Victorian Interstate Infrastructure Lease KPI Report 4th Quarter 2021/2022 (Apr-Jun)

ARTC





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Executive Summary

In accordance with the Victorian Interstate Infrastructure Lease, this document presents the KPI Report under the lease covering the period April 2022 to June 2022.

A. Performance against KPI Benchmarks

All lease KPI Benchmarks have been met during the reporting period.

Note: KPI Benchmarks are the Lease Targets and the KPI Targets are the Aspirational Goals.

B. Performance against KPI Targets

Track Geometry Targets

The track geometry quality KPI Targets for top, twist, line and gauge were met for all of the 8 targets during the reporting period, for both KPI Regions.

Total Transit Time Delay Targets

The KPI Target was met for both loco-hauled passenger and XPT trains during the reporting period, for both KPI Regions.

Transverse Defect Target

The KPI Target for the number of reported transverse defects was met for the reporting period, for both KPI Regions.

Bridge Target

The KPI Target for the number of bridges with speed or capability restrictions was met for the reporting period, for both KPI Regions.

Track Capability

The Maximum Axle Load for XPT between Melbourne and Albury is at 19 TAL, slightly under the KPI Target of 20 TAL. The KPI Targets for maximum speed and axle load capacity were met during the reporting period, for Melbourne Wolseley.

C. Additional Supporting Measures

Average Track Quality Index (TQI) on KPI Network

TQI data from the latest recorded run has been provided for each track section.

Sleepers Replaced on KPI Network

175 sleepers (Timber – 0; Steel – 0; Concrete – 175; Composite - 0) were installed during the reporting period.

Timber Deck Bridges

A total of 25 bridges has timber decking that has been in service for 20 years or more.

Monthly Signal Failure Analysis

The Department of Economic Development, Jobs, Transport and Resources (DEDJTR) have been granted access to ARTC's SIMS database and review the signal failure trends as required.

Broken Rails

The total number of broken rails as at the end of the reporting period has been shown for each KPI Region.

New Permanent Speed Restrictions

There has been changes to the permanent speed restrictions during the reporting period on the Albury to Somerton section, changes are included in the report.

Track Recording Car Geometry Fault data

Track recording car geometry fault data provided since Q1 2011/12.

1. Performance against KPI's

1.1. Track Geometry Targets

Track geometry quality KPI Results for top, twist, line and gauge are provided below for each KPI Region.

The KPI Targets for track geometry quality have all been met.

Measure	KPI Target (Aspirational) Melbourne - Albury	KPI Benchmark (Lease Target) Melbourne - Albury	KPI Result Apr 22 to Jun 22		
Тор	11.5	18.4	4.7		
Twist	7.3	11.7	3.2		
Line	7.9	12.6	4.1		
Gauge	10.5	16.8	2.5		

Measure	KPI Target (Aspirational) Melbourne - Wolseley	KPI Benchmark (Lease Target) Melbourne – Wolseley	KPI Result Apr 22 to Jun 22
Тор	11.2	17.9	8.8
Twist	6.9	11.0	4.9
Line	7.6	12.2	5.7
Gauge	6.5	10.4	3.3

TQI data provided is from the latest recorded run.

Figure 1: Melbourne-Albury Track Quality Index

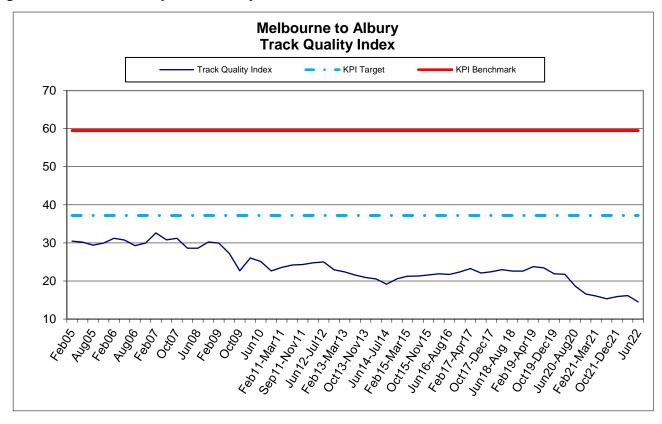
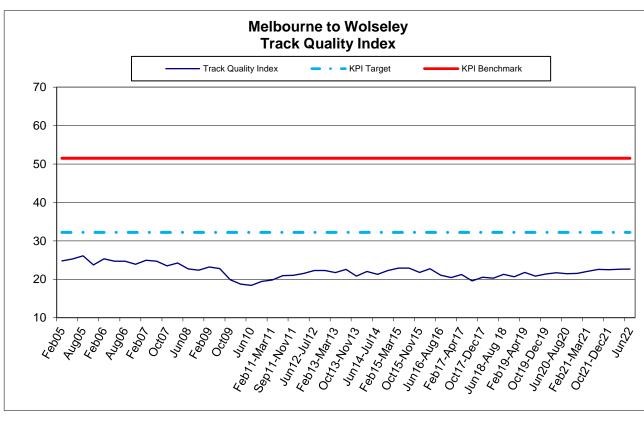


Figure 2: Melbourne-Wolseley Track Quality Index



1.2. Total Transit Time Delay Targets

KPI Results for time loss resulting from temporary speed restrictions are provided below for each KPI Region.

The KPI Target was met for both loco-hauled passenger and XPT trains between Melbourne and Wolseley and between Melbourne and Albury.

Measure Transit Time Delay (mins/trip)	KPI Target (Aspirational)	KPI Benchmark (Lease Target)	KPI Result (Loco-hauled Passenger 115 km/h) Apr 22 to Jun 22	KPI Result (XPT 130 km/h) Apr 22 to Jun 22	Result (Super Freighter 115 km/h) Apr 22 to Jun 22
Melbourne – Albury	20	30	3.2	1.4	10.9
Melbourne – Wolseley	40	80	9.6	N/A	26.3

The KPI Target and Benchmark above, do not apply to Super Freighters and the result for Super Freighters is added for information purposes only.

Figures 3-9 show the longer term trends for time loss due to temporary speed restrictions in each KPI Region.

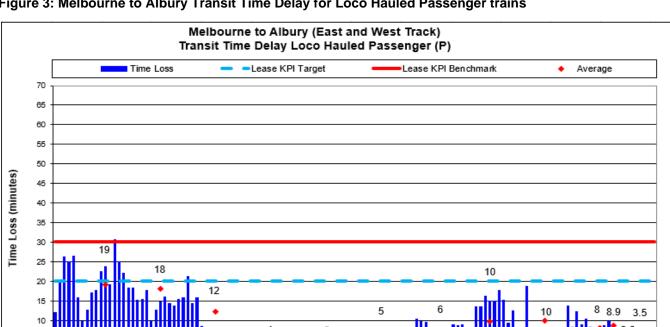


Figure 3: Melbourne to Albury Transit Time Delay for Loco Hauled Passenger trains

Figure 4: Melbourne to Albury Transit Time Delay for XPT trains

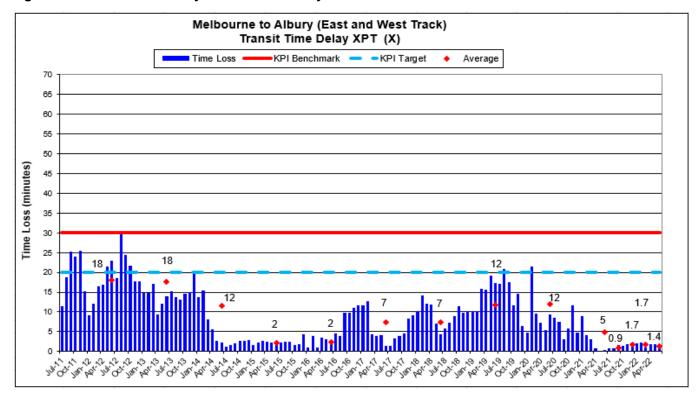


Figure 5: Melbourne to Albury Transit Time Delay (via East Track) for Loco Hauled Passenger trains

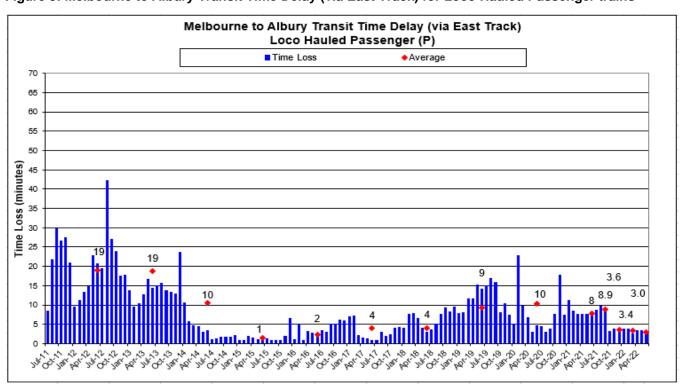


Figure 6: Melbourne to Albury Transit Time Delay (via East Track) for XPT trains

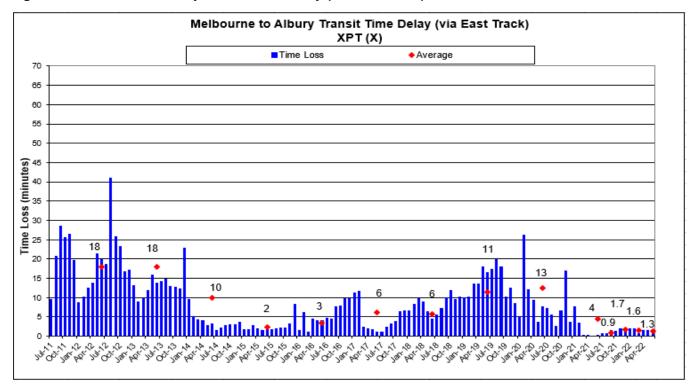


Figure 7: Melbourne to Albury Transit Time Delay (via West Track) for Loco Hauled Passenger trains

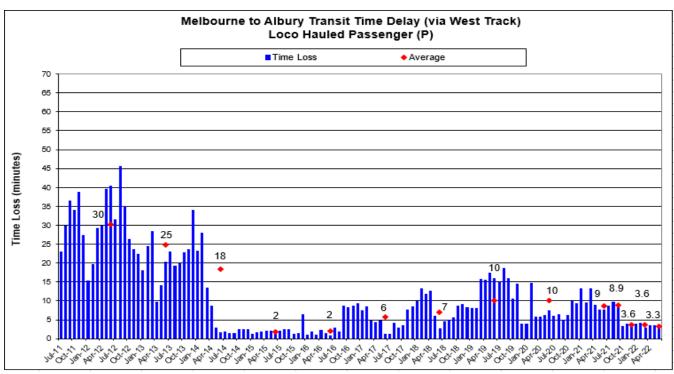


Figure 8: Melbourne to Albury Transit Time Delay (via West Track) for XPT trains

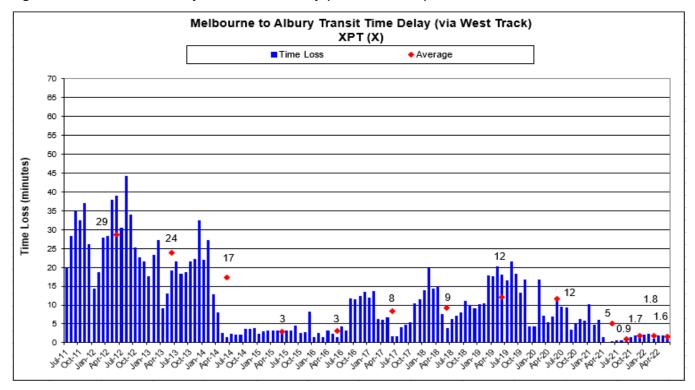
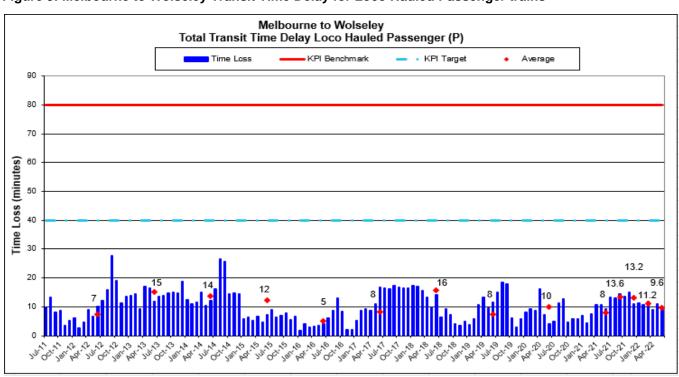


Figure 9: Melbourne to Wolseley Transit Time Delay for Loco Hauled Passenger trains



1.3. Transverse Rail Defect Target

KPI Results for the occurrence of transverse rail defects in each KPI Region are provided below.

The KPI Targets have been met in both KPI Regions.

Measure	KPI Target (Aspirational) Melbourne - Albury	KPI Result 21/22 total found	KPI Result Apr 22 to Jun 22
Number of Transverse Rail Defects (Number in place at the time of measurement / year	400	0	0

Measure	KPI Target (Aspirational) Melbourne - Wolseley	KPI Result 21/22 total found	KPI Result Apr 22 to Jun 22		
Number of Transverse Rail Defects (Number in place at the time of measurement / year	380	0	0		

1.4. Bridge Target

KPI Results for the extent of speed or capability restricted bridges are provided below.

The KPI Target for the number of bridges with speed restrictions has been met for both KPI Regions.

Measure	KPI Target (Aspirational) Melbourne - Albury	KPI Result Apr 22 to Jun 22
Number of Bridges with Temporary Speed Restrictions	30	0

Measure	KPI Target (Aspirational) Melbourne - Wolseley	KPI Result Apr 22 to Jun 22
Number of Bridges with Temporary Speed Restrictions	25	0

1.5. Track Capability

KPI Results for the maximum speed and axle load capacity of each KPI Region are provided below.

The Maximum Axle Load for XPT between Melbourne and Albury is at 19 TAL, slightly under the KPI Target of 20 TAL. KPI targets for each KPI Region have been met during the reporting period; however it appears that the original KPI target for Loco hauled passenger (V/Line) Melbourne to Albury was incorrectly stated at 130km/h. The N class loco has always had a max speed of 115km/h between Melbourne and Albury.

Measure	KPI Target Melbourne - Albury	KPI Result Apr 22 to Jun 22		
Loco hauled passenger (V/Line)	115 km/h (N Class or lighter)	115 km/h (N Class or lighter)		
XPT (Countrylink)	130 km/h @ 20 TAL	130 km/h @ 19 TAL		
VLocity DMU (V/Line)	130 km/h	130 km/h		

Measure	KPI Target Melbourne - Wolseley	KPI Result Apr 22 to Jun 22
Loco hauled passenger (V/Line)	115 km/h (N Class or lighter)	115 km/h (N Class or lighter)
XPT (Countrylink)	N/A	N/A
VLocity DMU (V/Line)	115 km/h	115 km/h

2. Additional Supporting Measures

2.1. Average Track Quality Index (TQI)

The average TQI and percentage of track with a TQI greater than 25 are provided below.

Line	Average TQI previous quarter			% of track with TQI greater than 25				
Serviceton to Maroona	22.5	22.7	30.1%	31.3%				
Maroona to Vite Vite	19.1	18.0	14.3%	10.6%				
Vite Vite to Gheringhap	22.7	22.6	28.5%	27.9%				
Gheringhap to Nth Geelong	26.0	27.7	51.3%	56.0%				
Nth Geelong to Newport	23.6	23.8	32.5%	34.2%				
Newport to Tottenham	42.1	41.1	61.6%	60.3%				
Tottenham to Dynon	43.0	43.5	78.7%	79.9%				
Tottenham to South Dynon	These two lines have been combined due to track rationalisation and are now							
Dynon to West Footscray	described as Tottenham to Dynon							
Tottenham to Patullos Lane *	17.9	18.0	15.4%	14.9%				
Patullos Lane to Broadford	15.7	15.7	6.3%	6.1%				
Broadford to Albury	14.5	13.9	3.0%	2.6%				
Albury To Seymour (West Line)	16.1	16.0	2.9%	2.8%				

TQI data provided is from the latest recorded run.

2.2. Sleepers Replaced

Sleepers installed on the track sections identified in the lease are provided below. 175 sleepers (Timber - 0; Steel - 0; Concrete - 175; Composite - 0) were installed during the reporting period.

	Serviceton to Maroona	Maroona to Vite Vite	Vite Vite to Gheringhap	Gheringhap to North Geelong	North Geelong to Newport	Newport to Tottenham	Tottenham to South Dynon	Dynon to West Footscray	Tottenham to Patullos Lane	Patullos Lane to Broadford	Broadford to Albury	Broadford to Albury (West Track)
Timber												
Steel												
Concrete	160		15									
Other												
Concrete 09/10												

The total quantity and percentage of the population of sleepers, by type, on the track sections as at 30 June 2022 are provided below.

	Serviceton to Maroona	Maroona to Vite Vite	Vite Vite to Gheringhap	Gheringhap to North Geelong	North Geelong to Newport	Newport to Tottenham	Tottenham to South Dynon	Dynon to West Footscray	Tottenham to Patullos Lane	Patullos Lane to Broadford	Broadford to Albury	Broadford to Albury (West Track)
Timber total quantity	-	-	-	5944	-	1357	0	514	32014	-	0	2180
Timber total percentage	0%	0%	0%	32%	0%	12%	0%	13%	77%	0%	0%	0.5%
Steel total quantity	-	-	-	-	-	-	-	-	-	-	-	-
Steel total percentage	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Concrete total quantity	396216	94207	175000	12389	97167	9875	9141	3454	9664	82500	680212	288702
Concrete total percentage	100%	100%	100%	68%	100%	88%	92%	87%	23%	100%	100%	99.5%
Other total quantity	-	-	-	-	-	31	804	-	-	-	-	-
Other total percentage	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%	0%	0%

2.3. Timber Deck Bridges

A total of 25 bridges has timber decking that have been in service for 20 years or more. The data includes bridges on the west track.

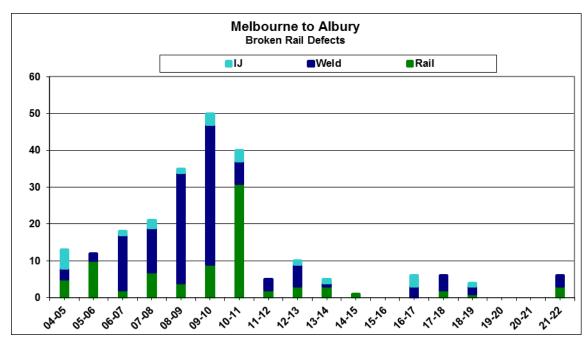
Corridor	Number of bridges with timber decking that is more than 20 years old	Number of bridges > 20 years old as a % of the total number of bridges with timber decking
Melbourne / Albury	16	73%
Melbourne / Wolseley	9	100%

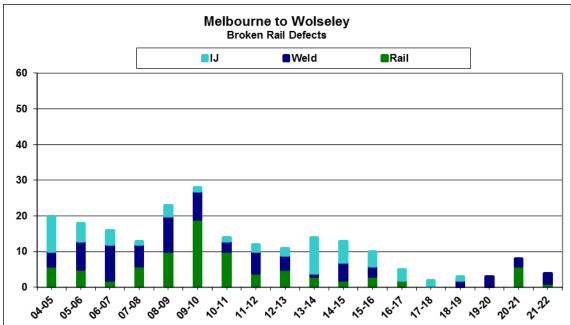
2.4. Monthly Signal Failure Analysis

The Department of Economic Development, Jobs, Transport and Resources (DEDJTR) have been granted access to ARTC's SIMS database and review the signal failure trends as required.

2.5. Broken Rails

The broken rail data provided below includes details of broken rails, broken welds and broken insulated rail joints for each KPI Region.





2.6. New Permanent Speed Restrictions

The following changes to the permanent speed restrictions have been made during the reporting period. Permanent speed changes are highlighted.

LOCATION	KILOMETRAGE	DOWN		UP	
		(AWAY FROM M	ELBOURNE)	(TOWARDS	MELBOURNE)
		NORMAL	EXPRESS PASSENGER	NORMAL	EXPRESS PASSENGER
SEYMOUR 107 Points (End Single Start Double Line)	99.809	100	100	-	-
	99.902	-	-	100	100
	100.150	115 (not posted)	130 (not posted)	100	100
	106.307	-	120**	-	130** (not posted)
GRAVELSIDE SIDING**	106.357				
	106.407	-	130** (not posted)	-	120**
	108.995		115	-	130 (not posted
	109.910		130 (not posted)	-	115
	117.840		125	-	130 (not posted
	118.425	-	130 (not posted)		125
[Note: Applies East Track only]	136.125	-	125	-	130 (not posted
	136.465	-	130 (not posted)		125
LONGWOOD	137.000				
	138.770		125 (not posted)		130 (not posted
	139.385	-	130 (not posted)	•	125
	148.994		120	-	130 (not posted
SANITARY DEPOT CROSSING**	149.044				
	149.094	-	130 (not posted)	-	120
WILBRAHAMS RD CROSSING**	160.525				
	160.575		130 (not posted)		120
VIOLET TOWN	170.000				
	195.520		115	-	130 (not posted
BENALLA	196.000				
	196.840	-	130 (not posted)		115(not posted

LOCATION	KILOMETRAGE	DOWN		UP	
		(AWAY FROM	MELBOURNE)	(TOWARDS	MELBOURNE)
		NORMAL	EXPRESS PASSENGER	NORMAL	EXPRESS PASSENGER
_	204.918		120	-	130 (not posted
WINTON ROAD**	204.968				
	205.018		130 (not posted)		120
	207.372		120	-	130 (not posted
LYNCH'S CROSSING**	207.422				
	207.472		130 (not posted)		120
	217.000		120		130 (not posted
	217.590		130 (not posted)	-	120
	217.930		125		130 (not posted
GLENROWAN	218.000				
	218.950	105	105	115	125 (not posted
•	220.580	115	130 (not posted)	105	105
ALUMATTA	231.000				
Stopping trains only (Sisely Level Crossing 233.087)	233.908	40LX	40LX		-
WANGARATTA	234.000				
	239.615		115		130 (not posted
	240.335		130 (not posted)		115
BOWSER	240.456				
	251.325		125		130 (not posted
	251.970		130 (not posted)		125
SPRINGHURST	257.550				
	261.911		120		130 (not posted
ROCKY CREEK ROAD**	262.041				
	262.491		130 (not posted)	-	120
CHILTERN	272.000				
-	273.635	-	125	-	130 (not posted
	273.950		130 (not posted)	-	125
BARNAWATHA	280.157				
	284.992		120		130 (not posted
-					

SEYMOUR - ALBU	SEYMOUR - ALBURY (EAST TRACK) [ORIGINAL STANDARD GAUGE]											
LOCATION	KILOMETRAGE	DOWN		UP								
		(AWAY FROM M	ELBOURNE)	(TOWARDS N	IELBOURNE)							
		NORMAL	EXPRESS PASSENGER	NORMAL	EXPRESS PASSENGER							
WELLADSENS ROAD**	285.042											
	285.092		130 (not posted)		120							
	290.880		125		130 (not posted)							
	291.965	-	130 (not posted)	-	125							
	294.920	-	125		130 (not posted)							
	295.670	-	130 (not posted)	-	125							
WODONGA WEST	298.000											
13 Points End Double Start Single Line	302.620											
VIC/NSW Border	302.702	70	80	115	130							
ALBURY	304.756											

Note:

^{**}NSW TrainLink Services' speed boards erected at crossings – train must not exceed individual speed until leading vehicle of train has passed over the level crossing.

LOCATION	KILOMETRAGE	DOWN		UP	
		(AWAY FROM MI	ELBOURNE)	(TOWARDS MEI	LBOURNE)
		NORMAL	EXPRESS PASSENGER	NORMAL	EXPRESS PASSENGER
	99.200	100	100		
SEYMOUR 107 Points (End Single Start Double Line)					
	100.150	115 (not posted)	130 (not posted)	100 (not posted)	100 (not posted)
	106.307	-	120**	-	130** (not posted)
GRAVELSIDE SIDING**	106.357				
	106.407	-	130**(not posted)		120**
	108.995	-	115 (posted East Track only)	-	130 (not posted)
	109.910	-	130 (not posted)	-	115 (posted East Track only)
	117.840	-	125 (posted East Track only)	-	130 (not posted)
	118.425	-	130 (not posted)	-	125 (posted East Track only)
LONGWOOD	137.000				
	138.770		125 (not posted)		130 (not posted)
	139.385	-	130 (not posted)	-	125 (posted East Track only)
	148.994		120		130 (not posted)
SANITARY DEPOT CROSSING**	149.044				
	149.094		130 (not posted)		120
	150.765	110	110	110	110
	160.475		120		130 (not posted)
WILBRAHAMS RD CROSSING**	160.525				
	160.575		130 (not posted)		120
VIOLET TOWN	170.000				
	195.520		120		130 (not posted)
BENALLA	196.000				
	196.840		130 (not posted)		120

LOCATION	KILOMETRAGE	DOWN		UP	
		(AWAY FROM M	ELBOURNE)	(TOWARDS ME	LBOURNE)
		NORMAL	EXPRESS PASSENGER	NORMAL	EXPRESS PASSENGER
	199.534	X15	-	X15	
	204.918		120		130 (not posted)
WINTON ROAD**	204.968				
	205.018		130 (not posted)		120
	207.372		120		130 (not posted)
LYNCH'S CROSSING**	207.422				
	207.472		130 (not posted)		120
	217.000	-	120 (posted East Track only)	-	130 (not posted)
	217.590	-	130 (not posted)	-	120 (posted Eas Track only)
	217.930	-	125 (posted East Track only)	-	130 (not posted)
GLENROWAN	218.000				
	218.950	105	105	115 (not posted)	125 (not posted)
	220.580	115 (not posted)	130 (not posted)	105	105
ALUMATTA	231.000				
Stopping trains only (Sisely Level Crossing 233.087)	233.908	-	-	40 LX	40LX
WANGARATTA	234.000				
	239.615	-	115 (posted East Track only)	-	130 (not posted)
	240.335	-	130 (not posted)	-	115 (posted Eas Track only)
BOWSER	240.456				
	251.325	-	125 (posted East Track only)	-	130 (not posted)
	251.970	-	130 (not posted)	-	125 (posted Eas Track only)
	257.420		115		130 (not posted)
SPRINGHURST	257.550				
	257.710		130 (not posted)		115
	261.911		120	-	130 (not posted)

LOCATION	KILOMETRAGE	DOWN		UP					
		(AWAY FROM	MELBOURNE)	(TOWARDS	MELBOURNE)				
	·	NORMAL	EXPRESS PASSENGER	NORMAL	EXPRESS PASSENGER				
ROCKY CREEK ROAD**	262.041								
	262.491		130 (not posted)		120				
CHILTERN	272.000								
	273.635		125 (posted East Track only)	-	130 (not posted)				
	273.950	-	130 (not posted)	-	125 (posted East Track only)				
BARNAWATHA	280.157								
	284.992		120		130 (not posted)				
WELLADSENS ROAD**	285.042								
	285.092		130 (not posted)		120				
	290.880	-	125 (posted East Track only)	-	130 (not posted)				
	291.965	-	130 (not posted)	-	125 (posted East Track only)				
	294.920	-	125 (posted East Track only)	-	130 (not posted)				
	295.670	-	130 (not posted)	-	125 (posted East Track only)				
WODONGA WEST	298.000								
13 Points End Double Start Single Line	302.620								
VIC/NSW Border	302.702	70	80	115	130				
ALBURY	304.756								

Note:

^{**}NSW TrainLink Services' speed boards erected at crossings – train must not exceed individual speed until leading vehicle of train has passed over the level crossing.

2.7. Track Recording Car Geometry Faults

Track recording car geometry fault data provided since Q1 2011.

	Track Recording Car Geometry Fault History																				
	Melbourne / Albury																				
Faults			2011	/2012		2012/2013				2013/2014			2014/2015				2015/2016				
COP (Current)	ACOP (Pre 06/12)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
E1	Е	95	77	28	8	78	27	24	13	55	15	23	38	53	37	22	10	4	8	6	10
E2	U1	102	70	58	13	98	45	36	23	46	48	23	24	31	44	25	18	20	44	17	19
P1	U2	126	103	136	63	149	80	63	66	58	70	52	28	35	60	66	47	29	93	42	48
P2	P1	431	386	280	218	506	307	174	115	178	231	171	110	87	269	185	132	94	213	52	162
N	P2	69	99	100																	
									Melbo	ourne /	Wolse	ley									
E1	E	35	35	16	25	25	23	7	18	18	23	10	61	0	13	4	19	0	6	7	4
E2	U1	28	28	11	28	28	42	11	37	37	39	15	35	0	13	12	29	1	15	15	19
P1	U2	72	72	41	78	78	65	39	86	86	92	40	70	3	35	34	45	0	34	45	45
P2	P1	197	197	172	224	224	246	116	238	238	199	180	193	2	135	160	197	0	162	199	156
N	P2	74	74	68																	

Note: The above numbers are the initial raw data from the recording car and may include spurious faults. All reported faults are inspected and actioned by ARTC field staff in accordance with ARTC standards.

							Track	Record	ling Ca	r Geoi	netry l	ault H	istory								
	Melbourne / Albury																				
Faults			201	6/201	7	2017/2018				2018/2019			2019/2020				2020/2021				
СОР	ACOP																				
(Current)	(Pre 06/12)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
E1	Е	8	27	9	391(2)*	50	44	17	32	20	45	1	36	114	21	27	38	9	10	33	0
E2	U1	18	44	18	189(0)*	63	40	11	38	27	63	8	35	61	26	39	52	9	12	15	1
P1	U2	24	73	49	306(9)*	105	95	42	75	34	124	46	85	60	58	77	67	20	37	32	2
P2	P1	89	254	171	475(28)*	261	271	85	214	85	272	151	305	187	160	200	177	46	48	45	9
N	P2																				
								N	lelbour	ne / W	olsele	/									
E1	E	1	25	7	2	45	23	6	24	1	9	2	3	0	6	23	14	0	22	12	18
E2	U1	1	28	15	5	17	20	10	22	1	12	4	6	0	5	16	25	0	29	18	28
P1	U2	2	52	25	16	38	59	30	61	5	38	24	33	0	37	66	36	0	55	43	46
P2	P1	4	142	124	66	65	131	90	145	1	95	83	81	0	97	162	74	0	145	149	213
N	P2																				

Note: The above numbers are the initial raw data from the recording car and may include spurious faults. All reported faults are inspected and actioned by ARTC field staff in accordance with ARTC standards.

Note: 2016/2017 Quarter 4 Geometry data was impacted by sunlight which contributed to the high fault count. Data shown in () exclude geometry fault from the affected area.

*In Q1 2020/2021, only the West Track of Melbourne/Albury had a track recording run and there was no recording run on Melbourne/Wolseley.

Track Rec	Track Recording Car Geometry Fault History											
	Melbo	urne /	Albury									
Faults	_		2021,	2022								
СОР	ACOP											
(Current)	(Pre 06/12)	Q1	Q2	Q3	Q4							
E1	E	2	10	0	0							
E2	U1	3	7	4	4							
P1	U2	7	17	11	12							
P2	P1	13	21	20	29							
N	P2											
	Melbou	rne / W	/olseley									
E1	Е	0	17	10	18							
E2	U1	0	27	17	37							
P1	U2	0	57	74	120							
P2	P1	0	183	244	283							
N	P2											

Note: The above numbers are the initial raw data from the recording car and may include spurious faults. All reported faults are inspected and actioned by ARTC field staff in accordance with ARTC standards.

^{*}In Q1 2021/2022, only the West Track of Melbourne/Albury had a track recording run and there was no recording run on Melbourne/Wolseley.