Hunter Valley Coal Network Access Undertaking

Further Submission for ARTC's 2018 Compliance Assessment

June 2021

ARTC

Table of Contents

1 Introduction

ARTC provides this further submission relating to the 2018 Compliance Assessment in response to matters raised in a submission by the Hunter Rail Access Task Force (HRATF) that relate to 2018.

ARTC notes that it has engaged directly with the Rail Capacity Group (RCG) (which included all HRATF members) on matters raised in HRATF's submission and provided further information to Customers and Rail Haulage Providers on a confidential basis. Copies of these presentations have also been provided to the Australian Competition and Consumer Commission (ACCC) as part of the compliance assessment process.

2 Overhead Allocation Error and Resubmission

As part of their review of the 2018 Annual Compliance Submission the ACCC requested ARTC provide a reconciliation of the total corporate overhead expenditure and allocation to the Hunter Valley Coal Network.

In the process of sourcing this top down breakdown an input error was found in the % cost attribution to Inland Rail for 2018 compliance period. This cost attribution process occurs prior to the calculation of the residual overhead allocation to the operating business units.

Rectification of the error results in a $1M reduction in corporate overhead allocated to the Hunter Valley Network of which $0.9M relates to the coal network. This reduces the Constrained Network Ceiling Limit and the 2018 under recovery for the Constrained Network by $0.7M and a $0.2M reduction of the Pricing Zone 3 Capitalised Loss Balance.

ARTC has made full disclosure of the error and resubmitted affected Compliance documentation to the ACCC. The RCG, comprising affected stakeholders, was also informed of the issue prior to resubmission of documentation to the ACCC.

3 HRATF Submission

3.1 Context

In 2018, coal prices remained at high levels with thermal coal prices sustaining above US$100/mt for most of the year. Early in the year it was recognised that Customers west of Muswellbrook were seeking to deliver throughput volumes (circa 4Mtpa in aggregate) above contracted paths in 2018 and likely higher volumes again in 2019. In response, ARTC acknowledged that achieving this would require structured improvement focused objectives to increase effective utilisation of the asset and established initiatives to achieve Customer needs. These tactics focussed on exploiting operational efficiency and included engagement with rail operators in prioritising and scoping activities for improvement focused work streams. The combined program (Capacity Fast Track) was reported to the Customers and supply chain peers via the monthly RCG process.

ARTC remained focused on delivering the required network availability and reliability. The 2018 calendar year saw an improvement in infrastructure reliability loss outcomes, with the 2018 annual losses reported as 1.23% against a 2017 result of 1.81%. The focus on structures (i.e. bridges) resilience continued. Gowrie Gates and Farley Bridge renewal projects were completed and intensive bridge strengthening maintenance works were conducted at the Glennies Creek location. In response to the increasing need to balance throughput demand with asset maintenance requirements, the Network Integration team was established to facilitate more efficient use of short-term windows for planned maintenance activities in effect maximising operational time whilst still delivering planned maintenance activities.

ARTC continued its focus on costs, value for money, safety and reliability. The level of transparency provided to the RCG on ARTC's cost performance for both high level maintenance costs and reconciliations of corridor capital expenditure demonstrated in prior years remained constant. The influence of the high volume of large infrastructure projects occurring on Australia's East Coast began to be felt though increased contract labour rates. ARTC kept stakeholders informed on the resulting impact on costs and began to implement longer term strategies to combat the influence of the skills shortage. Reporting and engagement also continued with the RCG on ARTC's safety, operational and reliability performance and initiatives.

Implementation of ARTC's Network Control Optimisation (ANCO) project continued with focus on deployment of dynamic scheduling software platform "Movement Planner' to operate in ARTC's specific Australian server and cyber safe environments and ongoing operational readiness with all coal chain participants as to the planning and execution of training requirements needed to ready personnel across the supply chain for live system operation.

ARTC also had a strong regulatory focus throughout the year. Significant management focus, time, effort and resources were invested by ARTC. Firstly, in providing continual response to the ACCC's deep dive into operating costs as part of the HVAU 2015 Annual Compliance process, and in the drafting, review, and lodgement of the September 2018 Variation of the HVAU.

3.2 Overall trends in ARTC operating expenditure

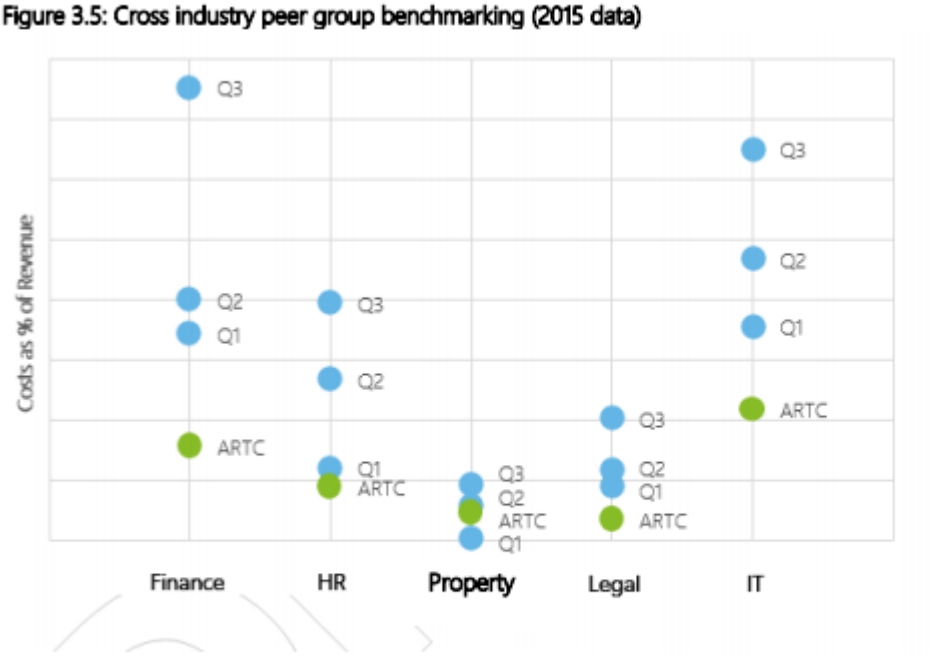
ARTC acknowledge HRAFT's comments in regard to operating expenditure and note that the size of the HV business requirements has also grown substantially through the period. Contract coal GTK has increased in Pricing Zone 1 26%, in Pricing Zone 2 64% and Pricing Zone 3 180% in the period from 2013-2018.

Along with the increased contract volumes, there has also been an increased focus and growth in expectation of customer service, engagement, and outcomes throughout the period. Increased spending on safety, reliability and logistics has enabled customer flexibility as well as supported opportunities for peaking/above contract volumes. Reporting requirements have increased in both volume and complexity to enable access to and reporting of ARTC and supply chain information to assist informed decision making (e.g. 24/7 notification of network disruptions), and there has also been a dedicated focus on design and initiation of improvement projects for innovation aimed at increased efficiency and synchronisation.

Governance requirements through this period driven by the overall organisational size, ARTC's status as a regulated "Government Business Enterprise" as well as increasing specialist requirements in the areas of procurement, cyber security and social licence have contributed to the cost and complexity of business operations. The level of development, engagement and transparency relating to HVAU regulation has also grown extensively through this period.

In 2018 the ACCC undertook a thorough review of the efficiency of ARTC's overhead costs and the allocation mechanism. As part of this process, Deloitte also independently reviewed ARTC's overhead cost position in respect of specific overhead components relevant to a cross industry peer group and identified these as being generally at the lower end of the bottom quartile[1]. It should be recognised that the necessary investment in technology and related solutions in many of these areas have been from this low baseline.

Figure 3.5: Cross industry peer group benchmarking (2015 data)



Source: Deloitte analysis

Considering all the elements of ARTC costs and given the size and complexity of the ARTC's operations, our assessment is that these costs are reasonable and comparable to organisations of similar size and complexity.

The introduction of the revised overhead allocation methodology under Schedule I of the HVAU from 1 July 2017 provided a closer alignment to the drivers for the underlying costs and therefore a more accurate reflection of the true share for the Hunter Valley coal network. This resulted in a one-off step increase in the Hunter Valley's share of corporate overhead equating to approx. $5-6m. This has not been normalised in the comparisons between 2013 and 2018.

Each year ARTC has explained the key drivers for year on year cost movements in its approved Compliance Assessment Submissions, in the context of 2018, these supported the steadfast focus on delivery of network availability and reliability for additional customer demand.

[1] Deloitte "Australian Rail Track Corporation Ltd Operating and Maintenance Expenditure Analysis" Report page 38 https://www.accc.gov.au/system/files/ARTC%20Submission%20to%20ACCC%20Opex%20Review%20-%20Appendix%20B%20-%20Deloitte.pdf

3.3 Maintenance Expenditure

Routine Corrective & Reactive Maintenance (RCRM)

The 31% increase in the Routine Corrective and Reactive Maintenance (RCRM) costs from the 2017 calendar year can primarily be attributed to the engagement of contractors and retention of maintenance employees in a challenging labour environment, and the multi-year Track Stability Project implemented across the network.

Engagement and Retention of Labour:

During 2018, ARTC experienced both industrial action and difficulties in retaining civil and signalling maintenance employees. Approximately $5.1M of RCRM costs in 2018 were attributed to hiring both civil and signal contractors to support the internal ARTC labour force. This spend was required to backfill vacancies within the organisational structure and address various gaps in coverage related to protected industrial action taken by the workforce during a renegotiation of the Enterprise Agreement with track maintenance teams, ensuring continued responsiveness to issues and performance of the network.

During the period, ARTC had trouble in attracting and retaining key staff in a highly competitive labour market. Staff turnover throughout the period was significantly higher than prior years. It was recognised that employees were exiting the business on the basis that employment remuneration conditions were more favorable with contracting companies that were supporting the increased demand of this capability, generated by the large number of rail and civil infrastructure projects across the East Coast of Australia. Due to the imperative for ARTC to continue to maintain safety and performance standards on the rail network, labour was procured through the contracting market at a premium to hire in the skills required to fill critical vacancies in the maintenance teams. At the same time work commenced on a strategy to achieve a more sustainable and stable employment base. In late 2018 ARTC deployed a multi-year strategy to address the trend in employee turnover with a focus on reducing turnover, mitigating the effect of turnover and recognising technical skills.

The shortage of skilled signalling employees has continued beyond 2018 and is driving the competitive remuneration rates in the current market. Attaining competency as a signal electrician in the regulated rail industry involves a long lead time. Certification requires the successful completion of two trade level courses (Electrical and Signalling) which, when combined with role specific competencies to work on OEM equipment, can take several years to attain.

The costs associated with acquisition, retention, and support of both civil and signalling staff have also been realised in the period beyond the 2018 calendar year, however this reliance has dropped off significantly in the current time period as the impact of the recruitment and retention strategy is being realised. Both these labour related issues and associated costs were routinely discussed with the RCG during 2018 and future periods, and the associated cost forecasts were reported in the quarterly maintenance cost reports during the year. A sample of meeting minutes where discussion was documented has been provided to the ACCC on a confidential basis.

Welded Track Stability (Multi-Year Project):

ARTC performed a holistic review of welded track stability and rail stress risk management during 2018 and 2019 to reduce the incidence of heat induced rail buckles which were becoming more prevalent due to the more extreme heat being experienced in parts of the network. Heat induced rail buckles are a significant safety and reliability issue on the network. This review included welding, rail defect removal, rail adjustment and design alignment of predicted risk sites. In 2018, the focus was primarily on the

Ardglen range which was identified as the highest risk site with a significant history of rail buckles and associated train delays.

Whilst approximately $1.7M of the infrastructure maintenance costs can be attributed to this track stability work in 2018, this spend has resulted in significant improvement in terms of network reliability. The leading indicator of this can be seen in the reduction in the number of rail buckles from 16 in 2018, to 3 more recently in 2020. This reduction has provided a direct benefit to customers through reduced network disruptions. This work and associated cost was also reported to and discussed with the RCG during 2018.

Ballast Cleaning

Ballast cleaning costs are driven by a combination of contract rates and the existing condition of ballast where ballast cleaning is being undertaken.

In 2017, in response to a review of asset strategy and corresponding customer feedback on the overall cost of the ballast cleaning program and network outages impact, the forward program was reviewed and revised. Scope was revised from circa 50km to 30km per annum and rationalised to the six network closedown periods (rather than costly additional evening possessions) that could be serviced by a single ballast cleaner providing a more sustainable cost profile and mitigating network availability impact for customers.

To reduce the contracted scope for ballast cleaning and secure the ongoing supply, a revised fee structure was negotiated and incorporated into the existing contract. In 2018 on expiry of the prior agreement, the new competitively tendered 5-year contract included further change recognising the revised 30km p.a. ballast cleaning scope becoming the permanent forward program of works.

The strategy change is a key difference between costs in 2017 and 2018. Due to these factors the contract rates in 2017 represent the lower rate during that period where higher scope was being completed whilst 2018 reflects the first year of the higher charge due to the contracted reduced scale. Whilst contractual rates increased as a result of the overall strategy change, it is important to note that this was done in response to requests to reduce the total cost of the ballast cleaning program and increase network availability for customers.

Poor ballast condition also contributed significantly to costs in 2018 as the ballast cleaner continued its initial clean in Pricing Zone 3. It is important to also note that the Zone 3 track formation was not replaced as part of the 30TAL program and, in most locations, dates from when the rail line was originally constructed (circa late 1800's). Prior to the commencement of ballast cleaning in 2017, Zone 3 had not been ballast cleaned since its initial construction. The age and degraded state of the ballast in the zone contributed to poor productivity rates as cleaning took longer and the level of top up ballast needed was high. The topography of Zone 3 is typically characterised by reactive soils which also contributes to the level of ballast fouling typically encountered in the area.

Rail Grinding

As the unit rate for rail grinding in 2018 was comparable to 2017, the increase in the total rail grinding costs can be attributed to an increase in delivered scope. In addition, $0.5M of consultant support (procurement, probity and legal support) were incurred as overheads for the procurement of a new 120 Stone Grinder under a long-term exclusive supply arrangement. This was a significant procurement activity for ARTC, given contract length and overall cost for this activity across entire ARTC network. ARTC considered it prudent to engage with the market utilising additional procurement support to ensure the best value was leveraged as the outcome.

Securing the 120 Stone Grinder technology was critical for ARTC to unlock better value for money for customers in delivering rail grinding on the network. This rail grinder is a larger machine which can deliver higher production rates; ultimately translating to higher scope at a lower unit cost and less network downtime to deliver a higher quality outcome. Although the new grinder was not in use until early 2020 due the requirement to import the machinery from overseas, there have since been significant benefits achieved. Overall, the unit rates have reduced by 14% when comparing 2018 to 2020 with a 22% increase in achieved scope. These benefits are directly related to the increased productivity of the procured 120 Stone Grinder compared to the older 80 Stone Grinder in use in 2018.

3.4 Treatment of Asset Disposals

Disposal Methodology

The carrying Regulatory Asset Base (RAB) Floor Limit values for an asset being removed is based on the underlying regulatory value of the asset with CPI escalation and accumulated depreciation applied in accordance with the annual roll forward methodology for the RAB Floor Limit under section 4.4 of the HVAU. No change in methodology has occurred in the calculation of disposal values or the accounting treatment of proceeds received from the sale of scrap from prior year compliance returns. The carrying RAB value is reflective of Remaining Mine Life (RML) for depreciation of the RAB Floor Limit, rather than the useful life on an individual asset. The higher written down value of assets disposed in the 2018 year reflected the asset life rather than the economic life of the coal mines set by the RML.

Accounting Treatment of Proceeds Received on Sale of Scrap & Reuse of Scrap Materials

All scrapped rail is treated as a disposal from the RAB Floor Limit regardless if scrap is reused. ARTC also records or "deems" a value based on actual market price of scrapped steel for proceeds on disposal regardless if scrap is reused or disposed. The market rate for scrap rail, used to determine disposal proceeds, is calculated with reference to the average scrap sales value per tonne as received by ARTC over the period of the Compliance submission. The value is reflective of the arm's length market rate for scrap steel. Customers therefore benefit from the reduction in the value of the loss on disposal in all instances regardless of the actual sale or utilisation of scrap rail. ARTC does not receive a windfall gain through this process.

All scrapped rail is assessed for reuse within the ARTC Network. Rail is replaced due to its condition reaching condemning limit or evidence of defect being found. The degraded nature of this scrapped rail (why it was replaced in the first place) also make its suitability for reuse in the coal network limited.

3.5 Network Control Costs

ARTC Network Control Optimisation (ANCO) Project

Stakeholders have been provided regular updates on the ongoing progression and status of the ANCO project since inception either via monthly RCG reporting or direct participation in the Hunter Valley Oversight Committee.

The ANCO business case identified tangible savings that were predominantly related to the deferral of capital and to a lesser extent operating costs, as well as some opportunity values dependent on external factors.

In 2018 the ANCO project team was engaged in initial testing of systems integration of movement planner. As of June 2021, the project implementation is practically complete with refinement aspects ongoing through change management within ARTC and the wider coal chain.

ARTC notes that the primary tangible benefit, being the increase in track utilisation and capital deferral has been realised. ARTC increased saleable capacity with the increased utilisation on the network single lines and has been actively delivering this additional contracted volume to Customers since 1 January 2020 (with each additional tranche of capacity being assessed by HVCCC).

Given the stage of the project, the tangible operating cost benefits as outlined in the original business case are yet to be fully realised. As required by the HVAU, the formal close out report will quantify the realised benefit against the endorsed Business Case at the conclusion of the ANCO Horizon 1 project.

Staff Rostering

In January 2017 following extensive ARTC consultation with employees, RTBU, COMCARE and ONRSR, a four team 8-12 hour roster was implemented for Network Controllers (NCs) as part of a 12-month trial.

Increased volumes were leading to increased train movements and interactions for NCs. The existing roster structure minimised resourcing and contributed to confining NCs to their workstations without being able to take effective breaks during shifts leading to fatigue issues. From a management perspective the ability to rapidly relay and reinforce crucial safety, operational and customer information was also being inhibited which in turn affected front line decision making by NCs to achieve optimum train running outcomes. The new roster was implemented to create dedicated working teams to address these concerns.

Over the actual seven-month trial period ARTC management gathered feedback from staff and the RTBU on the working arrangement. In April 2018, ONRSR conducted an audit of working arrangements and identified issues with the adequateness of fatigue controls under the rostering arrangement. ONRSR had also been consulting widely with industry during the period on restrictions to hours of work to ensure compliance with the nationally focused Fatigue Management Principles and was concerned that this working arrangement would be contrary to this developing information.

In October 2018, despite positive feedback on the impact of the rostering arrangements in regard to the creation of dedicated work teams, the decision was made to discontinue the trial and begin a transition to alternate arrangements, still leveraging a team based environment. Following consultation, a five team 8 hour working arrangement was implemented officially in January 2019. Prior to this, additional staff were employed and trained in preparation to enable resourcing/training/fatigue managements needs to be adequately met once the roster change was made.

The requirement for additional staffing contributed to an $0.4M increase in labour costs as disclosed in the 2018 Compliance Assessment Submission.

3.6 Increases in procurement costs and professional fees for business Unit Management

Procurement

A critical component of ARTC's ongoing business operations is its engagement of consultants and contractors to deliver required maintenance and construction projects to safely manage the reliability of its rail networks. Given the size of ARTCs existing operations through the Interstate and Hunter Valley networks, a significant portion of its expenditure is tied directly to contractor pricing and market forces. It is of upmost importance that ARTC services are delivered in a cost efficient and sustainable manner for both Customers and ARTC's long term viability.

In 2017 an audit was conducted by the Australian National Audit Office (ANAO) in relation to Grant Funding during the pre-construction phase for Inland Rail. Whilst not specifically related to ARTC's general procurement processes, this audit was referenced by the ACCC in its 2015 Compliance Assessment Decision. Notwithstanding that, WIK Consult's assessment as part of the 2015 operating cost efficiency review concluded that ARTC's procurement approach was efficient, the ACCC advised that the ongoing demonstration of the proficiency and governance of procurement practices would be a key consideration of the ACCC's assessment of ARTC's demonstration of value for money and efficiency of the operating expenditure.

Subsequent to the ANAO findings, ARTC took the opportunity to strengthen the administration aspect of existing procurement functions network wide, implementing a new procurement manual and associated procedures companywide in March 2018. The updated manual refreshed guidelines for the engagement of suppliers, standardised delegation authorities based on contract value, and increased the benchmark even further for articulating and demonstrating value for money throughout the procurement process. The roll out was accompanied by detailed personnel training to embed the new processes across the business.

In addition to the implementation of revised manuals and procedures, a wider review of the structure of procurement functions across the business commenced in early 2018. Initial findings suggested that whilst the current business unit-based structure was currently fit for purpose, to leverage future benefits of bulk scale generated by the growth of Inland Rail, network wide strategic management of procurement needed to be established. Recognition of the complexity of the changes required to achieve this outcome triggered the Procurement Transformation Project (PTP) and competitive tender for consultants to assist with the implementation from 2018-2020.

Being a companywide initiative, the project costs were allocated in accordance with corporate overhead allocation methodology, that is, costs were directly attributed to Inland Rail and then the residual allocated between the Interstate and Hunter Valley business units per Schedule I allocation principles.

The benefits of taking a more strategic focus to procurement include:

- Improved security of supply for ARTC including labour, materials, plant and equipment
- Competitive tension is maintained throughout the term of contracts
- Greater ability to respond to changing network requirements whilst maintaining competitive tension
- Encouragement of new suppliers to the market due to the longer tenure of the contract periods, thus increasing competitive tension for existing market suppliers

- ARTC can foster relationships with supplier partners that focus on safe delivery of high-quality work at a cost-efficient price, incorporating new innovative products, services and approaches to rail infrastructure maintenance.

These benefits have been realised and examples of contract cost outcomes specific to the Hunter Valley which demonstrate this have been reported to the RCG and provided to the ACCC on a confidential basis.

Marketing & Communication

In January 2018, the Hunter Valley Business Unit commenced discussions with the Corporate Affairs team on building capabilities to broaden its ARTC brand awareness within the Newcastle and Hunter Valley communities in which it operates. With a specific view to:

- Demonstrate the scale, value & capability of its business (including people, projects, economic and socially)
- Demonstrate its local linkages and participation in the Hunter Valley economy and community
- Create an understanding and awareness of the world-leading nature of its business and activity; and
- Support ARTC's corporate goals to attract and engage diverse and talented people given the increasing demand for rail skills in line with the growing number of nationwide rail projects.

The direct benefit of the strategy (which was ongoing into 2019) was to achieve a more engaged, educated, and supportive community, motivated to work with, and potentially for, ARTC. ARTC plays a vital role in the Hunter Valley Coal Chain and is intrinsically linked to the wider coal industry, hence this direct benefit is shared by stakeholders and assists with mitigating the increasing societal risk associated with coal production as well as broadening the pool of skilled and valued workers ARTC can draw upon.

Indirectly, benefits are also realised through a more engaged, committed and local workforce, maximizing retention rates (to minimise costs of employee churn both now and in the future) and strengthening the important bond with the local communities with which they engage; reinforcing the direct benefits of the marketing campaign.

Asset Management Improvement Program (AMIP)

The ARTC Asset Management Strategy outlines five key pillars and their associated enablers to support ARTC's inclusion of both a Time and Tonnes and a Risk and Condition based maintenance model. The strategy includes the creation and review of asset management systems and processes, including two key initiatives:

• **Asset Management Improvement Project (AMIP)** – An ARTC, network wide, multiyear initiative to augment ARTC's whole of life asset management systems and processes. Noted as a key improvement initiative in an independent review of ARTC's Risk Management Process (a copy of which has been provided to the ACCC and Customers). AMIP is a multi-faceted project including but not limited to: the inclusion of risk and network criticality in our inspection systems, reviewing critical maintenance work flows to provide further Customer value proposition to the maintenance plans, and ensuring work performed is scheduled and planned effectively.

• **Decision Support Platform (DSP)** - Implementation of the DSP is key to the success of AMIP and ARTC's Risk and Condition based maintenance model. The DSP will rationalise numerous models and data sources on the asset (that were previously captured in a variety of locations), into a single analysis system, thereby enabling efficient, reliable, objective, and robust asset management decision-making.

Historically the ARTC Enterprise Asset Management System (Ellipse) was only used as a means of tracking compliance to statutory asset inspections which form a part of the Safety Management System (SMS) in place under Rail Safety National Law. At a high level, the Ellipse system held all planned inspection records and tracked registered defects against assets in the system for the purpose of demonstrating regulatory compliance to the SMS.

An upgrade to Ellipse, completed in 2015, was required due to the end of support provided by the vendor for the version of Ellipse that was in use by ARTC at the time. At the completion of this upgrade, ARTC uncovered some significant issues in the underlying equipment register, inspection and defect work order workflows, inadequate training and business process consolidation.

Based on these issues, ARTC identified that further foundational work was required in systems, processes and staff training were needed to better utilise Ellipse's asset management functionality which lead to the formation of the AMIP project. This initiative was aimed at lifting the robustness and efficacy of the asset management system within ARTC against recognised industry metrics, such as ISO 55001 Asset Management Maturity.

The work under AMIP is designed to deliver a step change in value by using more of the full functionality of Ellipse. The work, fundamentally changing how ARTC registers, configures, plans and delivers asset management and maintenance execution is a transformational asset management improvement for ARTC. Charting a path towards a more objective and sustainable modern asset management approach over a multiyear timeframe.

The improvements to the use of Ellipse will provide a capacity to collect and store risk and condition information on the asset in a central source; thus, allowing asset management teams to direct work planning towards programs which ultimately reduces risk to ARTC and its customers.

An appropriately configured Enterprise Asset Management System (EAMS) will provide ARTC with the ability to set risk level and maintenance intervention strategies and therefore more objectively correlating expenditure for any given period to value and benefits.

With the implementation of future innovative programs such as Field Mobility and GIS Integration, the foundational changes to the asset register would be further leveraged, providing ARTC with the ability to further challenge cost and risk within a more mature asset management framework.

The concept of "planned work is safe work" is also foundational to the value proposition that AMIP delivers to worker safety. A reduction in reactive response and an increase in planned activity on the network will have positive safety outcomes.

With a foundational review of asset data and configuration of systems, ARTC will unlock further benefits to reliability enhancements on the network using the Decision Support Platform (DSP). The DSP is also mentioned in ARTC's Asset Management Strategy and is aimed at data visualisation and condition forecasting.

It is important to note that the work with AMIP and the DSP are intrinsically linked together. Without the foundational changes to data structures and workflows, the DSP would not be able to function and conversely, without the DSP an informed view on risk and condition could not be challenged by the work on Ellipse data structures alone.

Capacity Fastrack

The Capacity Fast Track initiative commenced to set a road map to achieve the throughput goals of Customers through sustainable growth methods in the immediate, near and longer term. The anticipated work streams across the Exploit, Extend and Build phases were first presented to the RCG in February 2018.

The specific tactics and initiatives evolved through the project in response to the ideas generated through the process, data analysis, investigations and feedback from the Capacity Fast Track Oversight Committee (comprising Customer representatives across each Zone and HVCCC), customers and operators individually and the RCG. Some activities were discontinued, and others combined into other work scopes where there were natural linkages or synergies.

Initiatives from Capacity Fast Track have been progressively explored and/or implemented between 2018 and 2020, with a mix of both operational and capital projects being put to the RCG for consideration. Projects that proceeded to RCG endorsed capital projects were then progressed in line with HVAU capital provisions, noting that some of the RCG endorsed capital projects stemming from Capacity Fast Track are currently in-progress.

The Capacity Fast Track Oversight Committee met on six occasions across 2018 and monthly progress reporting and supplementary submissions were provided to the RCG during 2018, 2019 and 2020. Copies of reports provided to both the Capacity Fast Track Committee and RCG have been provided confidentially to the ACCC as part of the 2018 compliance review process.

The table below summaries key achievements / deliverables from Capacity Fast Track across the broader multi-year program of initiatives:

Exploit	
Gunnedah Timetable Review	• Delivered an additional 2 to 3 Up paths to then current timetable • 5% reduction in Up (loaded) planned runtime • 8% reduction in Down (empty) planned runtime • More opportunities for effective linked paths • Improved train flow through Muswellbrook Junction with Ulan Paths
Ulan Timetable Review	• Increased pathing to extremity of Zone by extending Bengalla/Mangoola paths • Up (loaded) planned runtime 15 minutes faster • Down (empty) planned runtime 25 minutes faster • Reduced overall dwell • Improved train flow through Muswellbrook Junction with Gunnedah Paths
HVCCC Planning Approach	• ARTC worked with HVCCC to embed business processes at HVCCC to maximise planned use of available paths through Muswellbrook and remove artificial planning constraints.
Train Length	• Trials undertaken to increase train length against infrastructure limitations.
Section Run Time improvements	• Installation of signage, vegetation control, repeater signals, speed boards and clearance boards at specific locations to improve train driver visibility and train speeds/performance. • Improved sectional runtimes observed.

Improve response times to failures on the network	• Standardised communication process implemented with Network Control and Operators for response to failed assets on the network. • TOC waivers for recovery locomotive configurations and permanent locations identified for stationing rescue locomotives. • Delivered improved mean time to respond.
Muswellbrook Junction Train Flow	• Process flow for forecasting trains through Muswellbrook into Movement Planner implemented with HVCCC involvement for scheduling aspects.
Extend	
100km/hr running	• Desktop investigation and field validation completed to enable stakeholder engagement and capital endorsement submission for enabling capital works in PZ3 (level crossing and bridge end upgrades) to be provided to the RCG. Endorsed by RCG. Capital project in progress.
Coded track circuits	• Investigations completed to enable capital endorsement submission for accelerated implementation for PZ3. Endorsed by RCG. Capital project completed. • Reductions in transaction time delivered at locations where coded track circuits were upgraded.
Bylong Tunnel Headway reduction	• Air quality monitoring undertaken through Bylong Tunnel No.3 and stakeholder engagement to enable above rail to undertake change management with train crews. • 4 min reduction in head way implemented in ARTC's train control system from 1 January 2020.
Network Enhancements	• Enhancements identified through Exploit that required further scoping, review and capital expenditure were incorporated into the Extend phase. • Scoping works undertaken to prepare capital endorsement submissions to RCG for early phase works: ▪ Relocate Sandy Hollow Level Crossing to improve train speeds into and out of the loop – PZ2 ▪ Speed Increase through Scone (enabling noise mitigation and level crossing upgrades) – PZ3 ▪ G80 Speeds for grades at Quipolly, Quirindi and Murulla in Up Directions – PZ3 • Sandy Hollow Level Crossing relocation endorsed by RCG and is in progress. • The PZ3 projects were put on hold in consultation with PZ3 Customers with a preference to progress 100km/hr running first.
Network Analysis	• Network analysis focused on a desktop assessment of enabling works and network capacity benefits to run longer trains of up 1,640 metres. Indications of capital costs to extend loops and address terminal arrival/departure road limitations and associated signalling changes were prepared. • RCG members had divergent views on progressing this initiative further given the high capital cost and whole of supply chain approach required. Not progressed at this time.

Build	
Widden Creek Loop	• Refresh of engineering studies completed in 2011 to enable development of an RCG capital endorsement submission for Detailed Design (Phase 3) for the Widden Creek loop – PZ2. Endorsed by the RCG. Note: works currently on hold at request of the RCG pending approval of HVAU version 8.
Murrumbo Loop extension	• Refresh of engineering studies completed in 2011 to enable development of an RCG capital endorsement submission for progression of Feasibility and Detailed Design (Phases 2-3) for the Murrumbo West Loop extension – PZ2. The RCG did not endorse this project.
Gunnedah Yard Speed Increase	• Scoping works undertaken to prepare capital endorsement submission to progress design and construction of noise walls/mitigations and signalling to allow increased speeds through Gunnedah – PZ3. PZ3 Customers requested the project be put on hold.

3.7 Allocation of overhead costs to the Hunter Valley Business Unit

Allocation Methodology

The HVAU requires all costs, where possible, to be directly attributed to a segment. Costs that are directly attributable to the Hunter Valley, Interstate or Inland Rail are first costed directly to those divisions. Then the remaining overheads that cannot be directly attributed to a segment are allocated based on the approved Schedule I methodology that was implemented in version 6 of the HVAU. The 2018 Compliance Submission has been prepared on the basis of this approved methodology.

The Schedule I allocation methodology includes network traffic parameters (e.g. GTK or Train km) and as such results in variation in the allocation amount attributed to the Hunter Valley Coal Network based on volume changes in the operative business units. During the 2015 review, ACCC's consultant WIK-Consult assessed the appropriateness of the allocators used and found them to be efficient, the variation from year to year was also acknowledged as expected outcome of the application of this methodology.

In 2018, traffic volumes on the Interstate Network were impacted through the exit of Aurizon from the Intermodal freight market business. As a result, traffic volumes resulting from the Hunter Valley Coal Network represented a larger portion of overall ARTC network traffic in the period and therefore received a higher share of overhead costs. In comparison, during the 2017 Compliance period, non-coal volumes were proportionally higher, and the allocators had the impact of reducing the HVCN share of corporate costs by $1M.

Inland Rail

Inland Rail is a significant construction project not an operational business unit. Inland Rail has its own dedicated support functions given it focus is construction not operations. Corporate costs related to Inland Rail are directly attributed to the project prior to the application of Schedule I.

Attribution of costs to Inland Rail is undertaken on a two-step basis:

1. Direct costs to Inland Rail are costed to Inland Rail.
2. Any Corporate roles not 100% devoted to the project are assessed to determine an attribution to Inland Rail.

The sum of these costs is directly attributed to Inland Rail with the remaining balance of overhead costs allocated subject to the application of Schedule I.

This direct attribution ensures that costs related to Inland Rail are not borne by users of the Hunter Valley Network.

3.8 Transparency

Since the business transformation in 2015, ARTC has been working with Customers on increasing transparency in parallel with substantial regulatory developments occurring across this period, including HVAU variations and the ACCC's 2015 OPEX review.

Noting that some time has passed since 2018, ARTC has recapped on information provided to the RCG, and discussions and forums that took place during the year on many of the items raised.

ARTC remains focused on working through the historical backlog of compliance submissions on an expedited basis whilst continuing to improve transparency of forward information in line with current stakeholder expectations.

The recently approved HVAU Version 8 embeds a range of measures relating to engagement and transparency. Work is currently underway on developing the Maintenance Plan document for 2022 (maintenance strategy and budget) ready for engagement with the RCG in July 2021.

ARTC acknowledges stakeholder feedback regarding the transparency of the financial model and is assessing how greater transparency can be provided without compromising the confidentiality of customer information. ARTC will engage further with Customers on this as part of the 2022 pricing process.