2021/2022 NSW Lease Annual Condition Report

July 21 to June 22

ARTC

TABLE OF CONTENTS

Executive Summary

In accordance with the lease, this document presents the Annual Condition Report for NSW Lease Assets. This 17th report covers the period July 2021 to June 2022. September 2004 being the commencement of the lease. This report also includes the Inland Route (2011) and the Sydney Freight Metropolitan Network (2012).

Material Changes in Condition

There have been no adverse changes in the general condition of the land, the infrastructure and the ARTC infrastructure during the period covered by this annual condition report.

ARTC has conducted regular asbestos audits of buildings/structures identified as containing asbestos. A review of sites across the network has been completed by an independent consultant who has provided ARTC with updated reports for each site containing asbestos. The updated reports have assisted ARTC in prioritising remediation works. A plan to remediate high priority sites is established and maintained in conjunction with TfNSW. ARTC have received funding from TfNSW for asbestos remediation works at specific sites.

Performance against KPI's

Total Transit Time Delay, by KPI region, by month (Schedule 7, Cl 2.2(a))

The Annual Limit has been met in 8 of the 15 categories for the KPI Network. The Annual Limit for North Coast and West was met for all train categories.

Force majeure events that occurred in 2021/22 and resulted in temporary speed restrictions due to damage include extreme weather events causing flooding and washaways, and derailment.

The Annual limit has not been met for the KPI network for all train categories in the Hunter Valley and the South (after force majeure event adjustments have been applied).

Plans are in place for works to improve the track condition for the Hunter Valley and South over the next two to three years, further information is included in the report.

Five Year Rolling Average of Total Transit Time Delay (Schedule 7, Cl 2.2(b))

The limits for the Five-year rolling average of Total Transit Time Delay were met in 9 of the 15 categories after adjustments due to force majeure events have been applied.

Force majeure events that occurred in 2021/22 and resulted in temporary speed restrictions due to damage include extreme weather events causing flooding and washaways, and derailment.

The limit for the Five-Year Rolling Average of Total Transit Time Delay has not been met for the KPI network for all train categories in the Hunter Valley and the South (after force majeure event adjustments have been applied).

The Five-Year limits for Hunter Valley were based on a data set which was at a historical low. Since 2004, there have been significant increases in the coal traffic, but the limits have not been revised to reflect this.

Track Geometry (Schedule 7, Cl 2.2(c))

The Annual Limits for Geometry measures for Top, Twist, Line and Gauge were achieved; calculated as per Schedule 7, section 4.1 and 4.2.

The Five-Year Rolling Average of the Track Geometry measures was met in all categories.

Three-Year Rolling Average of Large Rail Defects (Schedule 7, Cl 2.2(d))

The Three-Year Rolling Average for Large Rail Defects was 49.7. The limit of 48.86 was not achieved, calculated as per Schedule 7, section 11.4.

Rerailing works to mitigate temporary speed restrictions due to rail related issue is anticipated to reduce the number of large rail defects in future years.

New Sleepers on KPI Network, excluding the Hunter Valley (Schedule 7, Cl 2.2(e))

A total of 59,779 sleepers (Timber – 97; Steel – 12,260; Concrete – 46,427 and Other - 995) were installed during the reporting period. The Network including the sleepers replaced, now consists of Timber 5.7%, Steel 12.4%, Concrete 81.8% and Other 0.02%.

Bridges (Schedule 7, Cl 2.2(f))

Three bridges from the list in Schedule 7, clause 9 have been replaced during the reporting period.

The Bridge Street underbridge was a steel girder and transom top bridge, it has been replaced with concrete girder and ballast top bridge.

The Muscle Creek underbridge which was steel girder and transom top and the Hunter River underbridge which was a combined steel girder and steel truss with transom top have been replaced with a concrete girder and ballast top bridge Muscle Creek and Hunter River underbridge.

Signals (Schedule 7, Cl 2.2(g))

The total number of signal failures on the KPI network for each month has been provided. We note there has been a reduced number of signal failures when compared to the previous year.

Percentage of Healthy Trains Achieving On-Time Exit, by month (Schedule 7, Cl 2.2(h))

As required by clause 5.2, ARTC has measured the performance of services on the ARTC network (including the NSW Lease network).

The measurement of ARTC's service reliability has been calculated to reflect -

- The full journey performance of all services travelling on any part of the NSW Lease network.

Previous reports included CRN performance. This will no longer be reported as ARTC does not capture CRN performance data.

The YTD Monthly Average % of Healthy Services Achieving On-time Exit (July 2021 – June 2022) is:

- 92.9% against a Service Reliability limit of 90.0%. As above, the limit is calculated as per lease schedule 7.3 (a) 'Service Reliability Limit'.

Maximum allowable speed and axle load combinations applying to the KPI Network (Schedule 7, Cl 2.2(i))

Since the commencement of the Lease there has been no reduction in the maximum allowable speed and axle load combinations on the KPI network.

Permitted Permanent Speed Restrictions (Schedule 7, Cl 2.2(j))

Permanent speed restriction changes were issued between July 2021 and June 2022 and have been provided.

Register of ARTC Infrastructure

Building Works

During the reporting period, a total of $4,554,323 of Building Works was completed.

Infrastructure Investment Programme and Major Works

A total of $954,442,653 was invested on the Major Works Investment Program during the reporting period.

A total of $323,224,308 has been invested in Corridor Works (including RCRM, MPM and Corridor Capital Works) during the reporting period.

Since take up in September 2004, ARTC has invested a total of $10,557,229,775 in Major Works, Corridor MPM and Capital Works.

Major Works Investment – Since Lease Commencement

	2004/05 ($'000)	2005/06 ($'000)	2006/07 ($'000)	2007/08 ($'000)	2008/09 ($'000)	2009/10 ($'000)	2010/11 ($'000)	2011/12 ($'000)	2012/13 ($'000)	2013/14 ($'000)
Major Works Investment	$5,695	$83,518	$324,507	$514,022	$517,500	$615,278	$490,988	$843,678	$539,004	$159,383
Corridor MPM & Capital	$55,993	$95,863	$97,899	$103,624	$84,008	$82,480	$106,168	$94,170	$147,983	$162,157
Total	$61,688	$179,381	$422,406	$617,646	$601,508	$697,758	$597,156	$937,848	$686,987	$321,540

	2014/15 ($'000)	2015/16 ($'000)	2016/17 ($'000)	2017/18 ($'000)	2018/19 ($'000)	2019/20 ($'000)	2020/21 ($'000)	2021/22 ($'000)	**Total ($'000)**
Major Works Investment	$173,424	$69,704	$170,079	$203,711	$495,257	$647,194	$762,584	$954,443	$7,691,168
Corridor MPM & Capital	$194,712	$236,557	$226,789	$196,992	$216,915	$262,340	$251,083	$249,692	$2,866,062
Total	$368,136	$306,261	$396,868	$400,703	$712,172	$909,534	$1,013,667	$1,204,134	$10,557,230

1. Material Changes in Condition

There have been no adverse changes in the general condition of the land, the infrastructure and the ARTC infrastructure during the period covered by this annual condition report.

ARTC has conducted regular asbestos audits of buildings/structures identified as containing asbestos. A review of sites across the network has been completed by an independent consultant who has provided ARTC with updated reports for each site containing asbestos. The updated reports have assisted ARTC in prioritising remediation works. A plan to remediate high priority sites is established and maintained in conjunction with TfNSW. ARTC have received funding from TfNSW for asbestos remediation works at specific sites.

2. Performance Against KPI's.

Total Transit Time Delay,

i. Total Transit Time Delay by KPI Region, by month

This section deals with transit time reporting as required under Schedule 7, section 2.2(a) of the lease. The information has been presented in two tables. The first table includes all Temporary Speed Restrictions. The second table excludes abnormal events identified as Force Majeure as defined in Schedule 7 Clause 1.2(k).

Including Force Majeure Events																
Category	Jul-2021	Aug-2021	Sep-2021	Oct-2021	Nov-2021	Dec-2021	Jan-2022	Feb-2022	Mar-2022	Apr-2022	May-2022	Jun-2022	19/20 Period Avg	20/21 Period Avg	21/22 Period Avg	Annual Limit*
Hunter Valley																
Freight	23.7	13.6	31.6	21.3	18.1	25.9	29.9	25.9	37.9	34.0	32.4	28.6	**17.5**	**21.5**	**26.9**	11.9
Super Freight	44.8	28.3	38.1	37.3	30.6	42.1	49.6	45.2	65.1	58.1	54.0	46.1	**32.4**	**42.0**	**44.9**	20.9
XPT	9.9	7.6	8.2	7.5	4.2	8.3	13.4	7.5	11.3	16.3	15.4	12.5	**8.0**	**12.6**	**10.2**	3.5
North Coast																
Freight	9.2	7.6	10.7	5.6	1.7	2.1	14.2	23.5	25.2	20.6	28.7	24.0	9.2	7.9	14.4	39.5
Super Freight	13.6	11.9	13.9	10.0	4.3	5.0	21.8	31.3	37.1	31.7	46.5	36.9	14.1	12.9	22.0	62.5
XPT	6.6	4.9	6.3	3.2	1.8	2.6	8.6	18.4	20.6	15.4	16.6	16.6	6.2	6.3	10.1	19.5
South																
Freight	43.0	35.4	30.0	22.2	14.7	23.1	15.7	22.2	16.2	17.9	14.7	18.7	**27.5**	**25.3**	**22.8**	14.5
Super Freight	76.3	60.1	39.5	41.4	30.3	47.4	29.3	38.6	31.1	34.6	27.6	40.8	**48.7**	**43.6**	**41.4**	25.3
XPT	30.5	24.4	13.1	16.7	13.4	19.0	15.0	17.3	15.6	17.2	13.2	15.3	**10.3**	**15.3**	**17.6**	8.0
West																
Freight	5.0	7.0	9.9	5.2	5.7	2.8	1.7	0.8	5.9	7.3	8.3	8.5	3.8	8.1	5.7	23.3
Super Freight	16.9	23.2	11.4	17.8	17.4	35.6	6.7	4.6	17.4	20.5	23.4	23.7	21.6	27.5	18.2	39.8
XPT	1.6	12.6	7.1	4.6	3.8	35.3	2.8	0.5	6.1	6.6	6.4	10.3	**11.4**	9.0	8.1	10.3
Totals																
Freight	80.9	63.7	82.2	54.3	40.2	53.9	61.5	72.4	85.1	79.9	84.1	79.8	58.1	62.8	67.5	89.3
Super Freight	151.5	123.5	102.9	106.5	82.6	130.1	107.3	119.7	150.7	144.9	151.4	147.5	116.8	126.0	118.8	148.6
XPT	48.6	49.6	34.7	32.0	23.2	65.2	39.8	43.6	53.6	55.4	51.6	54.8	35.9	**43.2**	**46.0**	41.3

Indicates months that have been affected by Force Majeure Events

Excluding Force Majeure Events																
Category	Jul-2021	Aug-2021	Sep-2021	Oct-2021	Nov-2021	Dec-2021	Jan-2022	Feb-2022	Mar-2022	Apr-2022	May-2022	Jun-2022	19/20 Period Avg	20/21 Period Avg	21/22 Period Avg	Annual Limit*
Hunter Valley																
Freight	23.7	13.6	31.6	21.3	18.1	25.9	29.9	25.9	37.9	34.0	32.4	28.6	**17.4**	**21.5**	**26.9**	11.9
Super Freight	44.8	28.3	38.1	37.3	30.6	42.1	49.6	45.2	65.1	58.1	54.0	46.1	**32.3**	**42.0**	**44.9**	20.9
XPT	9.9	7.6	8.2	7.5	4.2	8.3	13.4	7.5	11.3	16.3	15.4	12.5	**7.9**	**12.6**	**10.2**	3.5
North Coast																
Freight	4.4	2.8	5.9	5.6	1.7	1.5	13.6	22.9	17.9	18.0	28.1	20.3	6.3	6.0	11.9	39.5
Super Freight	7.3	5.7	7.7	10.0	4.3	3.5	20.3	29.8	24.4	26.8	45.0	31.5	10.0	10.4	18.0	62.5
XPT	3.8	2.1	3.4	3.2	1.8	1.5	7.5	17.2	14.7	13.0	15.5	12.3	4.0	5.1	8.0	19.5
South																
Freight	43.0	35.4	30.0	22.2	14.7	23.1	15.7	22.2	16.2	17.9	14.7	18.7	**26.3**	**21.6**	**22.8**	14.5
Super Freight	76.3	60.1	39.5	41.4	30.3	47.4	29.3	38.6	31.1	34.6	27.6	40.8	**46.7**	**38.5**	**41.4**	25.3
XPT	30.5	24.4	13.1	16.7	13.4	19.0	15.0	17.3	15.6	17.2	13.2	15.3	**10.0**	**14.5**	**17.6**	8.0
West																
Freight	5.0	7.0	9.9	5.2	5.1	2.8	1.7	0.8	5.9	7.3	8.3	8.5	3.5	8.0	5.6	23.3
Super Freight	16.9	23.2	11.4	17.8	15.4	35.6	6.7	4.6	17.4	20.5	23.4	23.7	20.5	27.2	18.0	39.8
XPT	1.6	12.6	7.1	4.6	3.8	35.3	2.8	0.5	6.1	6.6	6.4	10.3	**11.1**	8.9	8.1	10.3
Totals																
Freight	76.1	58.8	77.3	54.3	39.6	53.3	60.9	71.8	77.8	77.3	83.5	76.1	53.4	57.0	67.2	89.3
Super Freight	145.3	117.3	96.7	106.5	80.6	128.6	105.8	118.2	138.1	140.1	149.9	142.1	109.4	118.2	122.4	148.6
XPT	45.8	46.8	31.9	32.0	23.2	64.1	38.7	42.4	47.7	53.0	50.5	50.4	32.9	41.0	**43.9**	41.3

* *Annual Limit as agreed between ARTC and RIC after the first three years of the term*.

The Annual Limit has been met in 8 of the 15 categories for the KPI Network. The Annual Limit for North Coast and West was met for all train categories.

Force majeure events that occurred in 2021/22 and resulted in temporary speed restrictions due to damage include extreme weather events causing flooding and washaways, and derailment.

Significant weather events have occurred over the last 18 months which have contributed to the increased number of Temporary Speed Restrictions (TSRs) on the network. It is standard operating procedure to place a speed restriction on sections of the network to minimise risk of an incident where a condition affecting the track has been identified until remedial action be taken.

The annual limits for all train categories were exceeded in the Hunter Valley during all the months in 2021/22. There are currently ten track upgrading projects planned during the next two years that will directly address track sections that have had TSRs in 2021/22 due to poor track geometry or formation failure. In addition, the long standing 20kph TSR on the Ulan Line that have been put in place for the bridge replacement project has been replaced with a TSR to cover non-testable rail, and is forecast to be lifted in August 2022.

Note that the annual limits for the Hunter Valley were based on data sets that were at a historical low. Since 2004, there has been significant increases in coal traffic, but the limits have not been revised to reflect this.

The average temporary speed restrictions performance for 2021/22 exceeded the annual limits for the South in all categories. The annual limit was not met in the South mainly due to track geometry related issues, and higher than anticipated rail related TSRs.

In the coming financial years ARTC has increased the Annual Works Plan to address the level of TSRs due to track geometry related issues in the North South corridor through increased undercutting and mud hole removal.

The South and North Coast are experiencing TSRs driven by the rail age, increased re-railing works are planned in the coming financial years. Longer term, changes to the rerailing strategy will prioritise works based on rail conditions, taking a preventative approach and reducing the likelihood of temporary speed restrictions being implemented.

Historically, in NSW ARTC has addressed TSRs during possessions and shutdowns to minimise both the impact on our customers' operations and the risks associated with undertaking maintenance activities on a live network.

We accept that to sustain TSRs at an acceptable level we will need to increase safe access to the network outside the planned possessions. Planning for delivery of the increased scope of works in conjunction with NSW TrainLink has commenced.

Gap to Moree

The average performance for 2021/22 for all categories achieved the annual limits for the Gap to Moree section.

Including Force Majeure Events																
Category	Jul-2021	Aug-2021	Sep-2021	Oct-2021	Nov-2021	Dec-2021	Jan-2022	Feb-2022	Mar-2022	Apr-2022	May-2022	Jun-2022	19/20 Period Avg	20/21 Period Avg	21/22 Period Avg	Annual Limit*
Gap Moree																
Freight	6.2	2.9	2.9	14.2	12.0	15.1	14.7	8.5	17.2	10.1	4.0	12.8	7.2	14.0	10.0	23.1
XPT	5.5	2.4	1.6	14.6	12.3	13.9	13.5	7.5	13.8	7.8	3.8	10.4	7.0	10.8	8.9	20.1

Excluding Force Majeure Events																
Category	Jul-2021	Aug-2021	Sep-2021	Oct-2021	Nov-2021	Dec-2021	Jan-2022	Feb-2022	Mar-2022	Apr-2022	May-2022	Jun-2022	19/20 Period Avg	20/21 Period Avg	21/22 Period Avg	Annual Limit*
Gap Moree																
Freight	6.2	2.9	2.9	14.2	12.0	15.1	14.7	8.5	17.2	10.1	4.0	12.8	5.8	9.5	10.0	23.1
XPT	5.5	2.4	1.6	14.6	12.3	13.9	13.5	7.5	13.8	7.8	3.8	10.4	6.1	7.9	8.9	20.1

Sydney Freight Network

The table below provides the total transit time delay for the Sydney Freight Network (Excluding Force Majeure Events).

Excluding Force Majeure Events															
Category	Jul-2021	Aug-2021	Sep-2021	Oct-2021	Nov-2021	Dec-2021	Jan-2022	Feb-2022	Mar-2022	Apr-2022	May-2022	Jun-2022	19/20 Period Avg	20/21 Period Avg	21/22 Period Avg
SFN															
Freight	6.3	4.9	2.9	1.5	0.3	0.3	0.0	0.0	0.6	2.8	4.4	4.7	10.7	5.0	1.6
Super Freight	8.9	7.1	4.2	2.1	0.5	0.5	0.0	0.0	1.0	3.1	5.4	5.9	15.4	6.9	3.2

ii. Five Year Rolling Average of Total Transit Time Delay

Including Force Majeure Events							
Category	17/18 Period Avg	18/19 Period Avg	19/20 Period Avg	20/21 Period Avg	21/22 Period Avg	17/18 - 21/22 Five Year Rolling Average	Five Year Limit*
Hunter Valley							
Freight	32.9	26.7	17.5	21.5	26.9	**25.1**	10.8
Super Freight	58.9	46.5	32.4	42.0	44.9	**45.0**	19.0
XPT	18.9	14.0	8.0	12.6	10.2	**12.7**	3.2
North Coast							
Freight	6.7	7.0	9.2	7.9	14.4	9.0	35.9
Super Freight	10.8	11.6	14.1	12.9	22.0	14.3	56.9
XPT	4.8	4.7	6.2	6.3	10.1	6.4	17.7
South							
Freight	18.0	24.8	27.5	25.3	22.8	**23.7**	13.2
Super Freight	37.6	48.2	48.7	43.6	41.4	**43.9**	23.0
XPT	5.6	8.2	10.3	15.3	17.6	**11.4**	7.3
West							
Freight	9.5	5.4	3.8	8.1	5.7	6.5	21.2
Super Freight	20.7	18.3	21.6	27.5	18.2	21.3	36.2
XPT	7.1	7.6	11.4	9.0	8.1	8.6	9.3
Totals							
Freight	67.0	63.9	58.1	62.8	67.5	63.8	81.1
Super Freight	128.0	124.5	116.8	126.0	118.8	122.8	135.0
XPT	36.4	34.5	35.9	43.2	46.0	**39.2**	37.5

Indicates years that have been affected by Force Majeure Events

Excluding Force Majeure Events							
Category	17/18 Period Avg	18/19 Period Avg	19/20 Period Avg	20/21 Period Avg	21/22 Period Avg	17/18 - 21/22 Five Year Rolling Average	Five Year Limit*
Hunter Valley							
Freight	32.1	25.7	17.4	21.5	26.9	**24.7**	10.8
Super Freight	58.0	45.2	32.3	42.0	44.9	**44.5**	19.0
XPT	18.1	13.3	7.9	12.6	10.2	**12.4**	3.2
North Coast							
Freight	6.7	7.0	6.3	6.0	11.9	7.6	35.9
Super Freight	10.8	11.6	10.0	10.4	18.0	12.2	56.9
XPT	4.8	4.7	4.0	5.1	8.0	5.3	17.7
South							
Freight	17.4	24.5	26.3	21.6	22.8	**22.5**	13.2
Super Freight	36.6	47.7	46.7	38.5	41.4	**42.2**	23.0
XPT	5.6	7.8	10.0	14.5	17.6	**11.1**	7.3
West							
Freight	9.5	5.4	3.5	8.0	5.6	6.4	21.2
Super Freight	20.7	18.3	20.5	27.2	18.0	21.0	36.2
XPT	6.4	7.6	11.1	8.9	8.1	8.4	9.3
Totals							
Freight	65.7	62.6	53.4	57.0	67.2	61.2	81.1
Super Freight	126.2	122.7	109.4	118.2	122.4	119.8	135.0
XPT	35.0	33.5	32.9	41.0	43.9	37.3	37.5

* *Five Year Limit as agreed between ARTC and RIC after the first three years of the term*.

The limits for the Five-year rolling average of Total Transit Time Delay were met in 9 of the 15 categories after adjustments due to Force Majeure or increased maintenance in the KPI limits.

Force majeure events that occurred in 2021/22 and resulted in temporary speed restrictions due to damage include extreme weather events causing flooding and washaways, and derailment.

The limit for the Five-Year Rolling Average of Total Transit Time Delay has not been met for the KPI network for all train categories in the Hunter Valley and the South (after adjustments have been applied).

The Five-Year limits for Hunter Valley were based on a data set which was at a historical low. Since 2004, there have been significant increases in the coal traffic, but the limits have not been revised to reflect this.

Track Geometry

i. Geometry Values

The Annual Limits for all geometry measures were achieved.

Region	Measure	Annual Limit *	17/18	18/19	19/20	20/21	21/22	21/22 vs. Annual Limit
South	Top	10.62	8.37	8.15	7.91	7.76	7.87	TARGET MET
	Twist	6.69	5.62	5.73	5.36	5.37	5.27	TARGET MET
	Line	10.20	7.92	8.53	8.45	8.38	8.21	TARGET MET
	Gauge	6.48	4.91	5.06	5.05	5.05	4.98	TARGET MET

Region	Measure	Annual Limit *	17/18	18/19	19/20	20/21	21/22	21/22 vs. Annual Limit
North	Top	9.11	8.49	8.41	8.02	7.39	7.24	TARGET MET
	Twist	6.55	5.52	5.84	5.35	5.18	5.01	TARGET MET
	Line	13.52	11.41	11.96	12.20	12.02	11.89	TARGET MET
	Gauge	6.89	6.09	6.18	6.15	6.01	5.84	TARGET MET

Region	Measure	Annual Limit *	17/18	18/19	19/20	20/21	21/22	21/22 vs. Annual Limit
West	Top	11.17	6.75	7.47	7.88	7.66	7.45	TARGET MET
	Twist	6.89	4.26	4.77	4.64	4.64	4.56	TARGET MET
	Line	8.31	4.70	5.60	5.87	5.79	5.55	TARGET MET
	Gauge	5.83	3.95	4.19	4.13	4.14	4.12	TARGET MET

Region	Measure	Annual Limit *	17/18	18/19	19/20	20/21	21/22	21/22 vs. Annual Limit
Inland	Top	12.46	9.72	9.39	9.15	7.27	7.13	TARGET MET
	Twist	8.06	6.73	6.99	6.68	5.30	5.06	TARGET MET
	Line	10.79	7.50	7.87	8.06	7.49	7.35	TARGET MET
	Gauge	6.46	4.90	4.98	4.97	4.84	4.84	TARGET MET

* *Annual Limit as requested in 06/07 report addendum.*

Sydney Freight Network

Region	Measure	17/18	18/19	19/20	20/21	21/22
SFN	Top	8.85	7.91	7.4	7.32	8.17
	Twist	5.46	5.43	5	4.86	5.16
	Line	11.49	12.27	12.2	12.35	12.53
	Gauge	5.91	5.95	5.9	5.94	6.01

ii. Five Year Rolling Average for each Top Value, Line Value, Twist Value, and Gauge Value.

The Five Year Rolling Average Track Geometry limit for all measures were achieved.

Region	Measure	5 Year Limit *	17/18 - 21/22 Average	17/18 - 21/22 vs. 5 Year Limit
South	Top	9.44	8.01	TARGET MET
	Twist	6.30	5.47	TARGET MET
	Line	8.91	8.30	TARGET MET
	Gauge	5.94	5.01	TARGET MET

Region	Measure	5 Year Limit *	17/18 - 21/22 Average	17/18 - 21/22 vs. 5 Year Limit
North	Top	7.99	7.91	TARGET MET
	Twist	5.90	5.38	TARGET MET
	Line	11.92	11.90	TARGET MET
	Gauge	6.64	6.05	TARGET MET

Region	Measure	5 Year Limit *	17/18 - 21/22 Average	17/18 - 21/22 vs. 5 Year Limit
West	Top	10.52	7.44	TARGET MET
	Twist	6.74	4.57	TARGET MET
	Line	6.45	5.50	TARGET MET
	Gauge	4.66	4.11	TARGET MET

Region	Measure	5 Year Limit *	17/18 - 21/22 Average	17/18 - 21/22 vs. 5 Year Limit
Inland	Top	11.30	8.53	TARGET MET
	Twist	7.75	6.15	TARGET MET
	Line	9.22	7.65	TARGET MET
	Gauge	5.84	4.91	TARGET MET

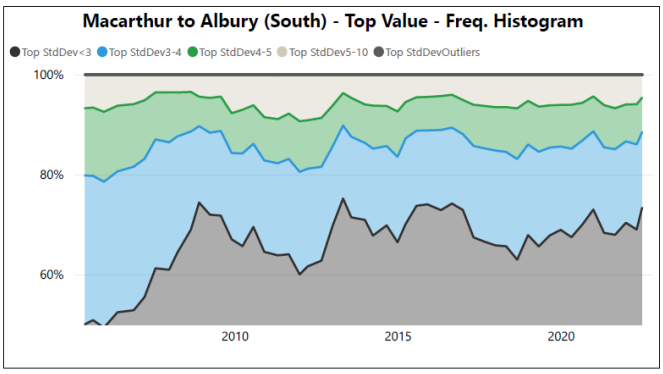
* *5 Year Limit as requested in 06/07 report addendum.*

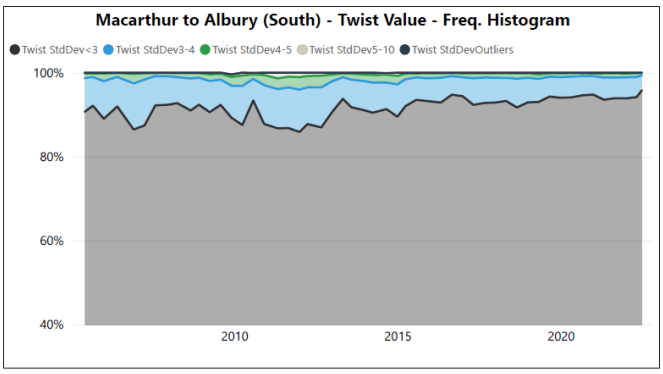
iii. Trending Graphs

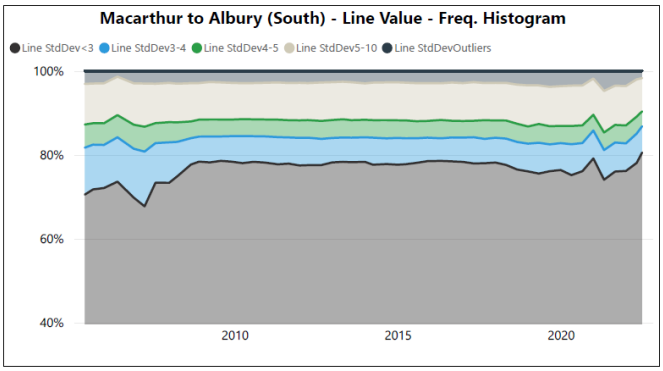
The trending graphs consist of all geometry readings taken for a KPI region up to 30 June 2022. A rising slope in the graph shows an improvement in track geometry.

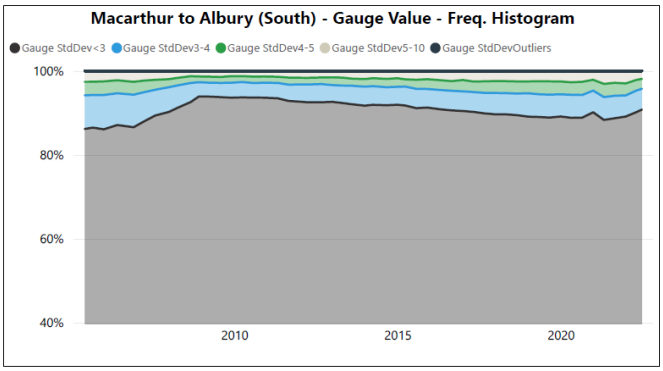
South (July 2021 to June 2022)

South (Jun22)	StdDev <3	StdDev 3-4	StdDev 4-5	StdDev 5-10	StdDev Outliers
Top	73.34%	15.15%	6.91%	4.60%	0.00%
Twist	95.79%	3.58%	0.56%	0.02%	0.05%
Versine	80.56%	6.27%	3.57%	7.93%	1.68%
Gauge	90.81%	4.96%	2.36%	1.87%	0.00%



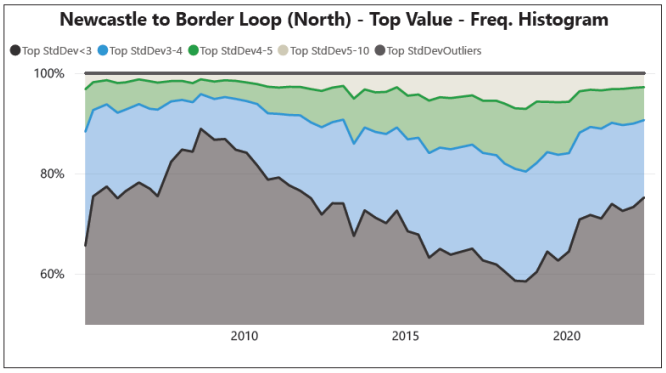


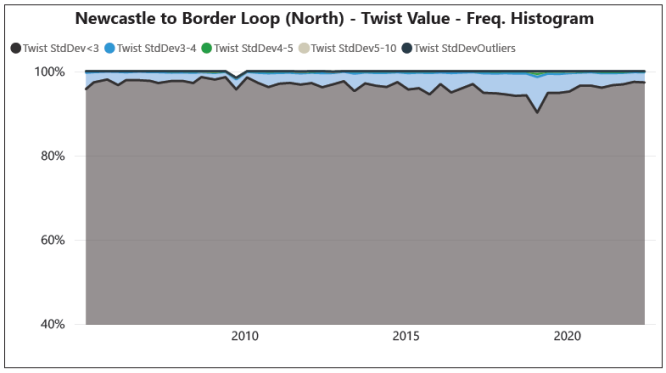


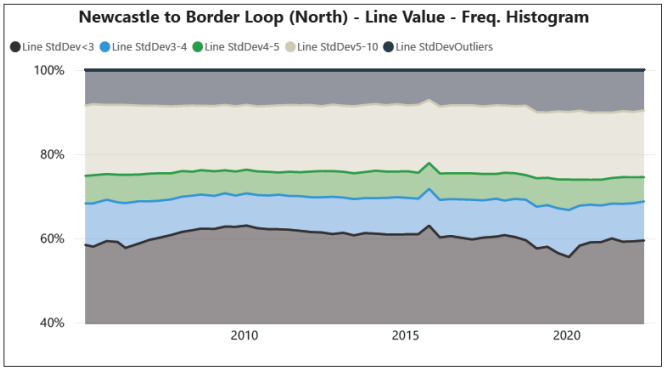


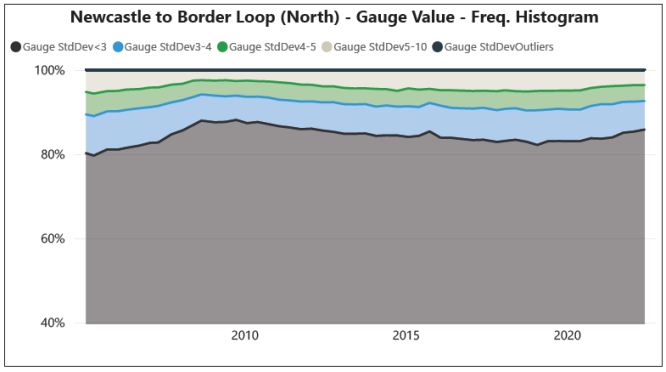
North Coast (July 2021 to June 2022)

North (May22)	StdDev <3	StdDev 3-4	StdDev 4-5	StdDev 5-10	StdDev Outliers
Top	75.19%	15.46%	6.58%	2.77%	0.00%
Twist	97.33%	2.43%	0.19%	0.05%	0.00%
Versine	59.47%	9.28%	5.76%	15.85%	9.63%
Gauge	85.83%	6.79%	3.80%	3.58%	0.00%



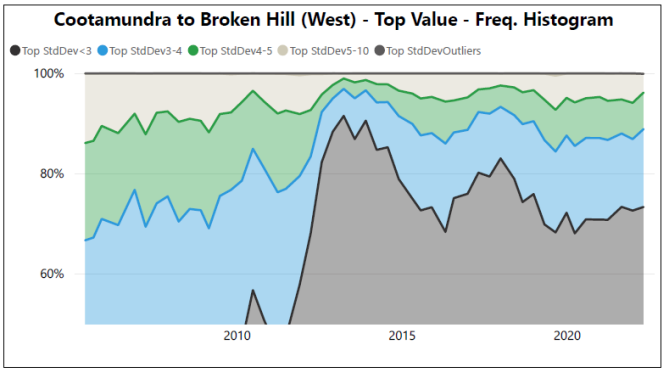


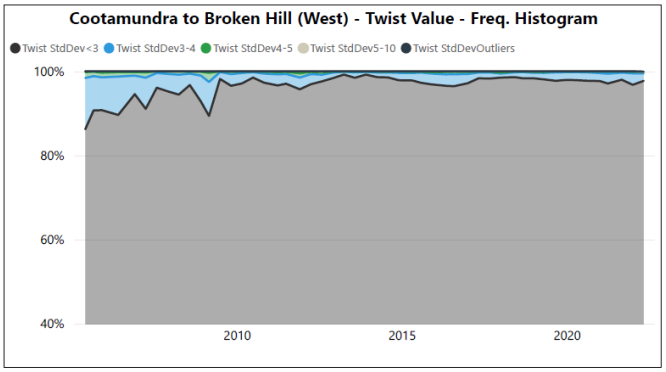


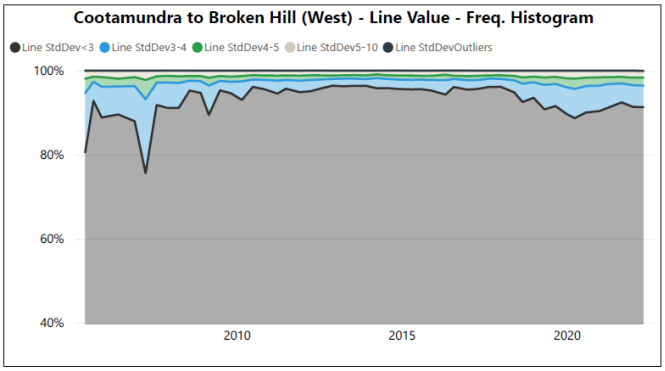


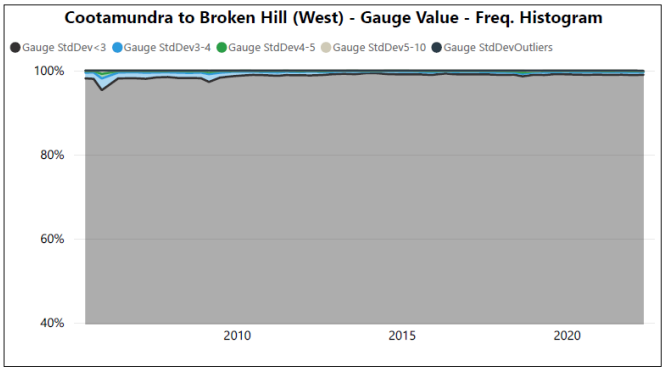
West (July 2021 to June 2022)

West (Apr22)	StdDev <3	StdDev 3-4	StdDev 4-5	StdDev 5-10	StdDev Outliers
Top	73.29%	15.56%	7.31%	3.74%	0.01%
Twist	97.71%	1.77%	0.39%	0.05%	0.00%
Versine	91.27%	5.14%	1.91%	1.36%	0.23%
Gauge	98.99%	0.57%	0.24%	0.11%	0.00%



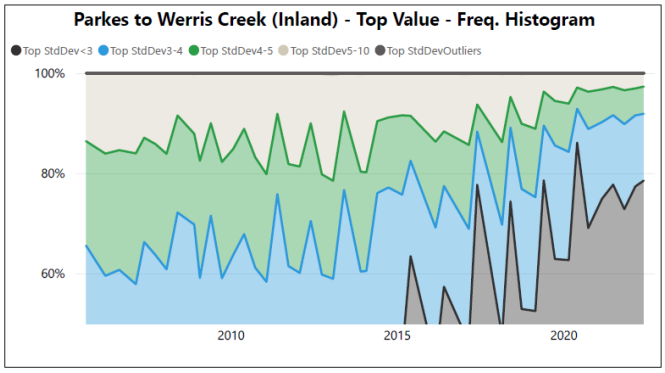


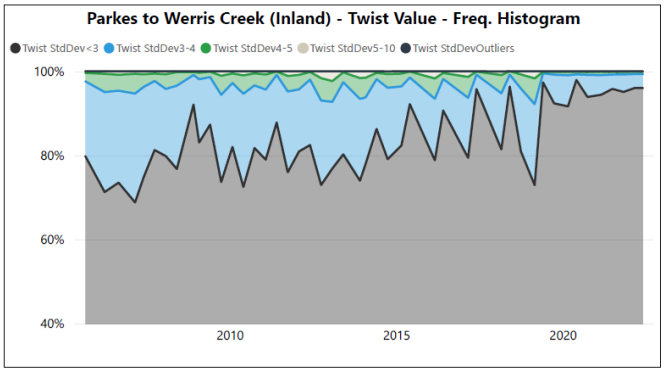


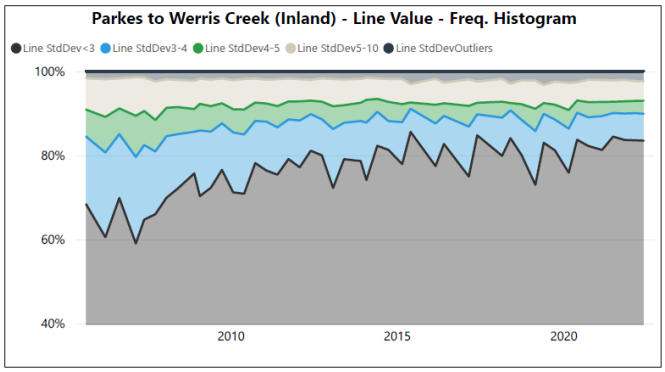


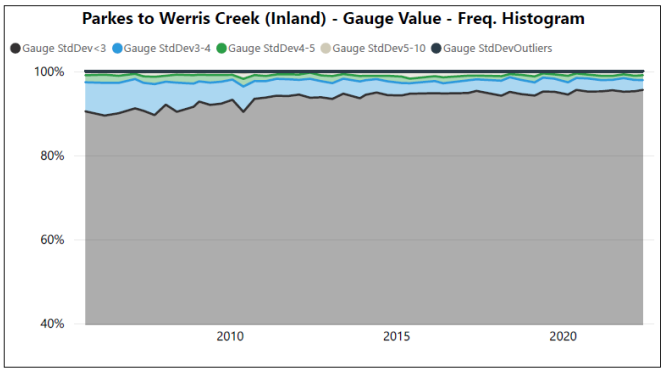
Inland Route (July 2021 to June 2022)

Inland (May22)	StdDev <3	StdDev 3-4	StdDev 4-5	StdDev 5-10	StdDev Outliers
Top	78.53%	13.37%	5.45%	2.65%	0.00%
Twist	96.03%	3.29%	0.53%	0.15%	0.00%
Versine	83.49%	6.41%	3.10%	4.63%	2.37%
Gauge	95.58%	2.35%	1.15%	0.88%	0.04%









Three-Year Rolling Average of Large Rail Defects

i. Large Rail Defects

Shown below is the Three Year Rolling Average of Large Rail Defects occurring on the four KPI regions. Results include non-Vertical and Vertical Split Head defects for all years.

	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Inland	1	4	0	3	2	8	2	1	5	7	11	7
North	9	11	14	10	16	5	8	16	10	20	14	12
South	25	18	31	7	1	5	27	41	41	34	11	20
West	0	1	4	3	4	2	8	0	3	1	0	2
Total	35	34	49	23	23	20	45	58	59	62	36	41

	16/17	17/18	18/19	19/20	20/21	21/22	**3 Year Rolling Average**
Inland	16	9	2	0	2	10	**4.0**
North	15	19	8	8	1	22	**10.3**
South	35	31	43	32	19	46	**32.3**
West	2	7	4	2	4	3	**3.0**
Total	68	66	57	42	26	81	**49.7**

The 3-year rolling average of large rail defects of 49.7 during 2021/22 has slightly exceeded the limit of 48.86, however this is not viewed as a statistically significant trend.

As expressed earlier, the rail age and wear on the North Coast and South is reaching end of life in numerous locations and inherently the number of fatigue related defects increases as rail ages. Also, there are a number of large rail defects that are now being created due to the aged worn rail triggering a risk based mandatory action in ARTC standards where the defect is classed using the % of rail head wear in parallel to the actual defect dimensions. This applies to the case of large transverse defects in the rail head which are being up sized from medium to large when found in ultrasonic testing. The result of extensive lengths of worn rail combined with regular testing means the count of large defects will be increased, thus keeping a stable risk level by upsizing the mediums, until the rail can be replaced based on wear limits.

Although the rerailing mitigations for temporary speed restrictions based on rail issues are not directly related to the large rail defects experienced in FY21/22 on the North Coast and South, the end result will be anticipated reductions in large rail defects from the accelerated rerailing programs. Whilst not directly targeting large rail defects specifically, increased scope for removal of worn curve rail in the coming financial years will result in much lower potential for new large rail defects to form. The removal of poorer quality aged 53kg/m rail steel, and its replacement with modern quality steel 60kg/m new rail, will grow the 60kg/m rail as a proportion of the total track population and reduce the defect risks overall. In parallel the track geometry improvements funded and planned in the coming financial years, combined with steady state grinding strategies, are anticipated to further mitigate longer term growth trends of the large rail defects.

Cumulative Number of Sleepers replaced

i. New Sleepers installed on the four regions of the KPI Network excluding the Hunter Valley (Schedule 7, Cl 2.2(e))

	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15
Timber	49,678	181,872	127,497	70,603	18,132	2,036	100	1,040	0	0	160
Steel	2,618	6,768	22,958	19,592	1,175	1,147	19,410	9,956	15,500	68,438	90,782
Concrete	532	11,622	209,335	945,901	446,672	356,923	216,531	803,284	96,360	35,632	0
Other	0	0	0	0	0	0	0	0	0	0	0

	15/16	16/17	17/18	18/19	19/20	20/21	21/22
Timber	0	0	20,684	330	5333	462	97
Steel	62,730	6,450	12,047	10,045	68,070	23,100	12260
Concrete	3,398	37,439	33,241	41,637	37,105	9,618	46427
Other	0	0	0	495	69	35	995

ii. Sleeper Type on the four regions of the KPI Network on the last day of the ACR period (including sleepers replaced during the reporting period)

	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Timber	67.4%	67.3%	63.6%	55.5%	49.1%	42.9%	41.0%	23.1%	25.1%	23.4%
Steel	11.1%	11.0%	10.9%	7.5%	7.8%	7.5%	7.9%	8.4%	9.3%	10.4%
Concrete	21.5%	21.7%	25.5%	37.5%	43.1%	49.6%	51.1%	68.5%	65.6%	66.2%
Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

The table above was revised in 2012/13 to include the sleeper numbers for the Gap to North Star line.

	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
Timber	8.8%	8.5%	7.9%	7.7%	7.3%	6.1%	5.7%	5.7%
Steel	10.9%	12.0%	12.1%	11.5%	11.4%	12.2%	12.6%	12.4%
Concrete	80.3%	79.7%	80.0%	80.8%	81.3%	81.7%	81.7%	81.8%
Other	0.0%	0.0%	0.0%	0.0%	0.01%	0.01%	0.01%	0.02%

The sleeper numbers from 14/15 include the Sydney Freight Network.

Bridges

i. Length of Bridges Replaced during Annual Condition Reporting period

Three bridges from the list in Schedule 7, clause 9 have been replaced during the reporting period.

The Bridge Street underbridge was a steel girder and transom top bridge has been replaced with concrete girder and ballast top bridge.

The Muscle Creek underbridge which was steel girder and transom top and the Hunter River underbridge which was a combined steel girder and steel truss with transom top have been replaced with the Muscle Creek and Hunter River underbridge, concrete girder and ballast top.

ii. Percentage of Bridges for which repair work warrants a Temporary Speed Restriction, or a reduction in permitted axle load on the last day of the ACR period.

3 Temporary Speed Restrictions applied across 5 bridges. This is below the Bridge Limit of 20.

The temporary speed restriction over the concrete bridge south of Rappville is in place for retransoming works (timber transoms to FFU composite transoms) and not due to the condition of the structure.

Number of Speed Restricted Bridges							
	19/20 Total Length (m)	19/20 No of Bridges	20/21 Total Length (m)	20/21 No of Bridges	21/22 Total Length (m)	21/22 No of Bridges	% of Bridges
Timber	0	0	58	1	0	0	0.00%
Iron	0	0	0	0	0	0	0.00%
Masonry	0	0	0	0	0	0	0.00%
Steel	429.5	7	1101.7	3	1299.7	4	5.51%
Concrete	27.5	2	0	0	120	1	0.51%
Other (incl. brick)	0	0	0	0	0	0	0.00%
Total	457	9	0	0	0	0	0.00%

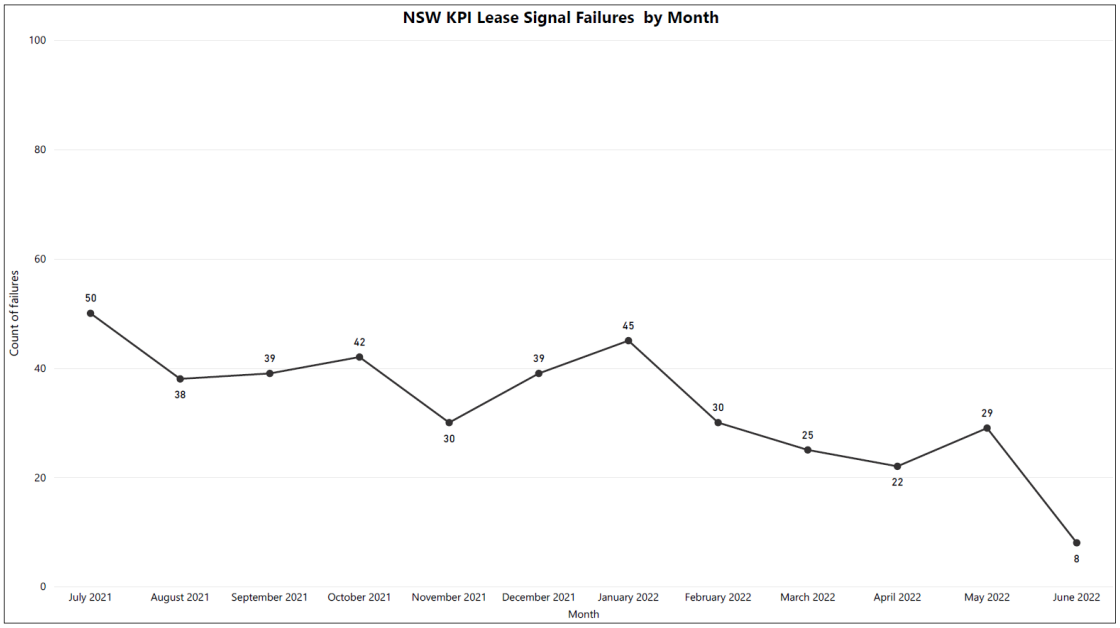
iii. Bridge Type on the entire KPI Network on the last day of the ACR period.

Summary of KPI Network Bridge Types						
	19/20 Total Length (m)	19/20 No of Bridges	20/21 Total Length (m)	20/21 No of Bridges	21/22 Total Length (m)	21/22 No of Bridges
Timber	79.62	8	79.62	8	79.62	8
Iron	260.5	3	260.5	3	260.5	3
Masonry	54.9	1	54.9	1	54.9	1
Steel	16,317.51	318	16,278.81	317	16,139.41	314
Concrete	5,858.27	444	5,896.97	445	6,103.77	447
Other (incl. brick)	946.6	24	946.6	24	946.6	24
Total	23,517.40	798	23,517.40	798	23,584.8	797

Signal failures, by month

i. Total signal failures per month for the KPI Network (excluding level crossings)

	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
July	-	106	104	176	150	136	150	153	172	174	154	115	90	78	46	26	56	50
Aug	-	88	123	202	158	116	164	132	166	162	144	85	88	80	55	35	51	38
Sept	44	86	131	264	135	149	183	152	147	158	162	77	76	89	59	24	52	39
Oct	89	124	126	274	209	184	163	148	137	214	195	128	87	99	76	32	63	42
Nov	93	130	165	234	167	230	142	210	194	237	223	133	121	108	53	29	79	30
Dec	117	143	189	239	174	206	179	139	199	186	293	109	128	117	84	35	85	39
Jan	115	179	191	224	224	255	163	215	243	166	244	152	150	102	111	58	80	45
Feb	115	155	229	204	177	189	176	182	170	175	170	115	126	66	64	41	58	30
Mar	107	113	222	197	179	209	146	172	181	230	173	108	120	57	71	44	62	25
Apr	74	110	179	195	175	239	122	164	151	158	149	101	66	60	53	26	41	22
May	115	116	162	151	154	146	144	178	170	150	171	79	81	71	52	42	45	29
Jun	94	125	161	141	111	128	86	112	126	135	133	70	55	50	34	22	18	8



* The numbers from 15/16 onwards are for the North, South, West and Inland Route KPI Region. The Hunter Valley region has been excluded. Numbers for 04/05-14/15 included the Hunter Valley region.

Percentage of Healthy Trains Achieving On-Time Exit, on the KPI Network, by month

i. Scope of Measured Services (5.1)

- Application of this clause 5 will be to all Trains that are contracted to a scheduled train path and which pass across a part of the KPI Network.

  All scheduled ARTC services which pass across a part of the KPI Network, (i.e. the South, West, Inland route and North Coast regions) have been included in the report.

- Trains contracted to a scheduled train path are those that have a network entry and exit location and time specified in an Access Agreement.

  ARTC contracted scheduled services that have a network entry/exit location and time specified have been included in the report.

- Trains operating under cyclic arrangements such as those carrying coal are not subject to the application of this measure.

  The cyclical services referred to in clause 5.1 © have not been excluded from the measurement.

ii. Measurement and Calculation (5.2)

- (a) For each month, ARTC will, in accordance with clause 5.2(b), identify Trains as a Healthy Train or otherwise and Healthy Trains as achieving On Time exit or otherwise. ARTC will calculate Percentage of Healthy Trains Achieving On Time Exit in accordance with clause 5.2(f) of this Schedule 7.

  Number of Healthy Trains achieving On Time Exit is shown in Graph 1.

- A **"Healthy Train"** means a Train that, having regard to the Daily Train Plan applicable on the day:

  presents to the ARTC network On Time, is configured to operate to its schedule and operates in a way that it remains able to maintain its schedule;

  or

  is running late only due to causes within the ARTC network but only where the root cause is not due to:

  any act or omission of an Access Purchaser; or
  any defect, breakdown or other failure of any Train or Rolling Stock; or
  is running On Time, regardless of previous delays.

  The services measured meet the criteria of a Healthy Train service as per clause 5.2 (b).

"On Time" means scheduled time at a location including a fifteen minute tolerance***.***

On-time performance for all services measured is in accordance with the definition of 'On-time'

- Measurement will be undertaken using ARTC's access management system.

The services measured have been calculated using ARTC's access management system

- The identification of a Train as a Healthy Train or otherwise, and the identification of a Healthy Train as achieving On Time Exit will be made having regard to performance with respect to a scheduled train path as it exists over the whole of the ARTC network, including that subject to this Deed. As such, exit performance of a Train will be measured at the location where the Train exits the ARTC network, including that subject to this Deed.

As defined by clause 5.2 (e), ARTC has measured the performance of services on the ARTC network (incl the NSW Lease network).

For example, a Sydney – Melbourne service is considered to exit the ARTC Network at Dynon and conversely will enter the ARTC Network at Dynon for Melbourne – Sydney services.

Graph 1 illustrates the KPI performance for July 2021 – June 2022.

- **(b) "Percentage of Healthy Trains Achieving On-Time Exit"** for a month will be calculated as:

$$\frac{\text{Number of Healthy Trains achieving On Time exit for a month}}{\text{Number of Healthy Trains for a month.}} \times 100$$

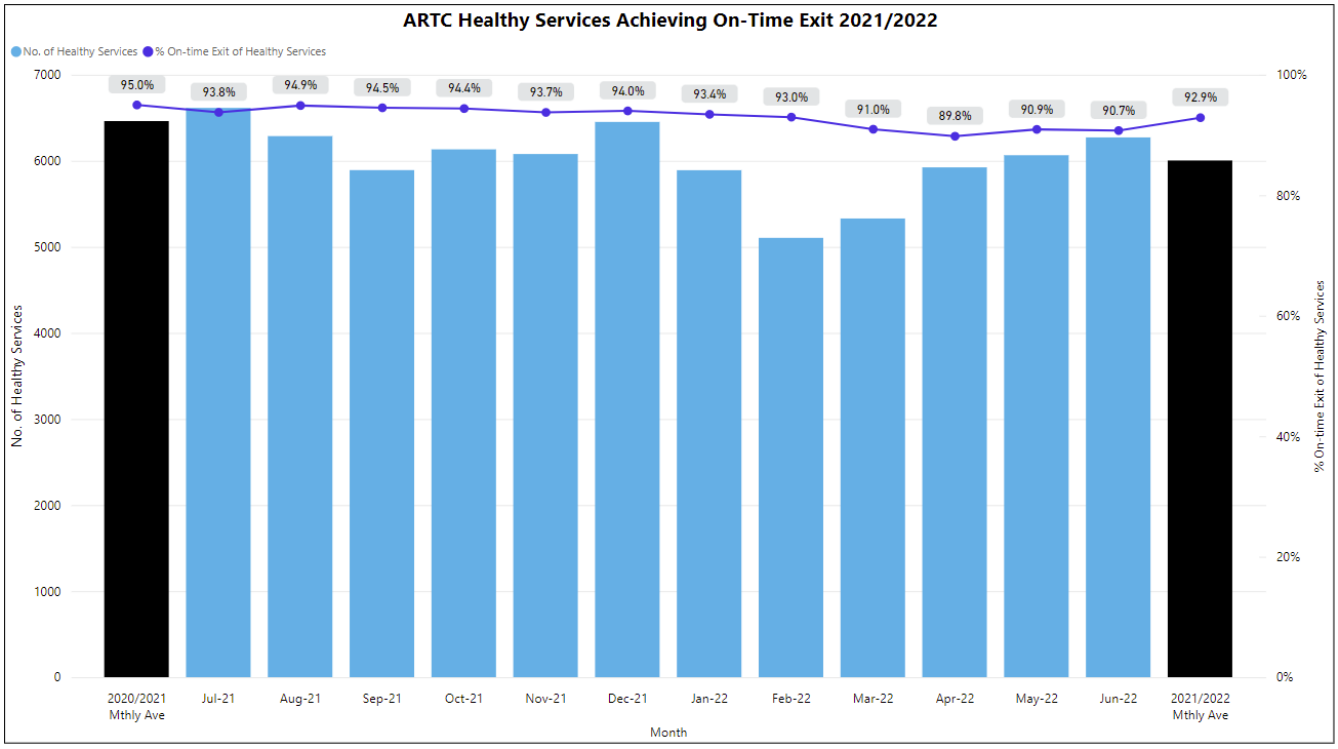
The % of Healthy Services achieving On-time Exit has been calculated in line with the above formula.

- The parties acknowledge that definition of Healthy Train in this clause 5 is intended to be consistent with the definition of Healthy Train as contemplated in Access Agreements. If there is a material change in the definition of Healthy Train as contemplated in Access Agreements, ARTC and the Lessor will review the definition of Healthy Train in this clause 5.

There has been no change to the definition of a Healthy Service as contemplated in clause 5 of the Access Agreement.

The CityRail Southern Highlands passenger services have been included in the on time exit of healthy services calculation since December 2005.

Graph 1 - All Healthy Services with an On-time Exit:



The monthly average for 2021/2022 of 92.9% achieved the Service Reliability limit of 90%. The Service Reliability limit is calculated as per lease schedule 7.3 (b) 'Service Reliability Limit as being the monthly average of Percentage of Healthy Trains Achieving on Time Exit for the year ending 12 months after the lease commencement date (September 2004 to August 2005 – 94%) or 90% whichever is the lesser.

Maximum allowable speed and axle load combination applying on the KPI Network

As per lease schedule 7 clause 2.1 (d) (ii), the maximum allowable speed and axle load combinations applying from five years after the commencement date of the Lease to be not less than Track Capability Limit.

The table below describes the maximum allowable speed and axle load combination on the KPI network as at the final business day of the reporting period.

KPI Region	Segment	Freight	XPT
Inland Route	Werris Creek to The Gap	115kph @ 19.5 TAL 100kph @ 20 TAL 80kph @ 25 TAL 60kph @ 30 TAL	160kph @ 19 TAL
North Coast	Stratford Junction to Telarah	115kph @ 21 TAL 100kph @ 21 TAL 80kph @ 23 TAL 80kph @ 25 TAL	160kph
	Qld Border to Stratford Junction	115kph @ 21 TAL 100kph @ 21 TAL 80kph @ 23 TAL	160kph
South	Macarthur to Albury	115kph @ 21 TAL 100kph @ 23 TAL* 80kph @ 25 TAL	160kph
	Moss Vale to Robertson	115kph @ 19TAL 100kph @ 21TAL 80kph @ 25 TAL	115kph
	Robertson to Unanderra	65kph @ 25TAL	65kph
West	Parkes (Goobang) to Broken Hill	115kph @ 21 TAL 100kph @ 21 TAL 80kph @ 25 TAL	145kph
	Cootamundra to Cootamundra West	60kph @ 19 TAL 30kph @ 20.25 TAL 15kph @ 23 TAL	60kph
	Cootamundra to Parkes (Goobang)	115kph @ 20 TAL 100kph @ 21 TAL 80kph @ 25 TAL	NA
Inland Route	Parkes (Goobang) to Narwonah	115kph @ 20 TAL 100kph @ 23 TAL 80kph @ 25 TAL	115kph
	Narwonah to Merrygoen	100kph @ 19.5 TAL 80kph @ 19.5 TAL	100kph
	Merrygoen to Gap	70kph @ 20.25 TAL 60kph @ 20.25 TAL	

* only for rollingstock approved to operate at 100kph loaded above 21TAL

Maximum allowable speed and axle load combinations for the KPI network are not less than that as at the commencement date.

Permitted Permanent Speed Restrictions

Amendments made to the permanent speed restriction between Maitland and Acacia Ridge

MAITLAND – ACACIA RIDGE							
LOCATION	KILOMETRAGE	DOWN			UP		
		NORMAL	XPT	EP	NORMAL	XPT	EP
	213.320	X50 OL		X50			
	213.359	75	80	80	80	85	85
	213.480				X50		X50
	213.681	110	125	110	75	80	80
	216.004		120			125	
	216.104		125			120	
	217.234	75	75	75	110	125	110
	217.872		85	80		75	75
MARTINS CREEK	218.532						
QUARRY SIDING	219.176						
	219.979		80			85	
	220.997	100	125	100	75	80	80
KILBRIDE	222.670	X50		X50			-
	222.750			-	X50 OL		X50
	223.962		105			125	
	224.370	X50 OL		X50			-
	224.440			-	X50		X50
	224.825	75	85	75	100	105	100
	225.444	-	75	-	-	85	-
	227.436	70		70	75		75
	228.281	80	85	85	70	75	70
	231.296	-	100	-	-	85	-
WALLAROBBA	231.673				X50		
	233.015	X50					
	233.477	75	80	80	80	100	85
	233.015	X50					
WALLAROBBA LOOP	234.000						
	234.748				X50		
	235.345					80	
	235.520		120				
	236.788		100				
	237.541		80			100	

Amendments made to the permanent speed restriction between Narwonah and Goobang Junction

NARWONAH – GOOBANG JUNCTION					
LOCATION	KILOMETRAGE	DOWN		UP	
		NORMAL	EXPRESS PASSENGER	NORMAL	EXPRESS PASSENGER
	550.500				
End of Section	547.550				
NARWONAH	547.051				
NARWONAH	546.847	115	115	115	115
TIMJELLY Loop	534.511			X80 80 OL	X80 80 OL
TIMJELLY Loop	533.273				
TIMJELLY Loop	532.199	X80 80 OL	X80 80 OL		
WYANGA Silo Siding	529.253			X25	X25
WYANGA	528.175				
TOMINGLEY WEST	515.847				
	501.612			100	100
	501.485	115	115		
	500.142			115	115
	499.585	100	100		
PEAK HILL Siding	498.593			X25 25 OL	X25 25 OL
PEAK HILL Siding	498.173				

Amendments made to the permanent speed restriction between Dubbo to Gap

DUBBO – GAP					
LOCATION	KILOMETRAGE	DOWN		UP	
		NORMAL	EXPRESS PASSENGER TRAIN	NORMAL	EXPRESS PASSENGER TRAIN
CRN LINE ORANGE	322.624				
END KM FOR CRN	460.334				
DUBBO	460.740	50	55	-	-
	461.306			55	60
	461.550			50	55
	461.700	-	-	50	55
	462.000	80	70	-	-
	462.209				
	462.800	30	-	-	-
	463.330	75	-	30	-
	464.416	80	-	75	-
	465.970	X25	-	-	-
	466.140	-	-	X25	-
	466.650	-	-	80	-
DUBBO TRIANGLE LOOP	461.306	-	-	X40 (112 PTS)	-
	461.381	40	-	-	-
	461.830	-	-	40	-
	463.235	-	-	X40 (114 PTS)	-
TROY JUNCTION	466.700				
	466.910	70	-	-	-
	467.150	50 (LX)	-	-	-
	467.390	-	-	70	-
	467.550	100	-	-	-

3. Register of ARTC Infrastructure

Building Works added to Assets Register during 2021/22

Location	Asset No	Asset	Cost
Property, Security, Environmental (Mile	0060271	FENCE - WIRRAMINNA WATER TOWER	$13,016
Property, Security, Environmental (Mile	0060982	890M X 6M DRIVEWAY ASPHALT - BROKEN HILL SITE	$45,390
Corporate/Executive (Mile End)	0063553	BUILDING RENOVATION, LEVEL 4 CARRINGTON STREET	$877,042
The Rock - Albury (G42)	0059584	BLACK DIPLOMAT SECURITY FENCING X 110M. UNDERNEATH MURRAY RIVER RAIL BRIDGE-NSW	$36,420
Broken Hill - Ivanhoe	0060058	TOILET FLOORING & WALLS:IVANHOE RESTHOUSE BLOCK2	$8,064
Broken Hill - Ivanhoe	0060059	2X TOILETS:IVANHOE RESTHOUSE BLOCK2	$2,688
Property Security Environmental (Wagga	0060277	NEW FLOORING, WINDOWS AND WALLS - WAGGA RESTHOUSE	$9,040
Binnaway Provisioning Centre	0060465	WASH BAY SHED BINNAWAY	$25,700
Ivanhoe - Parkes (GoobangJct)	0060483	BEDROOM 1 (OF7) 3.6M X 3.0M X 2.4M (H)-CONDOBOLIN RESTHOUSE	$6,500
Ivanhoe - Parkes (GoobangJct)	0060484	BEDROOM 2 (OF7) 3.6M X 3.0M X 2.4M (H)-CONDOBOLIN RESTHOUSE	$6,500
Ivanhoe - Parkes (GoobangJct)	0060485	BEDROOM 3 (OF7) 3.6M X 3.0M X 2.4M (H)-CONDOBOLIN RESTHOUSE	$6,500
Ivanhoe - Parkes (GoobangJct)	0060486	BEDROOM 4 (OF7) 3.6M X 3.0M X 2.4M (H)-CONDOBOLIN RESTHOUSE	$6,500
Ivanhoe - Parkes (GoobangJct)	0060487	BEDROOM 5 (OF7) 3.6M X 3.0M X 2.4M (H)-CONDOBOLIN RESTHOUSE	$6,500
Ivanhoe - Parkes (GoobangJct)	0060488	BEDROOM 6 (OF7) 3.6M X 3.0M X 2.4M (H)-CONDOBOLIN RESTHOUSE	$6,500
Ivanhoe - Parkes (GoobangJct)	0060489	BEDROOM 7 (OF7) 3.6M X 3.0M X 2.4M (H)-CONDOBOLIN RESTHOUSE	$6,500
Ivanhoe - Parkes (GoobangJct)	0060490	BEDROOM CARPET TILES 1 (OF7) 3.6M X 3.0M-CONDOBOLIN RESTHOUSE	$3,000
Ivanhoe - Parkes (GoobangJct)	0060491	BEDROOM CARPET TILES 2 (OF7) 3.6M X 3.0M-CONDOBOLIN RESTHOUSE	$3,000
Ivanhoe - Parkes (GoobangJct)	0060492	BEDROOM CARPET TILES 3 (OF7) 3.6M X 3.0M-CONDOBOLIN RESTHOUSE	$3,000
Ivanhoe - Parkes (GoobangJct)	0060493	BEDROOM CARPET TILES 4 (OF7) 3.6M X 3.0M-CONDOBOLIN RESTHOUSE	$3,000
Ivanhoe - Parkes (GoobangJct)	0060494	BEDROOM CARPET TILES 5 (OF7) 3.6M X 3.0M-CONDOBOLIN RESTHOUSE	$3,000
Ivanhoe - Parkes (GoobangJct)	0060495	BEDROOM CARPET TILES 6 (OF7) 3.6M X 3.0M-CONDOBOLIN RESTHOUSE	$3,000
Ivanhoe - Parkes (GoobangJct)	0060496	BEDROOM CARPET TILES 7 (OF7) 3.6M X 3.0M-CONDOBOLIN RESTHOUSE	$3,000
Ivanhoe - Parkes (GoobangJct)	0060497	CLEANERS ROOM 3.0M X 2.0M X 2.4M (H)-CONDOBOLIN RESTHOUSE	$3,000
Ivanhoe - Parkes (GoobangJct)	0060498	CLEANERS ROOM CARPET TILES 3.0M X 2.0M-CONDOBOLIN RESTHOUSE	$2,000
Ivanhoe - Parkes (GoobangJct)	0060499	LOUNGEROOM 9.0M X 4.0M X 2.4M (H)-CONDOBOLIN RESTHOUSE	$15,000
Ivanhoe - Parkes (GoobangJct)	0060500	HALLWAYS & SITTING AREA-CONDOBOLIN RESTHOUSE	$7,000
Ivanhoe - Parkes (GoobangJct)	0060501	HALLWAYS & SITTING AREA CARPET TILES-CONDOBOLIN RESTHOUSE	$5,000
Ivanhoe - Parkes (GoobangJct)	0060502	KITCHEN-CONDOBOLIN RESTHOUSE	$10,000
Ivanhoe - Parkes (GoobangJct)	0060503	KITCHEN COOKERS - 900MM X 600MM 1 (OF2)-CONDOBOLIN RESTHOUSE	$2,500
Ivanhoe - Parkes (GoobangJct)	0060504	KITCHEN COOKERS - 900MM X 600MM 2 (OF2)-CONDOBOLIN RESTHOUSE	$2,500
Ivanhoe - Parkes (GoobangJct)	0060505	KITCHEN RANGEHOOD 1 (OF2)-CONDOBOLIN RESTHOUSE	$1,500
Ivanhoe - Parkes (GoobangJct)	0060506	KITCHEN RANGEHOOD 2 (OF2)-CONDOBOLIN RESTHOUSE	$1,500
Ivanhoe - Parkes (GoobangJct)	0060507	BATHROOM-CONDOBOLIN RESTHOUSE	$22,280
Maitland Provisioning Centre	0060763	INSTALLATION OF STAIRCASE AND HANDRAIL	$1,800
Telarah to Stratford Jct	0060986	LANDSCAPING - GARDEN DUNGOG, NSW	$1,327
Telarah to Stratford Jct	0060987	BITUMISED DRIVEWAY - 220M X 3M DUNGOG, NSW	$17,100
Taree Provisioning Centre	0061419	SECURITY FENCING - PERIMETER - BLACK CYCLONE TAREE PC	$27,000
Kundabung to Lawerence Rd	0062572	CONTRIBUTION TOWARDS HIGH SECURITY FENCING FOR THE BLUFF RADIO SITE	$50,000
Casino Provisioning Centre	0063145	CASINO PC - CAR PARK - 20MM ROAD BASE + 50MM ASPHALT PAD	$45,008
Casino Provisioning Centre	0063151	CASINO PC - ROOF - TRIMDECK COLOURBOND ROOF SHEETS	$50,000
Casino Provisioning Centre	0063193	CASINO PC - RECEPTION - WALLS & CEILINGS	$8,332
Casino Provisioning Centre	0063194	CASINO PC - MEETING/WAITING ROOM - WALLS & CEILINGS	$7,298
Casino Provisioning Centre	0063195	CASINO PC - STORE ROOM - WALLS & CEILINGS	$4,625
Casino Provisioning Centre	0063196	CASINO PC - OFFICE 1 - WALLS & CEILINGS	$4,995
Casino Provisioning Centre	0063197	CASINO PC - OFFICE 2 - WALLS & CEILINGS	$2,586
Casino Provisioning Centre	0063198	CASINO PC - OFFICE 3 - WALLS & CEILINGS	$2,586
Casino Provisioning Centre	0063199	CASINO PC - OFFICE 4 - WALLS & CEILINGS	$2,586
Casino Provisioning Centre	0063200	CASINO PC - MAIN BOARD ROOM/OFFICE - WALLS & CEILINGS	$13,902
Casino Provisioning Centre	0063201	CASINO PC - KITCHEN - WALLS & CEILINGS	$4,021
Casino Provisioning Centre	0063202	CASINO PC - MALE BATHROOM - WALLS & CEILINGS	$4,758
Casino Provisioning Centre	0063203	CASINO PC - UNISEX BATHROOM - WALLS & CEILINGS	$1,836
Casino Provisioning Centre	0063206	CASINO PC - POLISHED CONCRETE FLOORING	$10,000
Branxton To Whittingham	0063269	GANTRY CREW CHANGE FACILITY-BLACK CREEK UP RELIEF (SIGNAL BN130UR)	$80,000
Watermark to Gunnedah	0063270	GANTRY CREW CHANGE FACILITY-GUNNEDAH DOWN (SIGNAL GH21)	$60,000
Watermark to Gunnedah	0063271	GANTRY CREW CHANGE FACILITY-GUNNEDAH UP (SIGNAL GH18)	$60,000
Muswellbrook Provisioning Centre	0063515	0950 PC - CARPARK AND HARDSTANDS	$577,320
Muswellbrook Provisioning Centre	0063516	0950 PC - FENCING	$245,013
Muswellbrook Provisioning Centre	0063517	0950 PC - LANDSCAPING	$28,436
Muswellbrook Provisioning Centre	0063518	0950 PC - NEW OFFICE BUILDING, SIGNALS SHED	$2,087,652
		TOTAL	$4,554,323

4. Infrastructure Investment Program - Major Works

Major Works Investment Program

Major Project	2021/22	Planned Expenditure beyond 2022	Total Forecast
Hunter Valley	$36,558,989	$4,629,272	$458,359,375
ATMS	$46,270,065	$283,253,274	$511,697,957
Inland Rail	$739,060,414	$4,347,141,087	$6,165,751,808
NSW Lease Other	$2,164,225	$50,954,738	$1,241,728,351
Interstate Rerailing - NSW	$23,703,690	$186,074,029	$249,943,887
GSRP - Goulburn to Sydney Re-Railing Project	$5,241,010	$0	$49,336,175
MFN - Metropolitan Freight Network	$75,743	$0	$198,295,085
PBRL - Duplication & Cab Loop	$99,884,696	$288,649,394	$407,519,431
Third Party	$268,967	$0	$789,018
Level Crossings Program	$1,214,854	$5,492,494	$8,444,384
Major Works Program Total	**$954,442,653**	**$5,166,194,288**	**$9,291,865,470**

Corridor Works Summary

	2017/18	2018/19	2019/20	2020/21	2021/22
Corridor RCRM	$58,833,602	$67,544,291	$69,354,098	$71,121,278	$73,532,780
Corridor MPM	$120,091,766	$117,370,193	$126,789,297	$125,647,715	$132,082,719
Corridor Capital	$77,739,259	$99,342,940	$135,551,057	$125,435,230	$117,608,810
Corridor Works Program Total	**$255,871,512**	**$284,257,424**	**$331,694,452**	**$322,204,224**	**$323,224,308**

Major Works Underway - Indicative Cash Flow

The indicative year to year cash flows for the Major Works Investment Program is detailed in the following table:

Hunter Valley	2021/22	Beyond 2022	Total Forecast
2971 - Ulan Road, Wollar LCIP 18/19	$178,168	$0	$616,190
5255 - Maitland to Minimbah Third Road - Stage 2	$242,199	-$10,000	$353,88,270
A229 - Fixing Country Rail	$93,744	$0	$14,576,929
A656 - Train Support Facility	$94,010	$0	$182,421
AF40 - Muswellbrook Bridge	$26,709,448	$1,744,641	$59,225,000
AF57 - Gateleys Road-Public Level Crossing	$1,244,572	$272,998	$2,147,513
AF58 - Emirates Park-Private Level Crossing	$125,413	$1,217,488	$1,391,827
AF59 - Sandy Creek Underbridge	$27,751	$25,000	$623,191
AF60 - Old Breeza Road-Public Level Crossing	$660,888	$355,768	$1,899,118
AF61 - Cox's Creek (Boggabri) Underbridge	-$173	$0	$453,101
AF91 - Merriwa Rd, Willow Tree LCIP 21-23	$535,716	$0	$885,000
AG54 - Bulunbulun Rd, Breeza LCIP 20/21-22	$478,226	$0	$616,897
AI50 - Waratah to Sandgate-Coal	$3,090,737	$0	$9,234,000
AI51 - Waratah to Sandgate-Mains	$3,024,372	$1,023,377	$12,566,000
AK80 - Bellata Siding Extension	$53,918	$0	$53,918
Total for Hunter Valley	**$36,558,989**	**$4,629,272**	**$458,359,375**

Rail Rectification	2021/22	Beyond 2022	Total Forecast
2792 - Interstate Rerail MajWks	$23,703,690	$186,074,029	$249,943,887
Total for Rail Rectification	**$23,703,690**	**$186,074,029**	**$249,943,887**

Goulburn to Sydney Re-Railing Project	2021/22	Beyond 2022	Total Forecast
2039 - Rerailing South - Squats	$5,241,010	$0	$49,336,175
Total for Goulburn to Sydney Re-Railing Project	**$5,241,010**	**$0**	**$49,336,175**

Metropolitan Freight Network	2021/22	Beyond 2022	Total Forecast
8977 - Port Botany Stage 3	$75,743	$0	$198,295,085
Total for Metropolitan Freight Network	**$75,743**	**$0**	**$198,295,085**

Duplication & Cab Loop	2021/22	Beyond 2022	Total Forecast
A181 - Botany Rail Duplication	$69,975,316	$189,897,862	$270,504,045
A226 - Cabramatta Loop	$29,909,381	$98,751,532	$137,015,386
Total for Duplication & Cab Loop	**$99,884,696**	**$288,649,394**	**$407,519,431**

Third Party	2021/22	Beyond 2022	Total Forecast
A832 - Wagga CC/Visy Bomen-siding for RIFL term	$125,808	$0	$114,797
Minor Third Party Works <$100k	$143,159	$0	$674,221
Total for Third Party	**$268,967**	**$0**	**$789,018**

Level Crossings Program	2021/22	Beyond 2022	Total Forecast
2432 - Mills Rd, Towrang LCIP 17/18 Designs	$83,234	$0	$441,681
2433 - Murrays Flat Rd, Towrang LCIP 17/18 Desi	$115,857	$0	$452,418
2806 - Wirrinya Road, Wirrinya LCIP 17-18 Des	$561,845	$0	$905,371
2972 - Jerrawa Road, Jerrawa LCIP 18/19	$56,891	$0	$598,593
2973 - Newell Highway, Tichborne, LCIP 18/19	$31,226	$0	$86,333
2974 - Newell Highway, Welcome, LCIP 18/19	$40,178	$0	$54,386
2975 - Harefield Road, Harefield LCIP 18/19	$32,534	$0	$105,603
AG48 - Coopers Rd, Goobang Jctn LCIP 20/21-23	$28,197	$1,171,803	$1,200,000
AG49 - Sheep Wash Rd, Calwalla LCIP 20/21-22	$62,544	$784,050	$850,000
AG50 - Mid Western Hwy, Caragabal LCIP 20/21-22	$46,938	$800,463	$850,000
AG51 - Kiacatoo Rd, Condobolin LCIP 20/21-23	$61,736	$937,003	$1,000,770
AG52 - Rainville Rd,GrawlinPlains LCIP 20/21-23	$51,736	$993,657	$1,047,424
AG53 - Bushland Drive, Taree LCIP 20/21-23	$41,938	$805,518	$851,805
Total for Level Crossings Program	**$1,214,854**	**$5,492,494**	**$8,444,384**

Major Works Investment – Since Lease Commencement

	2004/05 ($'000)	2005/06 ($'000)	2006/07 ($'000)	2007/08 ($'000)	2008/09 ($'000)	2009/10 ($'000)	2010/11 ($'000)	2011/12 ($'000)	2012/13 ($'000)	2013/14 ($'000)
Major Works Investment	$5,695	$83,518	$324,507	$514,022	$517,500	$615,278	$490,988	$843,678	$539,004	$159,383
Corridor MPM & Capital	$55,993	$95,863	$97,899	$103,624	$84,008	$82,480	$106,168	$94,170	$147,983	$162,157
Total	$61,688	$179,381	$422,406	$617,646	$601,508	$697,758	$597,156	$937,848	$686,987	$321,540

	2014/15 ($'000)	2015/16 ($'000)	2016/17 ($'000)	2017/18 ($'000)	2018/19 ($'000)	2019/20 ($'000)	2020/21 ($'000)	2021/22 ($'000)	Total ($'000)
Major Works Investment	$173,424	$69,704	$170,079	$203,711	$495,257	$647,194	$762,584	$954,443	$7,691,168
Corridor MPM & Capital	$194,712	$236,557	$226,789	$196,992	$216,915	$262,340	$251,083	$249,692	$2,866,062
Total	$368,136	$306,261	$396,868	$400,703	$712,172	$909,534	$1,013,667	$1,204,134	$10,557,230