2022/2023 NSW Lease Annual Condition Report

July 22 to June 23

ARTC

ARTC

NSW Lease Annual Condition Report
July 22 to June 23

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Executive Summary

In accordance with the lease, this document presents the Annual Condition Report for NSW Lease Assets. This 18th report covers the period July 2022 to June 2023. 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 periodic 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 2022/23 and resulted in temporary speed restrictions due to damage include extreme weather events causing flooding and washaways, derailment and infrastructure struck by train or road vehicle.

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 8 of the 15 categories after adjustments due to force majeure events have been applied.

Force majeure events that occurred in 2022/23 and resulted in temporary speed restrictions due to damage include extreme weather events causing flooding and washaways, derailment and infrastructure struck by train or road vehicle.

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 15 of the 16 categories. The performance for Line on the North Coast is slightly above the limit. Although the 5 year average performance was marginally above the target for the Top measure in the North region the annual performance was well within limits and the 5 yearly performance is trending towards achieving the target.

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

The Three-Year Rolling Average for Large Rail Defects was 59.3. 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 31,062 sleepers (Timber – 0; Steel – 23,724; Concrete – 7,338 and Other - 0) were installed during the reporting period. The Network including the sleepers replaced, now consists of Timber 5.3%, Steel 12.8%, Concrete 81.8% and Other 0.02%.

Bridges (Schedule 7, Cl 2.2(f))

One nominated bridge has been replaced during the reporting period. The Murrulla Creek underbridge was a steel girder, transom top, masonry substructure bridge replaced with concrete substructure and girder, ballast top bridge.

Signals (Schedule 7, Cl 2.2(g))

The total number of signal failures on the KPI network for each month has been provided.

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:

- 92.2% 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 2022 and June 2023 and have been provided.

Register of ARTC Infrastructure

Building Works

During the reporting period, a total of $3,748,634 of Building Works was completed.

Infrastructure Investment Programme and Major Works

A total of $1,456,636,864 was invested on the Major Works Investment Program during the reporting period.

A total of $315,172, 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 $12,247,671,148 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)	2022/23 ($'000)	Total ($'000)
Major Works Investment	$173,424	$69,704	$170,079	$203,711	$495,257	$647,194	$762,584	$954,443	$1,456,637	$9,147,805
Corridor MPM & Capital	$194,712	$236,557	$226,789	$196,992	$216,915	$262,340	$251,083	$249,692	$233,805	$3,099,866
Total	$368,136	$306,261	$396,868	$400,703	$712,172	$909,534	$1,013,667	$1,204,134	$1,690,441	$12,247,671

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 periodic 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-2022	Aug-2022	Sep-2022	Oct-2022	Nov-2022	Dec-2022	Jan-2023	Feb-2023	Mar-2023	Apr-2023	May-2023	Jun-2023	20/21 Period Avg	21/22 Period Avg	22/23 Period Avg	Annual Limit*
Hunter Valley																
Freight	39.9	52.8	26.2	23.4	30.5	29.1	27.2	24.7	30.3	16.4	13.6	14.6	**21.5**	**26.9**	**27.4**	11.9
Super Freight	62.2	88.2	47.6	42.0	55.1	50.2	47.0	47.4	57.0	32.5	29.0	25.2	**42.0**	**44.9**	**48.6**	20.9
XPT	13.3	18.3	17.4	13.3	17.8	19.4	15.9	16.1	17.5	9.6	7.2	3.9	**12.6**	**10.2**	**14.1**	3.5
North Coast																
Freight	23.9	20.3	18.0	13.4	10.0	10.8	10.2	12.7	11.8	9.2	8.6	6.7	7.9	14.4	13.0	39.5
Super Freight	35.0	30.7	26.2	21.6	17.4	18.1	16.7	20.4	22.2	18.7	16.6	14.0	12.9	22.0	21.5	62.5
XPT	18.5	13.9	14.4	10.1	9.0	9.2	9.0	10.4	11.8	8.6	7.9	7.1	6.3	10.1	10.8	19.5
South																
Freight	23.7	33.1	18.2	20.8	14.8	24.7	17.7	25.0	16.5	33.9	22.5	29.1	**25.3**	**22.8**	**23.3**	14.5
Super Freight	48.8	64.9	34.2	41.4	30.5	49.4	36.6	53.1	33.4	55.4	42.9	52.8	**43.6**	**41.4**	**45.3**	25.3
XPT	18.4	24.9	11.9	16.3	12.7	19.0	14.5	22.3	15.4	20.0	18.6	22.8	**15.3**	**17.6**	**18.1**	8.0
West																
Freight	5.8	8.1	12.6	17.9	11.7	19.7	8.3	7.3	8.6	4.8	11.9	6.2	8.1	5.7	10.3	23.3
Super Freight	14.0	16.9	28.3	37.9	26.2	40.8	23.7	27.8	23.7	21.3	30.2	24.1	27.5	18.2	26.2	39.8
XPT	4.1	5.0	11.3	13.9	9.4	15.1	13.5	11.1	4.9	6.8	11.7	7.7	9.0	8.1	9.5	10.3
Totals																
Freight	93.3	114.3	75.0	75.5	67.0	84.2	63.5	69.7	67.3	64.3	56.6	56.6	62.8	69.8	73.9	89.3
Super Freight	160.0	200.8	136.3	142.8	129.2	158.4	124.0	148.7	136.3	127.8	118.7	116.1	126.0	126.6	141.6	148.6
XPT	54.2	62.2	55.0	53.7	48.9	62.7	52.9	59.9	49.6	45.0	45.4	41.5	**43.2**	**46.0**	**52.6**	41.3

Indicates months that have been affected by Force Majeure Events

Excluding Force Majeure Events																
Category	Jul-2022	Aug-2022	Sep-2022	Oct-2022	Nov-2022	Dec-2022	Jan-2023	Feb-2023	Mar-2023	Apr-2023	May-2023	Jun-2023	20/21 Period Avg	21/22 Period Avg	22/23 Period Avg	Annual Limit*
Hunter Valley																
Freight	39.9	52.8	26.2	23.4	30.5	29.1	27.2	24.7	30.3	16.4	13.6	14.6	**21.5**	**26.9**	**27.4**	11.9
Super Freight	62.2	88.2	47.6	42.0	55.1	50.2	47.0	47.4	57.0	32.5	29.0	25.2	**42.0**	**44.9**	**48.6**	20.9
XPT	13.3	18.3	17.4	13.3	17.8	19.4	15.9	16.1	17.5	9.6	7.2	3.9	**12.6**	**10.2**	**14.1**	3.5
North Coast																
Freight	20.2	16.6	9.6	10.4	5.9	6.7	6.8	9.3	8.4	7.9	7.3	5.4	6.0	11.9	9.5	39.5
Super Freight	29.5	25.3	15.0	17.1	11.2	11.9	11.4	15.1	16.8	16.8	14.7	12.1	10.4	18.0	16.4	62.5
XPT	14.1	9.6	6.6	7.5	5.6	5.7	5.7	7.0	8.4	7.7	7.0	6.2	5.1	8.0	7.6	19.5
South																
Freight	23.2	32.5	18.2	20.8	14.8	24.7	17.7	25.0	16.5	33.9	22.5	29.1	**21.6**	**22.8**	**23.3**	14.5
Super Freight	48.2	64.2	34.2	41.4	30.5	49.4	36.6	53.1	33.4	55.4	42.9	52.8	**38.5**	**41.4**	**45.2**	25.3
XPT	17.9	24.4	11.9	16.3	12.7	19.0	14.5	22.3	15.4	20.0	18.6	22.8	**14.5**	**17.6**	**18.0**	8.0
West																
Freight	5.8	8.1	9.3	14.6	9.0	11.9	3.0	6.5	4.1	4.5	11.5	5.8	8.0	5.6	7.8	23.3
Super Freight	14.0	16.9	21.6	31.2	21.4	23.4	12.0	21.7	13.8	17.5	27.2	22.6	27.2	18.0	20.3	39.8
XPT	4.1	5.0	6.7	9.3	5.7	8.6	4.7	6.4	2.3	4.1	9.4	7.1	8.9	8.1	6.1	10.3
Totals																
Freight	89.1	110.1	63.3	69.2	60.2	72.2	54.8	65.4	59.4	62.6	54.9	54.9	57.0	67.3	68.0	89.3
Super Freight	154.0	194.7	118.4	131.7	118.3	134.8	107.0	137.2	121.1	122.2	113.8	112.6	118.2	122.4	130.5	148.6
XPT	49.4	57.3	42.5	46.4	41.8	52.8	40.7	51.8	43.5	41.5	42.3	40.0	41.0	**43.9**	**45.8**	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 2022/23 and resulted in temporary speed restrictions due to damage include extreme weather events causing flooding and washaways, derailment and infrastructure struck by train or road vehicle.

Significant weather events have occurred over the reporting period 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 2022/23. Majority of the TSRs throughout the year were from track geometry issues. In addition, there were extreme weather events at the start of the financial year which resulted in numerous mudholes and track geometry issues throughout the network. These were mitigated during the major closedowns through tamping and track reconditioning works. The number of TSRs reduced significantly following the works completed during the major closedowns in April and May 2023 and the low numbers have continued until June. Track reconditioning

of approximately four km of track per year is planned within the next two years to address areas showing signs of formation failure.

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 2022/23 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. Regular Saturday maintenance windows (5 hrs) on the Southern Highlands NSW South Corridor commenced in mid-April 2023 to assist with the delivery of increased scope of works.

Gap to Moree

The average performance for 2022/23 for all categories achieved the annual limits for the Gap to Moree section.

Including Force Majeure Events																
Category	Jul-2022	Aug-2022	Sep-2022	Oct-2022	Nov-2022	Dec-2022	Jan-2023	Feb-2023	Mar-2023	Apr-2023	May-2023	Jun-2023	20/21 Period Avg	21/22 Period Avg	22/23 Period Avg	Annual Limit*
Gap Moree																
Freight	13.8	13.7	16.6	12.4	24.7	32.7	20.5	15.3	6.9	7.0	7.9	4.5	14.0	10.0	14.7	23.1
XPT	11.0	11.0	14.4	10.3	21.8	27.4	21.9	14.5	7.4	6.1	6.8	4.9	10.8	8.9	13.1	20.1

Excluding Force Majeure Events																
Category	Jul-2022	Aug-2022	Sep-2022	Oct-2022	Nov-2022	Dec-2022	Jan-2023	Feb-2023	Mar-2023	Apr-2023	May-2023	Jun-2023	20/21 Period Avg	21/22 Period Avg	22/23 Period Avg	Annual Limit*
Gap Moree																
Freight	13.8	13.7	16.6	12.4	24.7	32.7	20.5	15.3	6.9	7.0	7.9	4.5	9.5	10.0	14.7	23.1
XPT	11.0	11.0	14.4	10.3	21.8	27.4	21.9	14.5	7.4	6.1	6.8	4.9	7.9	8.9	13.1	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-2022	Aug-2022	Sep-2022	Oct-2022	Nov-2022	Dec-2022	Jan-2023	Feb-2023	Mar-2023	Apr-2023	May-2023	Jun-2023	20/21 Period Avg	21/22 Period Avg	22/23 Period Avg
SFN															
Freight	3.1	3.3	5.5	5.5	7.0	9.6	9.6	9.2	11.9	8.1	7.4	7.4	5.0	2.4	7.3
Super Freight	3.6	3.8	6.9	6.9	9.3	13.4	13.4	12.9	15.7	10.6	9.5	9.5	6.9	3.2	9.6

Five Year Rolling Average of Total Transit Time Delay

Including Force Majeure Events							
Category	18/19 Period Avg	19/20 Period Avg	20/21 Period Avg	21/22 Period Avg	22/23 Period Avg	18/19 - 22/23 Five Year Rolling Average	Five Year Limit*
Hunter Valley							
Freight	26.7	17.5	21.5	26.9	27.4	**24.0**	10.8
Super Freight	46.5	32.4	42.0	44.9	48.6	**42.9**	19.0
XPT	14.0	8.0	12.6	10.2	14.1	**11.8**	3.2
North Coast							
Freight	7.0	9.2	7.9	14.4	13.0	10.3	35.9
Super Freight	11.6	14.1	12.9	22.0	21.5	16.4	56.9
XPT	4.7	6.2	6.3	10.1	10.8	7.6	17.7
South							
Freight	24.8	27.5	25.3	22.8	23.3	**24.7**	13.2
Super Freight	48.2	48.7	43.6	41.4	45.3	**45.4**	23.0
XPT	8.2	10.3	15.3	17.6	18.1	**13.9**	7.3
West							
Freight	5.4	3.8	8.1	5.7	10.3	6.6	21.2
Super Freight	18.3	21.6	27.5	18.2	26.2	22.4	36.2
XPT	7.6	11.4	9.0	8.1	9.5	9.1	9.3
Totals							
Freight	63.9	58.1	62.8	69.8	73.9	65.7	81.1
Super Freight	124.5	116.8	126.0	126.6	141.6	127.1	135.0
XPT	34.5	35.9	43.2	46.0	52.6	**42.4**	37.5

Indicates years that have been affected by Force Majeure Events

Excluding Force Majeure Events							
Category	18/19 Period Avg	19/20 Period Avg	20/21 Period Avg	21/22 Period Avg	22/23 Period Avg	18/19 - 22/23 Five Year Rolling Average	Five Year Limit*
Hunter Valley							
Freight	25.7	17.4	21.5	26.9	27.4	**23.8**	10.8
Super Freight	45.2	32.3	42.0	44.9	48.6	**42.6**	19.0
XPT	13.3	7.9	12.6	10.2	14.1	**11.6**	3.2
North Coast							
Freight	7.0	6.3	6.0	11.9	9.5	8.1	35.9
Super Freight	11.6	10.0	10.4	18.0	16.4	13.3	56.9
XPT	4.7	4.0	5.1	8.0	7.6	5.9	17.7
South							
Freight	24.5	26.3	21.6	22.8	23.3	**23.7**	13.2
Super Freight	47.7	46.7	38.5	41.4	45.2	**43.9**	23.0
XPT	7.8	10.0	14.5	17.6	18.0	**13.6**	7.3
West							
Freight	5.4	3.5	8.0	5.6	7.8	6.1	21.2
Super Freight	18.3	20.5	27.2	18.0	20.3	20.9	36.2
XPT	7.6	11.1	8.9	8.1	6.1	8.4	9.3
Totals							
Freight	62.6	53.4	57.0	67.3	68.0	61.7	81.1
Super Freight	122.7	109.4	118.2	122.4	130.5	120.7	135.0
XPT	33.5	32.9	41.0	43.9	45.8	**39.4**	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 8 of the 15 categories after adjustments due to Force Majeure or increased maintenance in the KPI limits.

Force majeure events that occurred in 2022/23 and resulted in temporary speed restrictions due to damage include extreme weather events causing flooding and washaways, derailment and infrastructure struck by train or road vehicle.

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 *	18/19	19/20	20/21	21/22	22/23	22/23 vs. Annual Limit
South	Top	10.62	8.15	7.91	7.76	7.87	8.12	TARGET MET
	Twist	6.69	5.73	5.36	5.37	5.27	5.42	TARGET MET
	Line	10.20	8.53	8.45	8.38	8.21	8.45	TARGET MET
	Gauge	6.48	5.06	5.05	5.05	4.98	5.01	TARGET MET

Region	Measure	Annual Limit *	18/19	19/20	20/21	21/22	22/23	22/23 vs. Annual Limit
North	Top	9.11	8.41	8.02	7.39	7.24	7.01	TARGET MET
	Twist	6.55	5.84	5.35	5.18	5.01	4.97	TARGET MET
	Line	13.52	11.96	12.20	12.02	11.89	11.75	TARGET MET
	Gauge	6.89	6.18	6.15	6.01	5.84	5.74	TARGET MET

Region	Measure	Annual Limit *	18/19	19/20	20/21	21/22	22/23	22/23 vs. Annual Limit
West	Top	11.17	7.47	7.88	7.66	7.45	7.49	TARGET MET
	Twist	6.89	4.77	4.64	4.64	4.56	4.55	TARGET MET
	Line	8.31	5.60	5.87	5.79	5.55	5.66	TARGET MET
	Gauge	5.83	4.19	4.13	4.14	4.12	4.10	TARGET MET

Region	Measure	Annual Limit *	18/19	19/20	20/21	21/22	22/23	22/23 vs. Annual Limit
Inland	Top	12.46	9.39	9.15	7.27	7.13	7.10	TARGET MET
	Twist	8.06	6.99	6.68	5.30	5.06	5.04	TARGET MET
	Line	10.79	7.87	8.06	7.49	7.35	7.25	TARGET MET
	Gauge	6.46	4.98	4.97	4.84	4.84	4.82	TARGET MET

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

Sydney Freight Network

Region	Measure	18/19	19/20	20/21	21/22	22/23
SFN	Top	7.91	7.4	7.32	8.17	9.34
	Twist	5.43	5	4.86	5.16	5.75
	Line	12.27	12.2	12.35	12.53	12.83
	Gauge	5.95	5.9	5.94	6.01	5.98

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

The Five Year Rolling Average Track Geometry limit was met in 15 of the 16 measures.

The performance for Line on the North Coast is slightly above the limit.

Region	Measure	5 Year Limit *	18/19 - 22/23 Average	18/19 - 22/23 vs. 5 Year Limit
South	Top	9.44	7.96	TARGET MET
	Twist	6.30	5.43	TARGET MET
	Line	8.91	8.40	TARGET MET
	Gauge	5.94	5.03	TARGET MET

Region	Measure	5 Year Limit *	18/19 - 22/23 Average	18/19 - 22/23 vs. 5 Year Limit
North	Top	7.99	7.61	TARGET MET
	Twist	5.90	5.27	TARGET MET
	Line	11.92	11.96	TARGET NOT MET
	Gauge	6.64	5.98	TARGET MET

Region	Measure	5 Year Limit *	18/19 - 22/23 Average	18/19 - 22/23 vs. 5 Year Limit
West	Top	10.52	7.59	TARGET MET
	Twist	6.74	4.63	TARGET MET
	Line	6.45	5.69	TARGET MET
	Gauge	4.66	4.14	TARGET MET

Region	Measure	5 Year Limit *	18/19 - 22/23 Average	18/19 - 22/23 vs. 5 Year Limit
Inland	Top	11.30	8.01	TARGET MET
	Twist	7.75	5.82	TARGET MET
	Line	9.22	7.60	TARGET MET
	Gauge	5.84	4.89	TARGET MET

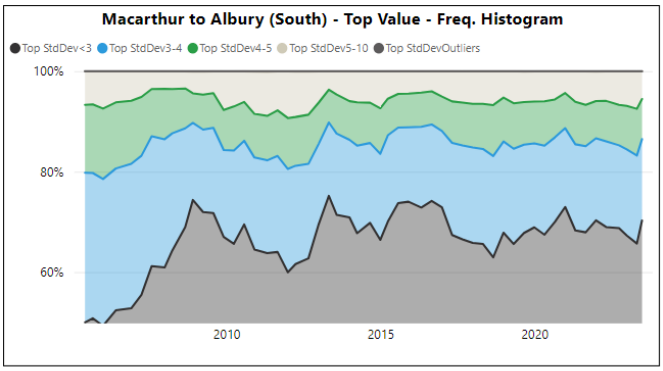
* *5 Year Limit as requested in 06/07 report addendum.*

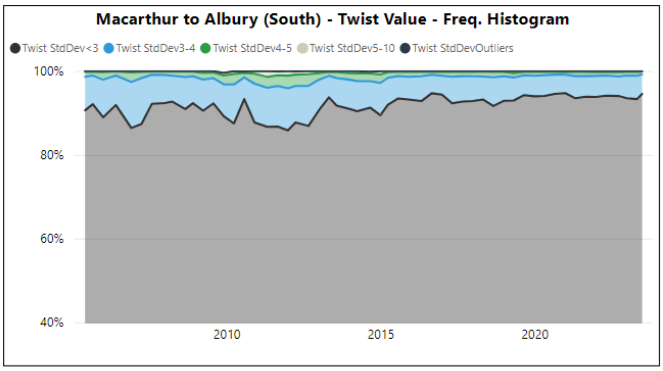
iii. Trending Graphs

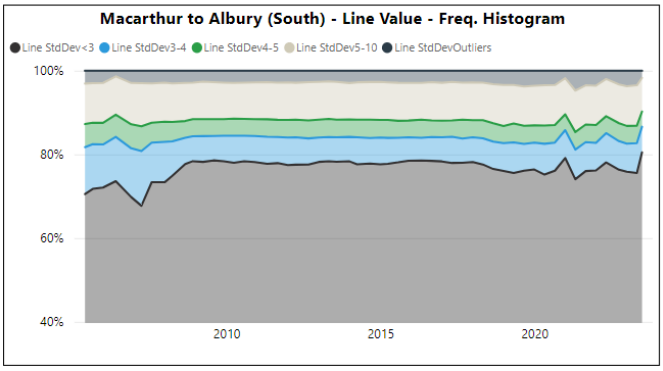
The trending graphs consist of all geometry readings taken for a KPI region up to 30 June 2023. A rising slope in the graph shows an improvement in track geometry.

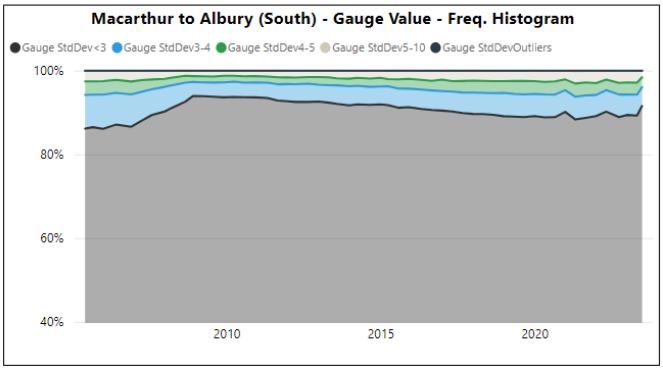
South (July 2022 to June 2023)

South (Jun23)	StdDev <3	StdDev 3-4	StdDev 4-5	StdDev 5-10	StdDev Outliers
Top	70.30%	16.19%	8.00%	5.52%	0.00%
Twist	94.60%	4.65%	0.66%	0.08%	0.00%
Versine	80.49%	6.15%	3.62%	8.05%	1.70%
Gauge	91.58%	4.50%	2.36%	1.55%	0.02%



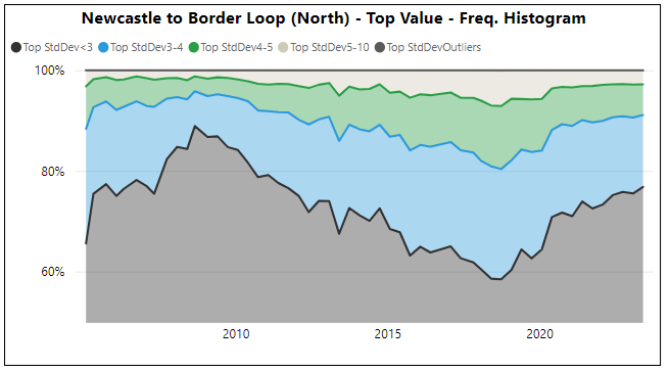


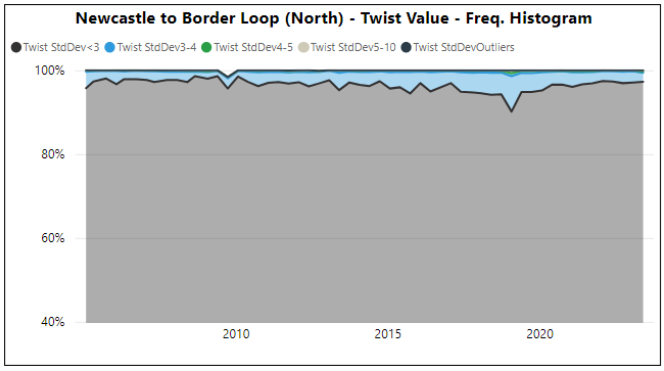


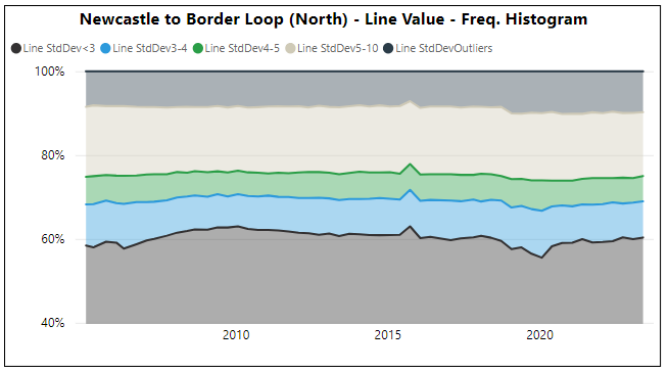


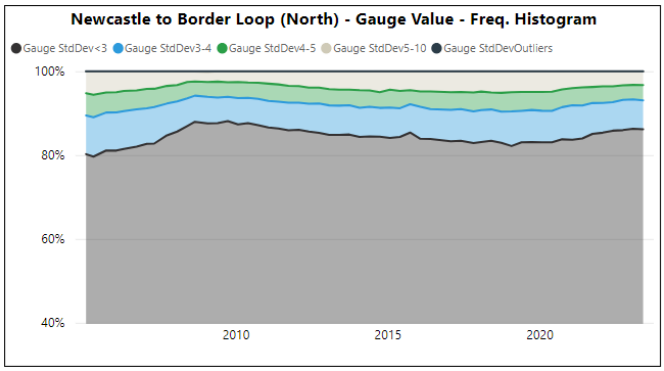
North Coast (July 2022 to June 2023)

North (May23)	StdDev <3	StdDev 3-4	StdDev 4-5	StdDev 5-10	StdDev Outliers
Top	76.81%	14.30%	6.11%	2.78%	0.00%
Twist	97.26%	2.16%	0.27%	0.24%	0.07%
Versine	60.35%	8.63%	6.06%	15.21%	9.75%
Gauge	86.17%	6.89%	3.64%	3.29%	0.00%



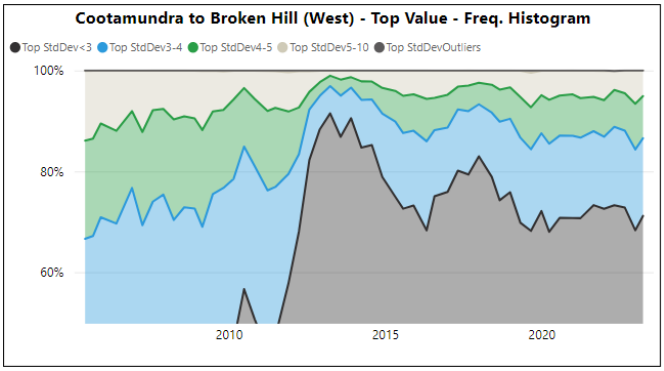


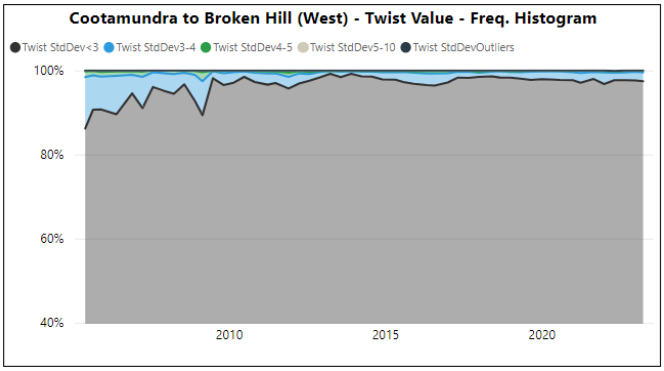


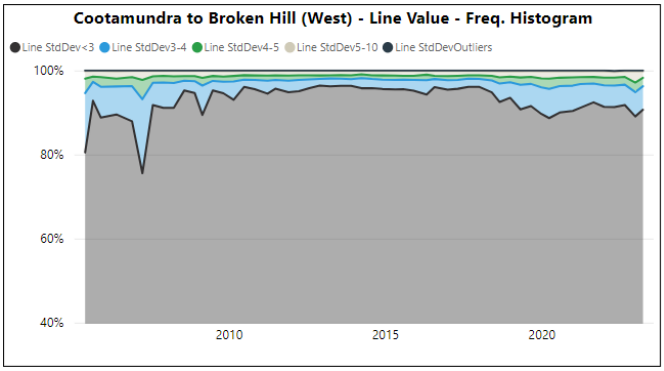


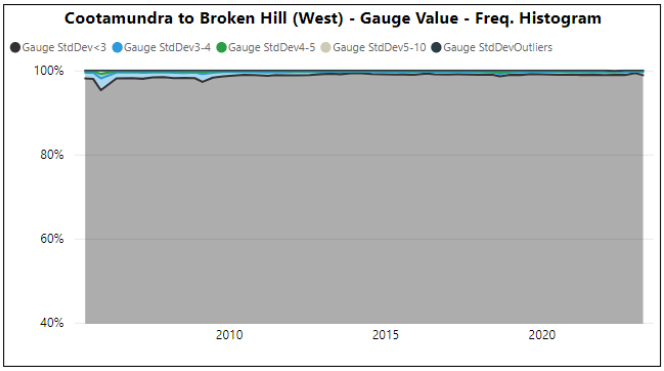
West (July 2022 to June 2023)

West (Mar23)	StdDev <3	StdDev 3-4	StdDev 4-5	StdDev 5-10	StdDev Outliers
Top	71.17%	15.39%	8.37%	5.07%	0.00%
Twist	97.44%	2.10%	0.41%	0.06%	0.00%
Versine	90.67%	5.60%	1.98%	1.53%	0.22%
Gauge	98.88%	0.69%	0.28%	0.14%	0.00%



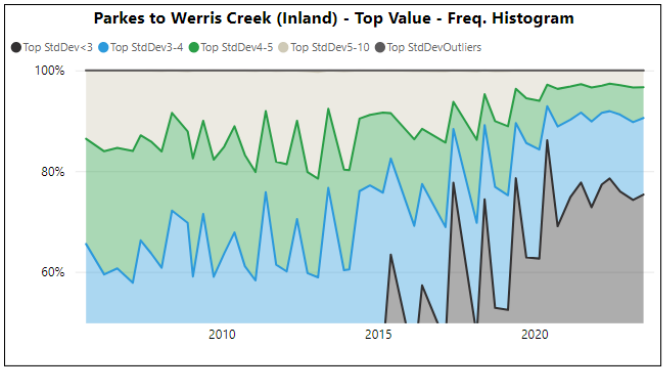


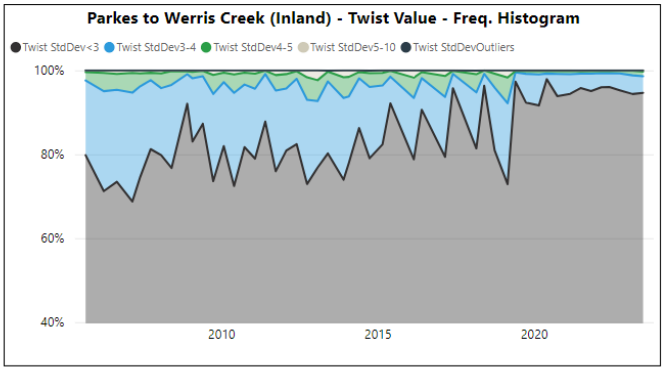


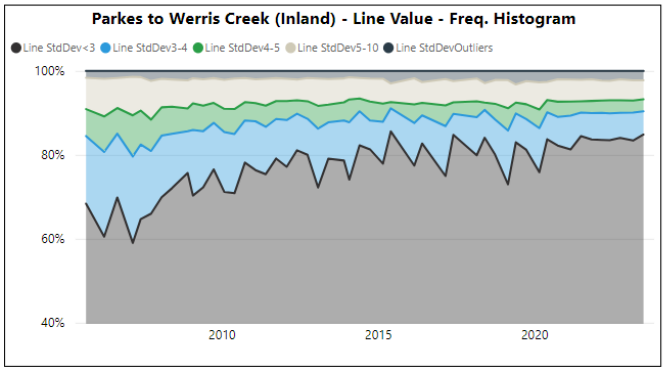


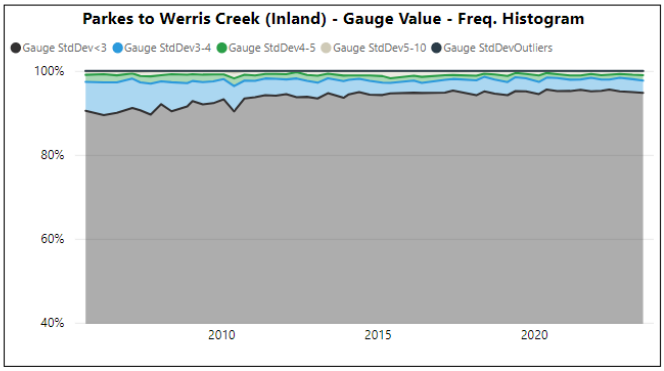
Inland Route (July 2022 to June 2023)

Inland (Jun23)	StdDev <3	StdDev 3-4	StdDev 4-5	StdDev 5-10	StdDev Outliers
Top	75.34%	15.21%	6.09%	3.31%	0.04%
Twist	94.65%	3.98%	1.11%	0.26%	0.00%
Versine	84.84%	5.52%	2.89%	4.49%	2.27%
Gauge	94.76%	2.93%	1.28%	0.96%	0.06%









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	22/23	**3 Year Rolling Average**
Inland	16	9	2	0	2	10	0	**4.0**
North	15	19	8	8	1	22	7	**10.0**
South	35	31	43	32	19	46	64	**43.0**
West	2	7	4	2	4	3	0	**2.3**
Total	68	66	57	42	26	81	71	**59.3**

The 3-year rolling average of large rail defects of 59.3 during 2022/23 has 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 FY22/23 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	22/23
Timber	0	0	20,684	330	5333	462	97	0
Steel	62,730	6,450	12,047	10,045	68,070	23,100	12,260	23,724
Concrete	3,398	37,439	33,241	41,637	37,105	9,618	46,427	7,338
Other	0	0	0	495	69	35	995	0

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	22/23
Timber	8.8%	8.5%	7.9%	7.7%	7.3%	6.1%	5.7%	5.7%	5.3%
Steel	10.9%	12.0%	12.1%	11.5%	11.4%	12.2%	12.6%	12.4%	12.8%
Concrete	80.3%	79.7%	80.0%	80.8%	81.3%	81.7%	81.7%	81.8%	81.8%
Other	0.0%	0.0%	0.0%	0.0%	0.01%	0.01%	0.01%	0.02%	0.02%

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

Bridges

i. Length of Bridges Replaced during Annual Condition Reporting period

One nominated bridge has been replaced during the reporting period. The Murrulla Creek underbridge was a steel girder, transom top, masonry substructure bridge replaced with concrete substructure and girder, ballast top bridge.

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.

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

The Temporary Speed Restriction on the concrete bridge is now lifted at the time this report is prepared.

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	22/23 Total Length (m)	22/23 No of Bridges	% of Bridges
Timber	0	0	58	1	0	0	0	0	0.00%
Iron	0	0	0	0	0	0	0	0	0.00%
Masonry	0	0	0	0	0	0	0	0	0.00%
Steel	429.5	7	1101.7	3	1299.7	4	276.1	2	1.17%
Concrete	27.5	2	0	0	120	1	31.3	1	0.13%
Other (incl. brick)	0	0	0	0	0	0	0	0	0.00%
Total	457	9	1159.7	4	1419.7	5	307.4	3	1.30%

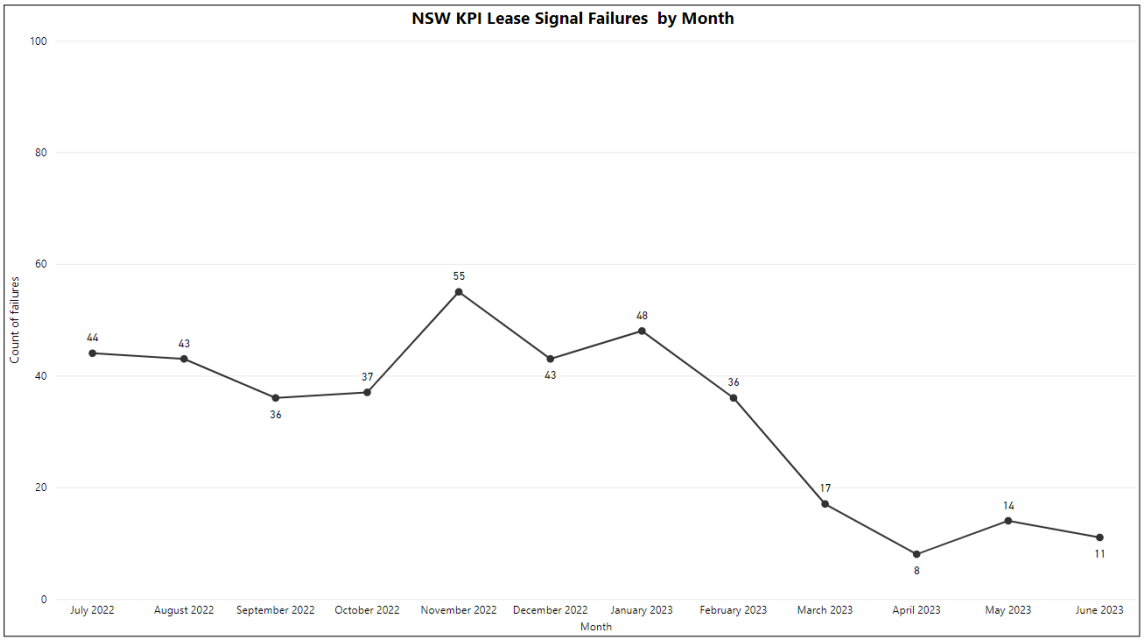
iii. Bridge Type on the entire KPI Network on the last day of the ACR period.

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	22/23 Total Length (m)	22/23 No of Bridges
Timber	79.62	8	79.62	8	79.62	8	79.62	8
Iron	260.5	3	260.5	3	260.5	3	260.5	3
Masonry	54.9	1	54.9	1	54.9	1	54.9	1
Steel	16,317.51	318	16,278.81	317	16,139.41	314	16,106.01	313
Concrete	5,858.27	444	5,896.97	445	6,103.77	447	6,131.66	448
Other (incl. brick)	946.6	24	946.6	24	946.6	24	946.6	24
Total	23,517.40	798	23,517.40	798	23,584.8	797	23,579.29	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	22/23
July	-	106	104	176	150	136	150	153	172	174	154	115	90	78	46	26	56	50	44
Aug	-	88	123	202	158	116	164	132	166	162	144	85	88	80	55	35	51	38	43
Sept	44	86	131	264	135	149	183	152	147	158	162	77	76	89	59	24	52	39	36
Oct	89	124	126	274	209	184	163	148	137	214	195	128	87	99	76	32	63	42	37
Nov	93	130	165	234	167	230	142	210	194	237	223	133	121	108	53	29	79	30	55
Dec	117	143	189	239	174	206	179	139	199	186	293	109	128	117	84	35	85	39	43
Jan	115	179	191	224	224	255	163	215	243	166	244	152	150	102	111	58	80	45	48
Feb	115	155	229	204	177	189	176	182	170	175	170	115	126	66	64	41	58	30	36
Mar	107	113	222	197	179	209	146	172	181	230	173	108	120	57	71	44	62	25	17
Apr	74	110	179	195	175	239	122	164	151	158	149	101	66	60	53	26	41	22	8
May	115	116	162	151	154	146	144	178	170	150	171	79	81	71	52	42	45	29	14
Jun	94	125	161	141	111	128	86	112	126	135	133	70	55	50	34	22	18	8	11



* 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:

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

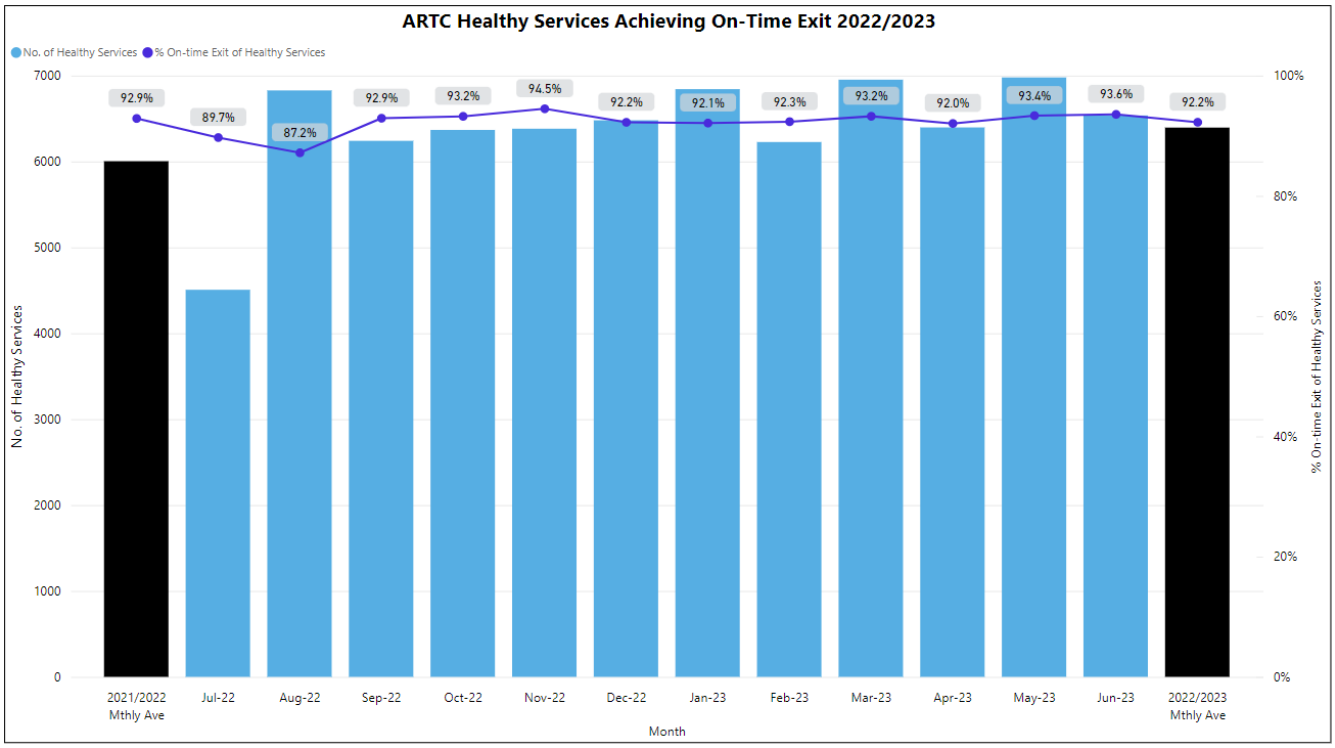
  The % of Healthy Services achieving On-time Exit has been calculated in line with the above formula.

- 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 2022/2023 of 92.2% 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 @ 21 TAL 100kph @ 6.5 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 @ 19 TAL 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 West to Parkes (Goobang)	115kph @ 21 TAL 100kph @ 23 TAL 80kph @ 25 TAL	NA
Inland Route	Parkes (Goobang) to Narwonah	115kph @ 21 TAL 100kph @ 23 TAL 80kph @ 25 TAL	145kph
	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

** Only in the Down direction. This is applicable for up to 140t locomotives to be operated with compatible hoppers in tare condition.

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 Muswellbrook and Werris Creek.

4 Permanent Speed Restrictions

MUSWELLBROOK – WERRIS CREEK					
LOCATION	KILOMETRAGE	DOWN		UP	
		NORMAL	EXPRESS	NORMAL	EXPRESS
MUSWELLBROOK	288.783				
UP MAIN	288.850	50	55	70	75
UP MAIN	288.910				
	289.068				
	289.077				
	289.400			50	55
	289.670	105	115		
	291.590			105	115
	292.050	90	95		
	292.670			90	95
	292.900	115	160		
	293.210	X70 (370 PTS)	X70 (370 PTS)		
DOWN LOOP	293.325	70	70	X70 (370 PTS)	X70 (370 PTS)
KOOLBURY	294.102				
DOWN LOOP	294.690	X70 (371 PTS)	X70 (371 PTS)	70	70
	294.740			115	160
	294.820			X70 (371 PTS)	X70 (371 PTS)
	295.110	80	95		
	295.430	100	110	80	95
	296.530			100	110
DARTBROOK COAL JUNCTION	296.549				
	296.830	115	160		
	300.050	X25 (51 PTS)	X50 (51 PTS)		
UP LOOP	300.150	50	50	X25 (51 PTS)	X50 (51 PTS)
ABERDEEN	300.733				
UP LOOP	300.850	X25 (52 PTS)	X50 (52 PTS)	50	50
	300.898			X25 (52 PTS)	X50 (52 PTS)
	301.900			115	160
	302.200	110	125		
	302.627			110	125
	302.897	115	160		
	306.020	X50 (51 PTS)	X50 (51 PTS)		
DOWN LOOP	306.140	50	50	X50 (51 PTS)	X50 (51 PTS)
	306.970			115	160
TOGAR	307.107				
DOWN LOOP	307.507	X25 (52 PTS)	X50 (52 PTS)	50	50
	307.610			X25 (52 PTS)	X50 (52 PTS)

Amendments made to the permanent speed restriction between Goobang Junction and Broken Hill.

Permanent Speed Restrictions

GOOBANG JUNCTION - BROKEN HILL					
LOCATION	**KILOMETRAGE**	**DOWN**		**UP**	
		NORMAL	**EXPRESS**	**NORMAL**	**EXPRESS**
PARKES	445.505				
	445.707			40	40
	445.900			X25	X25
	446.160	70	70	40	40
GOOBANG JUNCTION	448.302				
	448.320	110	110	70	70
** refer to section page D12, Branch line to Dubbo through Goobang Junction Yard.*	451.792			X25 (SCT yard)	
*NWL East Fork	452.921	X25 (AA PTS)		110	
	452.935			110	
	453.342			110	110
	453.417	115	145		
	453.423		120		145
	453.523		145		120
*NWL North West Link	454.442			X25	
	454.445	115			
	456.662		120		145
	456.762		145		120
	458.271		120		145

3. Register of ARTC Infrastructure

Building Works added to Assets Register during 2022/23

Location	Asset No	Asset	Cost
Inland Route	0063802	Suite 1, 622 MaCauley St, Albury NSW	$21,347
Telarah to Stratford Jct	0063880	DUNGOG SUB PROVISIONING CENTRE - DUAL SWING SECURITY GATES	$5,800
Telarah to Stratford Jct	0063884	DUNGOG SUB PROVISIONING CENTRE - 58M X 2.1M BLACK SECURITY FENCING	$15,455
Telarah to Stratford Jct	0063885	DUNGOG SUB PROVISIONING CENTRE - TRIPLE POINT SECURITY DOORS X 2	$2,727
Broken Hill Provisioning Centre	0064098	FEMALE RESTROOM FLOORS & WALLS BROKEN HILL PC	$7,890
Ivanhoe - Parkes (GoobangJct)	0064105	ROADWAY - SEALANT 261M X 3.5M (W) IVANHOE RESTHOUSE	$36,520
Port Waratah Provisioning Centre	0064384	SLIDING GATE & FENCING	$24,712
Dubbo Provisioning Centre	0064403	BUILD TOILET IN DUBBO OFFICE	$38,249
Property - Wagga Wagga	0064439	GOULBURN PC EXTERNAL AWNING	$49,000
Property - Wagga Wagga	0064441	GOULBURN PC CONCRETE PAVING	$14,221
Property - Wagga Wagga	0064446	GOULBURN PC BUILDING STRUCTURAL UPGRADES	$318,558
Property - Wagga Wagga	0064714	SECURITY FENCING (BLACK DIPLOMAT) WAGGA YARD 50M UP & 50M DN	$36,780
Property - Wagga Wagga	0064715	15M SECURITY FENCING (GREEN ACORN SPEAR STEEL) WAGGA STATION	$3,325
Property - Wagga Wagga	0064735	COOTAMUNDRA PC TOILETS -BUILDING REFURBISHMENT	$28,250
Property - Wagga Wagga	0064738	COOTAMUNDRA PC-B&D SERIES II ROLLER DOOR & GD012 MOTOR	$3,250
Property - Wagga Wagga	0064739	COOTAMUNDRA PC-B&D SERIES II ROLLER DOOR & GD012 MOTOR	$3,250
Property - Wagga Wagga	0064740	COOTAMUNDRA PC-B&D SERIES II ROLLER DOOR & GD012 MOTOR	$3,250
Property - Wagga Wagga	0064741	COOTAMUNDRA PC-B&D SERIES II ROLLER DOOR & GD012 MOTOR	$3,250
Property - Wagga Wagga	0064742	UNDER GRATE-WANGARATTA	$3,440
Gunnedah Provisioning Centre	0065136	GUNNEDAH OFFICE MODIFICATION - INV 206280,206304 & 206325	$26,065
Maintenance Services HV	0065139	7192 PC (RUTHERFORD) CARPARK & HARDSTANDS	$39,000
Gunnedah Provisioning Centre	0065285	5 Demountable offices - 90-108 Kamalroi Highway, Gunnedah	$34,546
Inland Rail Operational Management (non-project)	0067739	415 NATIONAL PARK ROAD CURBAN-IR GN LUMMIS PROPERTY - HOMESTEAD & SURROUNDING BUILDINGS	$600,000
Inland Rail Operational Management (non-project)	0067741	IR PENNA PROPERTY - FENCE 253 NANCARROWS LANE,GILGANDRA	$2,000
Inland Rail Operational Management (non-project)	0067743	SLOAN PROPERTY - GLENLOVELY? 27966 CUNNINGHAM HWY, WHETSTONE, QLD 4387	$475,000
Inland Route	0068129	290 Clarinda St, Parkes NSW	$95,602
Inland Rail Operational Management (non-project)	0068272	OCONNOR PROPERTY - HOMESTEAD AND OTHER STRUCTURES	$101,000
Inland Rail Operational Management (non-project)	0068274	MILLMERRAN INGLEWOOD RD CANNING CREEK QLD 4357-CHANDLER PROPERTY - BUILDINGS	$425,000
Inland Rail Operational Management (non-project)	0068276	IR J KNOTT - BUILDINGS (LOT 371 WALLENS RD BALLARD)	$15,000
Supplier Operations (Inventory) (Hunter Valley)	0068283	TELARAH YARD SURFACE UPGRADE	$279,530
Property - Wagga Wagga	0068489	FLOORING JUNEE REFRESHMENT ROOM	$163,079
Gunnedah Provisioning Centre	0069018	SUPLY AND INSTALL CARPET TO GUNNEDAH PC	$6,165
Inland Rail Operational Management (non-project)	0069140	74 BOUNDARY ST, NARRABRI NSW 2390 - ALEXANDER PROPERTY - BUILDINGS	$40,000
Inland Rail Operational Management (non-project)	0069145	MOY PROPERTY - FARM BUILDINGS (LOT 266, THE ISLAND ROAD, NARRABRI)	$40,000
Inland Route	0069157	1600 KEEWONG LAN, CARINDA NSW2831 - COTTAGE, SHEARING SHED AND OTHER STRUCTURES	$375,000
Property - Wagga Wagga	0069484	JUNEE MEETING ROOM CEILING & WALL REPLACEMENT	$189,491
Property - Sydney	0069531	CHULLORA YARD WALKWAY-6M X 2M RETURN DURAGUL RAMP SERRATED GRIP SPAN PLANK	$13,688
Property - Wagga Wagga	0069541	SECURITY FENCING 61 RAILWAY ST WAGGA	$3,735
Property - Wagga Wagga	0069550	BUILDING IMPROVEMENTS-WELCOME ST PARKES OLD SIGNALS DEPOT	$13,050
Property - Wagga Wagga	0069551	PLUMBING IMPROVEMENTS-WELCOME ST PARKES OLD SIGNALS DEPOT	$4,350
Property - Sydney	0069773	CHULLORA YARD CREW CHANGE BALLAST WALKWAY-UP	$174,060
Property - North Coast	0069774	WINGHAM STATION MASTERS 1.8M FENCING & 3M GATE	$14,000
		TOTAL	$3,748,634

4. Infrastructure Investment Program - Major Works

Major Works Investment Program

Major Project	2022/23	Planned Expenditure beyond 2023	Total Forecast
Hunter Valley	$13,922,024	$30,482,470	$1,723,336,609
ATMS	$75,570,416	$207,683,312	$519,639,640
Inland Rail	$1,082,915,942	$4,952,103,979	$8,795,412,616
NSW Lease Other	$1,017,953	$3,042,867	$1,199,835,919
Interstate Rerailing - NSW	$41,506,793	$200,730,617	$320,368,715
GSRP - Goulburn to Sydney Re-Railing Project	$129,081	$0	$58,990,378
MFN - Metropolitan Freight Network	$19,162	$0	$207,482,423
PBRL - Duplication & Cab Loop	$232,928,359	$106,265,390	$477,093,911
SHOOP - Southern Highlands Overtaking Opportunities Project	$5,623,153	$39,312,782	$45,874,068
REILIEN - Resilience	$2,229,572	$11,614,501	$13,844,073
Third Party	$634,062	$3,042,867	$4,342,806
Level Crossings Program	$140,348	$0	$7,492,587
Major Works Program Total	**$1,456,636,864**	**$5,554,278,786**	**$13,373,713,746**

Corridor Works Summary

	2018/19	2019/20	2020/21	2021/22	2022/23
Corridor RCRM	$67,544,291	$69,354,098	$71,121,278	$73,532,780	$81,368,195
Corridor MPM	$117,370,193	$126,789,297	$125,647,715	$132,082,719	$124,011,053
Corridor Capital	$99,342,940	$135,551,057	$125,435,230	$117,608,810	$109,793,456
Corridor Works Program Total	**$284,257,424**	**$331,694,452**	**$322,204,224**	**$323,224,308**	**$315,172,704**

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	2022/23	Beyond 2023	Total Forecast
AI68 - N2T - Track Upgrade	$11,993,765	$28,914,798	$44,535,585
AF40 - Muswellbrook Bridge	$939,720	$65,844	$58,485,927
A229 - Fixing Country Rail	$467,250	$0	$15,044,179
AI51 - Waratah to Sandgate-Mains	$434,060	$0	$6,215,519
AF57 - Gateleys Road-Public Level Crossing	$31,757	$0	$1,906,272
AF60 - Old Breeza Road-Public Level Crossing	$25,164	$0	$1,568,515
AF91 - Merriwa Rd, Willow Tree LCIP 21-23	$13,666	$0	$715,448
AF58 - Emirates Park-Private Level Crossing	$11,106	$1,127,402	$1,312,847
5255 - Maitland to Minimbah Third Road - Stage 2	$5,574	$374,426	$354,278,270
AE71 - Ardglen Derailment 366.500kms	$530	$0	$1,905
2971 - Ulan Road, Wollar LCIP 18/19	-$569	$0	$1,138,044
Other	$0	$0	$1,238,134,098
Total for Hunter Valley	**$13,922,024**	**$30,482,470**	**$1,723,336,609**

Rail Rectification	2022/23	Beyond 2023	Total Forecast
2792 - Interstate Rerail MajWks	$41,506,793	$200,730,617	$320,368,715
Total for Rail Rectification	**$41,506,793**	**$200,730,617**	**$320,368,715**

Metropolitan Freight Network	2022/23	Beyond 2023	Total Forecast
8977 - Port Botany Stage 3	$19,060	$0	$62,051,606
Other	$102	$0	$145,430,816
Total for Metropolitan Freight Network	**$19,162**	**$0**	**$207,482,423**

Duplication & Cab Loop	2022/23	Beyond 2023	Total Forecast
A181 - Botany Rail Duplication	$179,105,885	$57,216,465	$330,337,663
A226 - Cabramatta Loop	$53,822,474	$49,048,924	$146,756,248
Total for Duplication & Cab Loop	**$232,928,359**	**$106,265,390**	**$477,093,911**

SHOOP - Southern Highlands Overtaking Opportunities Project	2022/23	Beyond 2023	Total Forecast
AI73 - Southern Highlands Overtaking Opportunit	$5,623,153	$39,312,782	$45,874,068
Total for SHOOP - Southern Highlands Overtaking Opportunities Project	**$5,623,153**	**$39,312,782**	**$45,874,068**

Third Party	2022/23	Beyond 2023	Total Forecast
A220 - Sydney Gateway Project	$205,924	$0	$0
Minor Third Party Works <$100k	$428,137	$3,042,867	$4,342,806
Total for Third Party	**$634,062**	**$3,042,867**	**$4,342,806**

Level Crossings Program	2022/23	Beyond 2023	Total Forecast
2432 - Mills Rd, Towrang LCIP 17/18 Designs	$12,286	$0	$1,062,241
2433 - Murrays Flat Rd, Towrang LCIP 17/18 Desi	-$514	$0	$1,037,809
2806 - Wirrinya Road, Wirrinya LCIP 17-18 Des	$3,602	$0	$1,288,493
2972 - Jerrawa Road, Jerrawa LCIP 18/19	-$514	$0	$1,086,913
2973 - Newell Highway, Tichborne, LCIP 18/19	-$514	$0	$850,005
2974 - Newell Highway, Welcome, LCIP 18/19	-$514	$0	$889,481
2975 - Harefield Road, Harefield LCIP 18/19	-$514	$0	$871,308
AG49 - Sheep Wash Rd, Calwalla LCIP 20/21-22	$707	$0	$66,657
AG50 - Mid Western Hwy, Caragabal LCIP 20/21-22	$45,416	$0	$94,953
AG51 - Kiacatoo Rd, Condobolin LCIP 20/21-23	$8,843	$0	$72,610
AG52 - Rainville Rd,GrawlinPlains LCIP 20/21-23	$30,651	$0	$84,418
AG53 - Bushland Drive, Taree LCIP 20/21-23	$16,760	$0	$63,047
AQ71 - LCIP	$24,653	$0	$24,653
Total for Level Crossings Program	**$140,348**	**$0**	**$7,492,587**

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)	2022/23 ($'000)	Total ($'000)
Major Works Investment	$173,424	$69,704	$170,079	$203,711	$495,257	$647,194	$762,584	$954,443	$1,456,637	$9,147,805
Corridor MPM & Capital	$194,712	$236,557	$226,789	$196,992	$216,915	$262,340	$251,083	$249,692	$233,805	$3,099,866
Total	$368,136	$306,261	$396,868	$400,703	$712,172	$909,534	$1,013,667	$1,204,134	$1,690,441	$12,247,671