Mae ein prif fesur o berfformiad ariannol Network Rail, y mesur perfformiad ariannol (FPM), yn berthnasol i'r mwyafrif o weithgareddau Network Rail. Mae'n rhoi dealltwriaeth well o berfformiad ariannol Network Rail nag amrywiadau syml incwm a gwariant.

⁹⁶ Hysbysiadau gwelliannau ORR:

<https://orr.gov.uk/rail/publications/enforcement-publications/improvement-notices/improvement-notices-2019>

- 11.35 Mae'r FPM yn cymharu incwm a gwariant gwirioneddol â chyllidebau blynyddol Network Rail, ac â'r tybiaethau ariannol ym mhenderfyniad terfynol ein hadolygiad cyfnodol (PR) 18 (sy'n sail i gyllid y cwmni). Mae'n sicrhau nad yw Network Rail yn elwa o ohirio gwaith nac wrth beidio â chyflawni allbynnau gofynnol. Mae FPM cadarnhaol yn golygu bod Network Rail wedi rhagori ar ei berfformiad ac FPM negyddol yn dangos y gwrthwyneb yn yr un modd.
- 11.36 Fe wnaeth llwybr Cymru danberfformio'n ariannol o £32m yn 2019-20 o gymharu â'i gynllun cyflawni ar gyfer cyfnod rheoli 6. Mae hyn yn gyfwerth â gorwariant o 1.1%. Roedd y tanberfformiad hwn i'w briodoli'n bennaf i welliannau, a'r rhain yn ymwneud yn bennaf â GWEP.

Mae effeithlonrwydd wedi gwella

- 11.37 Yn y cyfnod rheoli blaenorol (CP5) cyflawnodd Network Rail yn wael ar draws targedau adnewyddu ac effeithlonrwydd. Yn adolygiad cyfnodol18 fe wnaethom osod her gwelliant effeithlonrwydd o £3.5bn i Network Rail ar gyfer ei weithgareddau craidd, cymorth, cynnal a chadw ac adnewyddu.
- 11.38 Ymatebodd Network Rail i hyn trwy ddatblygu cynllun gwella effeithlonrwydd, a adolygwyd gennym. Yn 2019-20, fe wnaeth llwybr Cymru gyflawni £19.5m o welliannau effeithlonrwydd, a oedd yn fwy na'r £15.2m a dybiwyd yn ei gynllun cyflawni.
- 11.39 Mae lefel hon o effeithlonrwydd yn newyddion da. Mae'r her effeithlonrwydd yn cynyddu mewn blynyddoedd i ddod. Rhagwelir y bydd y llwybr yn cyflawni rhwng £120m a £160m o effeithlonrwydd dros gyfnod rheoli 6 (gyda rhagolwg canolog o £138m) – felly mae angen parhau i ganolbwyntio ar gynllunio effeithlonrwydd.
- 11.40 Mae llwybr Cymru'n rhagweld y bydd 88% o'r effeithlonrwydd a dargedir ar gyfer 2020-21 yn cael ei gyflawni o brosiectau sydd eisoes wedi eu cyflawni neu sydd â chynlluniau prosiect clir. Nid oes gan y 12% o effeithlonrwydd sy'n weddill unrhyw gynlluniau prosiect clir neu mae ganddynt gynlluniau nad oes iddynt fawr o hyder o gyflawni effeithlonrwydd. Felly mae angen o hyd i lwybr Cymru gryfhau cynlluniau ar gyfer cyflawni'r effeithlonrwydd hwn.

Mae mwy i'w wneud ar gynllunio cyflawni effeithlon

- 11.41 Gan ddysgu o ddirywiad mewn effeithlonrwydd yng nghyfnod rheoli 5, fe'i gwnaethom yn ofynnol i Network Rail ddangos ei fod wedi paratoi'n well ar gyfer cyflawni'n effeithlon o gychwyn cyfnod rheoli 6 – yn rhannol trwy ddatblygu prif ddangosyddion newydd ac adrodd arnynt.
- 11.42 Rydym wedi gweld cynnydd gyda'r dangosyddion arweiniol hyn o gyflawni effeithlon. Mae'r tabl isod yn rhoi diweddariad ar baratodau llwybr Cymru i gyflawni'n effeithlon yn 2020-21⁹⁷. Cafodd dadansoddiad sylfaenol Network Rail ei gyflawni cyn effaith sylweddol diweddar Covid-19 felly mae tarfu'n debygol o fod, y byddwn yn adrodd arno maes o law.

⁹⁷ Caiff yr adran hon ei dadgyfuno yn ôl llwybr yn hytrach na rhanbarth. Mae hyn oherwydd bod rhywfaint o'r ad-drefnu mewnol o lwybrau i ranbarthau fel rhan o ad-drefnu Rhoi Teithwyr yn Gyntaf heb gael ei weithredu eto.

Ffigur 10.3: Y prif ddangosyddion ar gyfer cyflawni effeithlonrwydd yn 2020-21, llwybr Cymru

Llwybr	Cynllunio adnewyddu			Mynediad diogel i waith peirianyddol			Gofyniad cynnal a chadw 2020-21		
	Gwaith a awdurdodwyd yn Oracle	Targed		Canran o'r mynediad gofynnol a archebwyd	Targed		Cyfrif pennau	Targed	
Cymru	46%		88%	78%		90%	91%		100%
Cenedlaethol/ Prydain	69%		83%	76%		93%	95%		99%

Ffynhonnell: Adroddiad parodrwydd cyfnod rheoli 6 Network Rail

- 11.43 Mae cynllunio effeithlon ar gyfer adnewyddu yn bwysig er mwyn sicrhau proffil sefydlog o waith dros amser o fewn cadwyn gyflenwi Network Rail. I olrhain hyn, mae Network Rail yn mesur y ganran o brosiectau adnewyddu sydd wedi eu hawdurdodi'n ariannol. Mae llwybr Cymru yn sylweddol y tu ôl i'w dargedau mewnol ei hun, a thu ôl i'r cyfartaledd ar gyfer Prydain.
- 11.44 Mae'r lefel hon o awdurdodi cyllidol yn peri pryder. Fodd bynnag, rydym hefyd yn ystyried camau cynharach o'r cylch oes cynllunio, megis cylchoedd gwaith a gyflwynwyd ac a dderbyniwyd gan y gadwyn gyflenwi. O dan y mesur hwn mae'r gadwyn gyflenwi wedi derbyn 78% o'r adnewyddu a gynlluniwyd ar gyfer llwybr Cymru yn 2020-21.
- 11.45 Fe wnaeth y llwybr danberfformio hefyd yn erbyn ei darged mewnol ar gyfer archebu mynediad a fyddai'n tarfu ar y rhwydwaith ar gyfer gwaith peirianyddol a gynlluniwyd yn 2020-21. Yn ogystal, mae gan llwybr Cymru ddiffyg (9%) o gymharu â'i gyfrif pennau cynnal a chadw gofynnol ar gyfer 2020-21.
- 11.46 Mae llwybr Cymru wedi gwneud cynnydd pellach gan gynnwys cryfhau adnoddau a goruchwyliaeth cadarnhach ar lefel rhaglenni. Fodd bynnag, mae mwy fyth sy'n dal angen ei wneud, yn enwedig o safbwynt ansawdd cynlluniau effeithlonrwydd adnewyddu, gan fod y rhain yn allweddol er mwyn cyflawni'r symiau gofynnol o adnewyddu a'r her o effeithlonrwydd cynyddol ym mlynnyddoedd diweddarach cyfnod rheoli 6.
- 11.47 Bydd gwybodaeth bellach ar berfformiad ariannol, mentrau effeithlonrwydd a pharatoadau Network Rail am 2020-21 yn cael ei cyhoeddi yn Asesiad Effeithlonrwydd a Chyllid Blynyddol ORR (disgwyllir ei gyhoeddi yn haf 2020).



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