

Superseded by TS TOC 2 v3.0



Transport
for NSW

TS TOC.2 : 2014 issue 1

Manual

Train Operating Conditions (TOC) Manual – Division Pages

Version 2.0

Issued Date: 18 December 2014

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Superseded by TS TOC 2 v3.0

Standard governance

Owner: Lead Engineer Rolling Stock, Asset Standards Authority
Authoriser: Chief Engineer Rail, Asset Standards Authority
Approver: Director, Asset Standards Authority on behalf of ASA Configuration Control Board

Document history

Version

1.0
2.0

Summary of change

First issue
Current issue

For queries regarding this document



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Preface

The Asset Standards Authority (ASA) is an independent unit within Transport for NSW (TfNSW) and is the network design and standards authority for defined NSW transport assets.

The ASA is responsible for developing engineering governance frameworks to support industry delivery in the assurance of design, safety, integrity, construction, and commissioning of transport assets for the whole asset life cycle. In order to achieve this, the ASA effectively discharges obligations as the authority for various technical, process, and planning matters across the asset life cycle.

The ASA collaborates with industry using stakeholder engagement activities to assist in achieving its mission. These activities help align the ASA to broader government expectations of making it clearer, simpler, and more attractive to do business within the NSW transport industry, allowing the supply chain to deliver safe, efficient, and competent transport services.

The ASA develops, maintains, controls, and publishes a suite of standards and other documentation for transport assets of TfNSW. Further, the ASA ensures that these standards are performance based to create opportunities for innovation and improve access to a broader competitive supply chain.

This Train Operating Conditions (TOC) manual is published by the ASA to provide an update from the December 2013 issue of the TOC manual.

This TOC manual aims to provide a single reference and technical guidance for train operations on the RailCorp Network.

The content, information, and data within this TOC manual are derived from updates since the last edition of 20 December 2013. The information is compiled from a number of sources. The ASA performs limited validation of this information as it is deemed to be sourced from competent organisations.

This December 2014 issue of the TOC manual comprises three parts as follows:

- TS TOC.1: 2014 issue 1
- TS TOC.2: 2014 issue 1; this document
- TS TOC.3: 2014 issue 1

As the ASA continues to evolve, future iterations of the TOC Manual and the information contained within it may be made available in different formats and delivery mechanisms to facilitate ease of access and usability.

Superseded by TS TOC 2 v3.0

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Introduction

This Document contains the Division pages of the Train Operating Conditions (TOC) Manual, which shall be read in conjunction with the relevant standard working timetables for the purpose of safe train operations and is applicable to all freight, passenger, and infrastructure maintenance operations on the RailCorp network.

The December 2014 issue of the TOC Manual comprises three parts:

- TS TOC.1: 2014 issue 1 *Train Operating Conditions (TOC) Manual – General Instructions*
- TS TOC.2: 2014 issue 1 *Train Operating Conditions (TOC) Manual – Division Pages*; this document
- TS TOC.3: 2014 issue 1 *Train Operating Conditions (TOC) Manual – Track Diagrams*

This document, TS TOC.2: 2014 issue 1, *Train Operating Conditions (TOC) Manual – Division Pages*, contains the following:

- Northern Division Pages
- Western Division Pages
- Illawarra Division Pages
- Sydney Metropolitan Area Division Pages
- Passenger Train Operating Condition Pages
- Coal Working Pages

TS TOC.1: 2014 issue 1, *Train Operating Conditions (TOC) Manual – General Instructions*, contains the following:

- General Instruction Pages

TS TOC.3: 2014 issue 1, *Train Operating Conditions (TOC) Manual – Track Diagrams* contains the following:

- Track Diagrams

Purpose

The TOC Manual specifies conditions for the operation of trains and rolling stock on the RailCorp network.

Scope

The TOC Manual describes the network, defines operating conditions for trains and rolling stock and lists all rolling stock authorised to operate on the RailCorp network. The RailCorp network is bounded by Newcastle (163.981 and 164.045 km), Bomaderry (153.630 km), Unanderra (91.080 km), Macarthur (57.965 km), and Bowenfels (158.800 km) but does not include the Metropolitan Freight network.

Application

The TOC Manual is to be used by train planners, train timetablers, train control personnel, and train crews, and shall be read in conjunction with the relevant Safeworking rules and procedures.

Reference documents

Transport Standards

*Available from the Asset Standards Authority web site;
www.asa.transport.nsw.gov.au.*

- TS TOC.1: 2014 issue 1 *Train Operating Conditions (TOC) Manual – General Instructions*
- TS TOC.3: 2014 issue 1 *Train Operating Conditions (TOC) Manual – Track Diagrams*

See TS TOC.1 : 2014 issue 1 for further reference documents

Terms and definitions

See TS TOC.1: 2014 issue 1 *Train Operating Conditions (TOC) Manual – General Instructions*

Summary of changes

Table 1 provides a summary of changes to the content of this section of the manual since its previous publication. Changes to front matter, formatting, branding and governance are not included.

Table 1 Summary of changes from 1 August 2013 ASA edition

Page	Section	Change
Northern Division		
Western Division		
29	DOWN loads	Added rows with "#" identifier as per TW 204-045
29	DOWN - sectional running times and full sectional loads	Changed C1 sectional running times for Valley Heights, Lawson, Mt Victoria, and Zig Zag as per TW 204-201
Illawarra Division		

Page	Section	Change
47	Location of speed signs - Unanderra to Bomaderry	Amended 141.720, added 140.760 and 141.200
47	Location of speed signs - Unanderra to Bomaderry	Added entry for 108.887 – Shellharbour Junction
52	UP – 91.080 km to Unanderra – Explanatory Notes	Removed " xx" from first paragraph of Note 2 – Two Pipe Trains
Sydney Metropolitan		
58	Maximum speed of locomotives and rolling stock - Sydney Metropolitan Area	Added SSR, CM, MRL, and FIE to the table header for the ^2 column. Added Leppington.
61	Sydney Metropolitan Area - sectional freight loads	Added Leppington.
63	Hours of signal boxes	Changed hours of duty for entry for Freight Lines
70	Section 2d Homebush – St Marys	Modified entry 24.800
72	Section 5a Lidcombe - Macarthur	Casula to Macquarie Fields – updated speeds.
73	Section 7a Strathfield – Hornsby	Changed entry 23.135 from 60/60/60 to 50/60/60
74	Section 7c West Ryde – Epping Suburban Lines	Changed entry 23.206 from 60/60/60 to 50/60/60
75	Section 9 Sutherland - Cronulla	Added new entry 34.445 on down line
76	Section 12 Central – Wollli Creek (Airport Line)	Fixed heading repeat problem, and modified entry 0.100 – Central to 0.000 – Central
78	Section 14g Metropolitan Freight Lines	Altered entries (9)15.925, 16.020, and 16.330
78	Section 15 Glenfield - Leppington	Added table
78	Section 15a Glenfield – Leppington (Loop Lines)	Added table
Passenger Train Operating Conditions		
80	Table 4 - Maximum speed of Sydney Trains and NSW Trainlink rolling stock	Added Leppington
85	7b - Transfer of Extended Medium Width rolling stock between Sydney and the Newcastle area	Changed text "Gosford, Wyong, Fassifern, Cardiff, and Broadmeadow." from heading to bold text destinations

FORMAT OF DIVISION PAGES

MAXIMUM SPEED OF LOCOMOTIVE AND ROLLING STOCK

ITEM 1
Sections

WEST SECTION PAGES Sydney Metropolitan- Lithgow

ITEM 2
Classification of tracks

ITEM 3
Maximum speed of locomotives

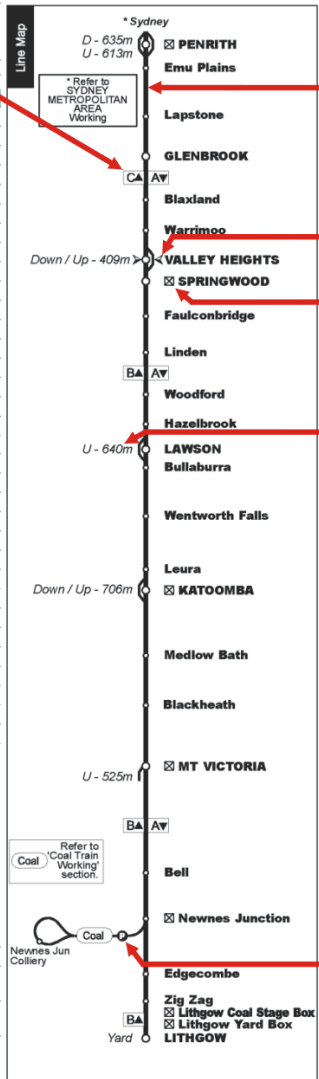
ITEM 4
Multiple locomotive working

ITEM 5
Classification of freight vehicles

ITEM 6
Classification of passenger vehicles

ITEM 7
Safeworking systems

MAXIMUM SPEED OF LOCOMOTIVES AND ROLLING STOCK			
Class of Line	Penrith - Lithgow	Lithgow - Valley Heights	Valley Heights - Penrith
	DOWN MAIN	UP MAIN	UP MAIN
Line Map Reference	A	B	C
LOCOMOTIVES			
MAX SPEED KM/HR			
Class			
90	N/A	N/A	N/A
L, 31	100	100	100
C, Cs	115	115	115
NR	115	115	115
14, 81, 82, ALF, AN, BL, CLF, CLP, G, GL, RL, VL	115	115	115
42, 80, 80s, B, DL	115	115	115
18	90	90	90
442, 442s, 700, GM(1), GM(12), JL, S, X	115	115	115
22, 421, 422, 44, 45, 46s, 600, EL, FL, HL	115	115	115
43, 44s, 930	115	115	115
423	80	80	80
D, K, T	100	100	100
47, 48, 48s, 49, 830, 900, KL, MM, PL	100	100	100
73 (c)	70	70	70
46, 86 Electric	100(b)	100(b)	100(b)
Multiple Locomotive working	4	5	4
FREIGHT			
Class A	115	115	115
Class B	100	100	100
Class C	80	80	80
Class D	65	65	65
Class E	80	80	80
Class F	65	65	65
Class G	N/A	N/A	N/A
PASSENGER			
XPT	160	160	160
XPLORER	145	145	145
DIESEL RAILCARS	115	115	115
LOCO HAULED	115	115	115
ACCIDENT CRANES			
110 TONNE	115	115	115
NOTES			
(a) See instructions contained in General Instruction Pages - Train Operations Section 3 for operation of trains and light locomotives over the section Katoomba to Valley Heights.			
(b) (b) Applies to SINGLE and distributed locomotives (separated by at least 70 metres of train). No OHW restrictions apply. Both pantographs may be raised.			
(c) Only locomotives fitted with vigilance control system are approved to operate outside shunting yards.			
SAFeworking SYSTEMS			
Penrith - Edgecombe	#Rail Vehicle Detection		
Edgecombe - Zig Zag	Rail Vehicle Detection (Bi-directional)		
Zig Zag - Lithgow Coal Stage Signal Box	Rail Vehicle Detection		
Lithgow Coal Stage Signal Box - Lithgow Yard Signal Box	Rail Vehicle Detection		
#Valley Heights to Springwood - Bi-directional running Down Main			



ITEM 8
LINE MAP

— Double track
— Single track

Subsection break

Signal Box/ Control centre

Crossing loop length

ITEM 9
Private siding

Format of division pages - explanation

Version 2.0 December 2008

Item	Label	Description
Item 1	Divisions	The Train Operating Conditional Manual comprises the Western, Northern and Illawarra and Metropolitan Divisions. Each section provides the condition for operation of locomotives and rolling stock.
Item 2	Classification of track	The class of track will affect the speed and types of locomotives and rolling stock authorised to run over the various sections.
Item 3	Maximum speed of locomotives	Identifies locomotives and maximum speeds approved for that section of track. The letters N/A indicate these locomotives are not approved to run over this section of track.
	Operation of unlisted locomotives	Refer to the Asset Standards Authority for authorisation.
Item 4	Multiple locomotive working	The columns associated with locomotives headed "MULTIPLE LOCOS" shows the maximum number of locomotives powering that may run coupled together in a locomotive group on each relevant section of track. Up to a maximum of 5 locomotives total can be marshalled together in any locomotive group attached to a train. However, the number of locomotives that can be powering within each locomotive group at any given time is indicated in the multiple working section on the respective MAXIMUM SPEED OF LOCOMOTIVES AND ROLLING STOCK page.
Item 5	Classification of freight vehicles	Identifies freight vehicle class and maximum speeds approved for that section of track. The letters N/A indicate these vehicles are not approved to run over this section of track.
	Operation of unlisted freight vehicles	Refer to the Asset Standards Authority for authorisation.
Item 6	Classification of passenger vehicles	Identifies passenger vehicles and maximum speeds approved for that section of track. The letters N/A indicate these vehicles are not approved to run over this section of track. The grouping Diesel Railcars includes #self propelled diesel trains and Rail Motors. #Refer to Sydney Trains & NSW Trainlink pages for Endeavour/Hunter railcar approval.
	Operation of unlisted passenger rolling stock	Refer to the Asset Standards Authority for authorisation.
Item 7	Safeworking systems	This section indicates the safeworking system and the area controlled by that system. When words 'Yard Working' appear, the nominated section of track will be worked in accordance with the instructions contained in Sydney Trains Network Rule <i>NTR 418 Yard limits</i> .
Item 8	Line map	See list page 1 for details.
Item 9	Private line/siding	A Private (Non RailCorp owned) Line/Siding represented in the Section Pages(Line Map) by "P" is one that is not owned by RailCorp and therefore will not necessarily have operating conditions published in this Manual. Where this Manual contains information relating to the operating conditions for a private Line/siding, that information is published with the agreement or at the request of the owner/operator of that Line/siding. For the purpose of train control, to and from a private Line/siding, the operator in securing a train path on the RailCorp Network, has certified that there is an interface understanding/agreement between the operator and the owner/operator of the private Line/siding, which authorises the train/vehicles to operate within the confines of the private Line/siding. In providing an agreed train path in accordance with the operations protocol, Sydney Trains has certified that the operator's train will be accepted from or delivered to the boundary of the private Line/siding nominated in the operator's train path application.

Where can locomotives run?

Version 2.0 December 2008

P A G E L A Y O U T

Where can locomotives run?
Full Sectional Loads & Schedules
Running times

The **LOAD (L)** category is determined by referring to the General Instruction Pages - **SECTION 10 Locomotives and Rolling Stock Data** or the table shown in **SECTION 2 Locomotive Operations**.

Where can locomotives run?

Where locomotives can run is indicated in the **MAXIMUM SPEED OF LOCOMOTIVES AND ROLLING STOCK** table located on the first page of the various subsections of each region.

When a speed is shown this is the authorisation for that category of locomotive to operate. Where the letters N/A appear that category of locomotive is not approved to operate.

Australia Southern Railroad (A.R.G.) - Locomotives

CODE	LOAD CATEGORY	DESCRIPTION OF VEHICLE	MAX SPEED km/h	LIVE WEIGHT TONNES	LENGTH OVER COUPLING FACES (m)	DRAW OVER CAPACITY MM	HORSE POWER	REMARKS
CLF	L5	Diesel	115	128	20.498	1.80	3000	
CLP	L6	Diesel	115	132	20.498	1.80	3000	
GM(12)	L12	Diesel	115	116.3	18.542	0.90	1800	
22	L10	Diesel	115	110	18.440	1.80	2000	Ex Pacific National 422 class
31	L5	Diesel	100	137	20.220	1.80	3000	Ex L class. Note m applies

WEST SECTION PAGES Sydney Metropolitan - Lithgow

Class	MAX SPEED km/h	Notes
L 31	115	
C 35	115	
M 3	115	
14 B, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	115	
44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	115	
101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120	115	

Schedules

Schedule loads are set so that the train can operate within a preferred timetable. They are normally set lighter than the Full Sectional Load so that full advantage can be taken of the high power to weight ratio.

SECTIONS	LOCO-MO TIME CLASS	SINGLE LOAD - TONNES	DOUBLE LOAD - TONNES	TRIPLE LOAD - TONNES	QUAD LOAD - TONNES	TRAIN DATA VEHICLE CLASS	SECT RUN TIMES	NOTES
1 SYDNEY METROP - LITHGOW YARD	L2	900	1800	2700	3600	A	A1	
2 SYDNEY METROP - LITHGOW YARD	L3/L4	550	1100	1650	2200	A	A1	
3 SYDNEY METROP - LITHGOW YARD	L3/L4	450	900	1350	1800	ABCE	C1	
4 SYDNEY METROP - LITHGOW YARD	L2	900	1800	2700	3600	ABCE	C2	
5 SYDNEY METROP - LITHGOW YARD	L3/L4	550	1100	1650	2200	ABCE	C2	
6 SYDNEY METROP - LITHGOW YARD	L13	281	562	843	1124	ABCE	C4	
7 SYDNEY METROP - LITHGOW YARD	L2	900	1800	2700	3600	ABCE	D1	
8 SYDNEY METROP - LITHGOW YARD	L3/L4	750	1500	2250	3000	ABCE	D1	
9 SYDNEY METROP - LITHGOW YARD	L5	765	1530	2295	3060	ABCE	D1	

Indicates sections of track the schedule applies to.

Maximum trailing tonnage permitted per schedule where shown.

Speed Class of vehicle permitted on schedule.

Schedule subgrouping and speed.
Main Line
A = 115kmh
B = 100kmh
C = 80kmh
D = 65kmh

Full Sectional Loads

Indicates permitted trailing tonnage per nominated category of locomotive for the various sections of track. Where no loads appear that category of locomotive is not approved to operate.

	SECTIONAL RUNNING TIMES							FULL SECTIONAL LOADS														GRADE												
	1	2	3	4	5	6	Loco	1	2	3	4	5	6	7	8	9	10	11	12	13	14													
BOMADERRY								11																										
BERRY	15	17	21											2227	2104	1976	1743	1669	1650	1422	1372	1259	1175	820								1:80		
Gerrington								10																									1:76	
KIAMA	25	27	33					9																									1:70	
BOMBO								3																										DG
DUNMORE	6	7	9					8																										1:50

Section timing points. Stations in capitals are staff stations, lower case stations are intermediate locations.

Running Times
Sectional running times are related to the LOADS & CONDITIONS tables. Times listed with an 'a' (e.g. 8a) are arrival times i.e. time is allowed to stop from the previous station and starting time is allowed towards the next station. All other times are passing times. In columns where there are no running times and only two dots .. appear the next running time shown beneath the dots will be the total running time. When a train is required to stop at a location that has passing times, then add ONE minute to that locations passing time, then add a further TWO minutes into the next section.

Column used to determine trailing tonnage in conjunction with the **TRAILING TONNAGE TABLE** located page 2
General Instructions - SECTION 4 Train Marshalling
The letters DG in this column = Down Grade

Draw capacity tonnage

Version 1.1 August 2010

HOW TO DETERMINE DRAW CAPACITY TONNAGE

1. Check vehicle draw capacity in **LOCOMOTIVE AND ROLLING STOCK DATA** table.

Manildra Flour – Freight Rolling Stock

CODE	DESCRIPTION	CLASS	MAX GROSS MASS TONNES	TARE TONNES	LENGTH METRES	DRAW CAPACITY MN	BRAKE TYPE	NOTES
MGFH	Grain hopper	C	100	26.5	17.6	1.80	B4	1-4c

UP	SECTIONAL RUNNING TIMES							FULL SECTIONAL LOADS														GRADE
	1	2	3	4	5	6	Loco	LOCOMOTIVE CATEGORIES = L														
BOMADERRY	...	...	...	...	...	...	11	1	2	3	4	5	6	7	8	9	10	11	12	13	14	1.80
BERRY	15	17	21	...	...	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.80
Geringong	...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.76
KIAMA	25	27	33	...	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.70
BOIMBO	3	4	5	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.65
DUNMORE	6	7	9	...	...	...	8	1607	1479	1396	1307	1149	1125	1085	935	902	823	768	536	...	...	1.50

TRAILING TONNAGE TABLE

DRAW CAPACITY MN	GRADES 1 : X																						
	30	33	35	40	45	48	50	55	60	66	70	75	77	80	85	90	95	100	110	120			
0.05	94	103	10	4	150	163	175	190	200	205	212	216	223	235	246	257	267	288	308	3. Find 1.80 in Trailing Tonnage table.			
1.70	3206	3500	3694	4169	4634	4907	5087	5529	5962	6467	6796	6959	7199	7358	7594	7979	8356	8725	9086	9785	10456	4. This figure 7196 tonnes indicates trailing tonnage permitted behind a MGFH over the section.	
1.75	3220	3603	3797	4272	4737	5010	5190	5632	6065	6394	6557	6796	7163	7411	7575	7817	8214	8602	8982	9353	10073	10764	
1.80	3234	3617	3811	4286	4751	5024	5204	5646	6079	6408	6571	6810	7177	7425	7589	7831	8228	8616	8996	9367	10087	10778	
1.85	3489	3809	4003	4478	4943	5216	5396	5838	6271	6600	6763	6992	7359	7607	7771	8013	8410	8798	9178	9549	10269	10960	
1.90	3583	3912	4106	4581	5046	5319	5499	5941	6374	6703	6866	7095	7462	7710	7874	8116	8513	8901	9281	9652	10372	11063	
1.95	3677	4015	4209	4684	5149	5422	5602	6044	6477	6806	6969	7198	7565	7813	7977	8219	8616	9004	9384	9755	10475	11166	

MAXIMUM LENGTH OF TRAINS / BRAKE TYPE

1. The length of a train is the overall length of a train including all locomotives whether powering, off line, dead attached or banking.
The train must also be covered by an access agreement between RailCorp and the Operator, which indicates the trains maximum length, motive power and maximum speed.
The maximum length of trains also depends upon draw capacity (see HOW TO DETERMINE DRAW CAPACITY TONNAGE table) and the brake equipment type (see Step 2) that is fitted to the vehicles.

2. Reference must be made to the **LOCOMOTIVE AND ROLLING STOCK DATA** pages to determine the brake type (i.e. B1, B2, B3 or B4). If no brake type is listed then assume B1 type.
When a train is being marshalled at its point of origin, remarshalled or has vehicles attached en route the brake type list must be checked to ensure limits are not exceeded.

Manildra Flour – Freight Rolling Stock

CODE	DESCRIPTION	CLASS	MAX GROSS MASS TONNES	TARE TONNES	LENGTH METRES	DRAW CAPACITY MN	BRAKE TYPE	NOTES
MGFH	Grain hopper	C	100	26.5	17.6	1.80	B4	1-4c

Brake type	Allowable vehicle position in train
B1	Any position in the first 900 metres of train
B2 & B3	Any position in the first 1500 metres of train
B4	Any position in train
E1	Any position in train (all locomotives and wagons ECP braked)

3. Check this table to determine the allowable position of the vehicles in a train

Format of speed sign table

Version 2.0 December 2008

FORMAT OF LOCATION OF SPEED SIGN TABLE



LOCATION OF SPEED SIGNS

LOCATION	KILO-METRAGE	DOWN NORM	DOWN XPT	UP NORM	UP XPT
For Speed signs Enfield to Penrith see <i>Sydney Metropolitan</i> pages					
PENRITH	55.086				
	55.500			75	80
	57.350	100	115		
EMU PLAINS	57.439				
	58.640			75	80
	58.945	70	75		
	60.965			65	70
	61.080	75	80		
	61.585			40	*65MU
	61.975			40	*60MU
	61.980	70	75		
LAPSTONE	63.617				
	65.100	65	70	65	70
	65.800			60	65
GLENBROOK	67.080				

LOCATION	KILO-METRAGE	DOWN NORM	DOWN XPT	UP NORM	UP XPT
NEWNES JUNCTION	141.763				
	141.900	65	70		
	143.400			65	70
	143.700		85		
	144.870			75	85
Up sign on Down Main	145.240	X25	X35		
Down sign on Up Main	145.240			X25	X35
Up sign on Down Main	145.450	65	70	75	85
Down sign on Up Main	145.450	65	70		
	150.290			65	70
	150.520	X25	X35		
	150.700			X25	X35
	150.850			65	70
ZIG ZAG	150.937				
	151.140	40	45		
	152.235			40	45

Station, siding or location

Kilometrage from Sydney

Speed signs indicate the maximum speed between signs. 'X' speeds (e.g. X40) indicate the maximum speed throughout turnouts. The maximum speed throughout the sharp curves of junctions, crossovers and turnouts is 25 kilometres per hour, unless otherwise shown.

A white background speed sign with the letters **MU** alongside the numerals applies only to XPT, Xplorer, Endeavour trains, Hunter and Multiple unit trains (NSG604)

'Wrong Road' speed signs shown in italics.

'Normal' speed signs apply to all trains except for XPT, Xplorer, Endeavour and Hunter.

XPT, Xplorer, Endeavour and Hunter trains run to XPT speed signs to the maximum speed specified under the listing of **MAXIMUM SPEED OF LOCOMOTIVES AND ROLLING STOCK**. XPT, Xplorer, Endeavour and Hunter trains run to 'Normal' speed signs where XPT signs are not provided.



LOCATION OF SPEED SIGNS

KILOMETRAGE	DOWN			UP		
	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
80.908	GOSFORD					
81.045	80	80	85			
81.640				75	75	80
81.800	80	85	90			
83.974	75	75	80	80	85	90
84.597	NARARA					
84.754				75	75	80
84.820	75	90	100			
85.845				75	90	100
86.111	75	75	80			
86.193	NIAGARA PARK					
86.800	100	100	105			

KILOMETRAGE	DOWN			UP		
	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
134.838	75	75	80			
134.840				65	65	70
136.195				70	70	75
137.231	70	70	80			
137.305	AWABA					
137.778	100	115	130	70	70	80
140.162				115	115	130
140.165	95	95	105			
141.102	75	75	80	95	95	100
142.313	FASSIFERN					
142.388				75	75	80
142.498	75	100	105			

Kilometrage from Sydney

Station, siding or location

Speed signs indicate the maximum speed between signs. 'X' speeds (e.g. X40) indicate the maximum speed throughout turnouts. The maximum speed throughout the sharp curves of junctions, crossovers and turnouts is 25 kilometres per hour, unless otherwise shown.

'Wrong Road' speed signs shown in italics.

'General' speed signs apply to locomotive hauled passenger and freight trains, track maintenance vehicles, Rail Motors and 620 class diesel trains.

'High' speed signs apply to XPT, Xplorer, Endeavour and Hunter trains.

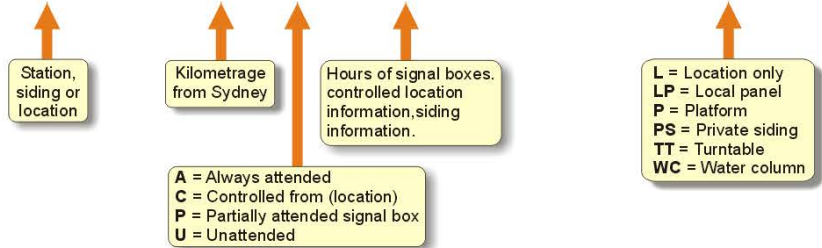
'Medium' speed signs apply to CityRail trains.

Format of station data table

Version 2.0 December 2008

FORMAT OF STATION DATA TABLE

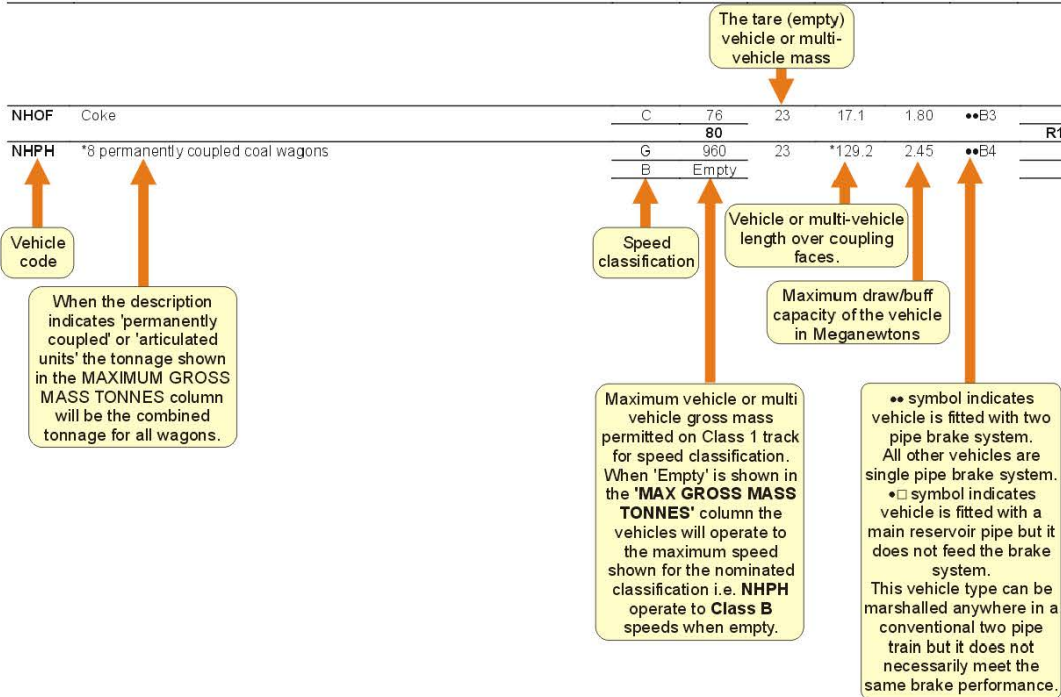
STATION DATA	Station	Kilo - metrage	Signal Box Status	Hours of Signal Box	Facilities
	Penrith	55.086	A	Always	P, WC
	Emu Plains	57.439		Controlled from Penrith	P
	Lapstone	63.617			P
	Glenbrook	67.080			P
	Blaxland	71.484			P
	Warrimoo	74.296			P
	Valley Heights	77.410	C	Controlled from Springwood	P
	Springwood	79.669	A	Always	P



FORMAT OF ROLLING STOCK DATA PAGES

Pacific National – Freight Rolling Stock

CODE	DESCRIPTION	CLASS	MAX GROSS MASS TONNES	TARE TONNES	LENGTH METRES	DRAW CAPACITY MN	BRAKE TYPE	NOTES
Covered Wagons (1)								
NBJX	Curtain sided	C	76	27	18.0	0.90	B3	
RBFX	Box van	C	80	30	23.7	1.30	B3	R1
NHOF	Coke	C	76	23	17.1	1.80	••B3	R1
NHPH	*8 permanently coupled coal wagons	G	960	23	*129.2	2.45	••B4	
		B	Empty					



Superseded by TS TOC 2 v3.0

Section 13

Northern Division Pages

13. Northern Division pages

Version December 2014

Maximum speed of locomotives and rolling stock

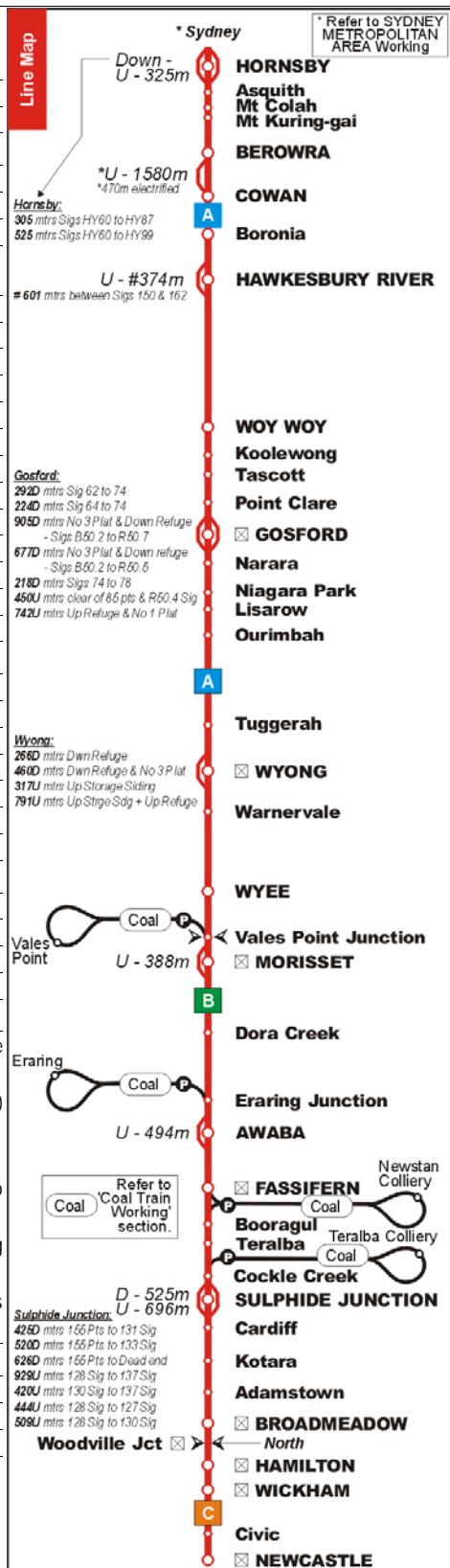
	Hornsby – Vales Point	Vales Pt – Woodville Junction	Woodville Junction - Newcastle
Class of Line	1	1	1
Line Map Reference	A	B	C
LOCOMOTIVES			
Class	Max Speed Km/h		
90,TT	(a)	60(a,f)	20(c)
31, L, LQ, LZ	100	100	20(c)
92, 93, 6000, 6020, ACC, C, CEY, CF, GWA, GWU, LDP, LDP10, RL, SCT, TT100, WH, XRN	115	115	20(c)
82, CLP, GL, NR	115(b)	115	20(c)
14, 81, ALF, AN, BL, CLF, G, VL	115	115	50
42, 80, 80s, B, DL	115	115	50
18	90	90	50
442, 442s, 700, GM(12), S, X	115	115	50
22, 421, 422, 44, 45, 45s, 600, DC, EL, FL, GM(1), HL	115	115	50
43, 44s, 930	115	115	50
423	80	80	50
D, K, T	100	100	50
47, 48, 48200, 48s, 49, 830, 900, GPU, MM, PL	100	100	50
73 (e)	70	70	50
46, 86 Electric	100(d)	100(d)	50(d)
Multiple Locomotive working	4	4	4
FREIGHT			
Class A	115	115	50
Class B	100	100	50
Class C	80	80	50
Class D	65	65	50
Class E	80	80	50
Class F	65	65	50
Class G	N/A	60(f)	N/A
PASSENGER			
XPT	160	160	80
XPLORER	145	145	80
DIESEL RAILCARS	115	115	80
LOCO HAULED	115	115	50

NOTES

- (a) When operating light 90 or TT class locomotives between Woodville Junction and Enfield, see Special conditions Page 26 of this section.
- (b) NR locomotive maximum speed of **40 km/h** through Boronia Tunnel No 3 (Down and Up) 54.300km to 54.500km.
- (c) Woodville Junction to Hamilton Junction **ONLY**
- (d) Applies to SINGLE and distributed locomotives (separated by at least 70 metres of train). No OHW restrictions apply. Both pantographs may be raised.
- (e) Only locomotives fitted with vigilance control system are approved to operate outside shunting yards
- (f) Maximum speed of **40 km/h** (Down and Up) when 90 class locomotives or 'G' class vehicles cross the bridge at 160.300km (Northcott Drive) between Kotara and Adamstown

SAFeworking SYSTEMS

Hornsby – Cowan	
Cowan – Boronia	Rail Vehicle Detection
Boronia – Hawkesbury River	Rail Vehicle Detection (Bi-directional)
Hawkesbury River – Newcastle	Rail Vehicle Detection (Bi-directional)



DOWN loads

Version December 2014

	SECTIONS	LOCOMOTIVE CLASS = L	LOAD - TONNES				TRAIN DATA		
			SINGLE	DOUBLE	TRIPLE	QUAD	VEHICLE CLASS	SECT RUN TIMES	NOTES
1	SYDNEY METROP. - BROADMEADOW	L2	1000	2000	3000	4000	A	A1	
2	SYDNEY METROP. - BROADMEADOW	L7	735	1470	2205	2940	A	A1	
3	SYDNEY METROP. - BROADMEADOW	AC6	1000	2000	3000	--	A	A1	
4	SYDNEY METROP. - BROADMEADOW	AC6 + #L2	--	2750	--	--	AB	B1	#NR only
5	SYDNEY METROP. - BROADMEADOW	AC6 + 2 x #L2	--	--	4050	--	AB	B1	#NR only
6	SYDNEY METROP. - BROADMEADOW	2 x AC6 + #L2	--	--	4200	--	AB	B1	#NR only
7	SYDNEY METROP. - BROADMEADOW	L2	1300	2600	3900	5200	AB	B1	
8	SYDNEY METROP. - BROADMEADOW	L4	970	1940	2910	3880	AB	B1	
9	SYDNEY METROP. - BROADMEADOW	L7	909	1818	2727	3636	AB	B1	
10	SYDNEY METROP. - BROADMEADOW	AC6	1500	3000	4600	--	AB	B1	
11	SYDNEY METROP. - BROADMEADOW	L8+L8+L13	--	--	600	--	ABC	C	
12	SYDNEY METROP. - BROADMEADOW	L2	1300	2600	3900	5200	ABCE	C1	
13	SYDNEY METROP. - BROADMEADOW	L4	970	1940	2910	3880	ABCE	C1	
14	SYDNEY METROP. - BROADMEADOW	L7	909	1818	2727	3636	ABCE	C1	
15	SYDNEY METROP. - BROADMEADOW	L9	590	1180	1770	2360	ABCE	C1	
16	SYDNEY METROP. - BROADMEADOW	AC6	1500	3000	4600	--	ABCE	C1	
17	SYDNEY METROP. - BROADMEADOW	AC6 + #L2	--	2750	--	--	ABCE	C1	#NR only
18	SYDNEY METROP. - BROADMEADOW	AC6 + 2 x #L2	--	--	4050	--	ABCE	C1	#NR only
19	SYDNEY METROP. - BROADMEADOW	2 x AC6 + #L2	--	--	4200	--	ABCE	C1	#NR only
20	SYDNEY METROP. - BROADMEADOW	L3	1200	2400	3600	4800	ABCE	C2	a
21	SYDNEY METROP. - BROADMEADOW	L4	1131	2262	3393	4524	ABCE	C2	
22	SYDNEY METROP. - BROADMEADOW	L5	1056	2112	3168	4224	ABCE	C2	
23	SYDNEY METROP. - BROADMEADOW	L6	926	1852	2778	3704	ABCE	C2	
24	SYDNEY METROP. - BROADMEADOW	L7	909	1818	2727	3636	ABCE	C2	
25	SYDNEY METROP. - BROADMEADOW	L8	875	1750	2625	3500	ABCE	C2	
26	SYDNEY METROP. - BROADMEADOW	L9	750	1500	2250	3000	ABCE	C2	
27	SYDNEY METROP. - BROADMEADOW	L10	725	1450	2175	2900	ABCE	C2	
28	SYDNEY METROP. - BROADMEADOW	L11	660	1320	1980	2640	ABCE	C2	
29	SYDNEY METROP. - BROADMEADOW	L12	615	1230	1845	2460	ABCE	C2	
30	SYDNEY METROP. - BROADMEADOW	L13	310	615	925	1230	ABCE	C2	
31	SYDNEY METROP. - BROADMEADOW	L4	1131	2262	3393	4524	ABCDE	D1	
32	SYDNEY METROP. - BROADMEADOW	L10	725	1450	2175	2900	ABCDE	D1	
33	SYDNEY METROP. - BROADMEADOW	L13	410	820	1230	1640	ABCDE	D1	
34	SYDNEY METROP. - BROADMEADOW	L3	1200	--	--	--	ABCDE	D1	

For other Sydney Metropolitan area running times, refer to diagram in the 'Sydney Metropolitan Division Pages' Sydney Metropolitan Area - freight and locomotive running times (page 62).

a Single load CM locomotive not permitted.

DOWN - sectional running times and full sectional loads

	#SECTIONAL RUNNING TIMES					FULL SECTIONAL LOADS														GRADE		
	A1	B1	C	C1	C2	D1	LOCOMOTIVE CATEGORIES = L															
							Loco	AC6	2	3	4	5	6	7	8	9	10	11	12		13	14
ENFIELD	5	5	5	5	5	5	4	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		DG
CHULLORA JCT	8	8	8	8	8	8	5	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100
SOUTH JCT	1	1	1	1	1	1	1	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100
MIDDLE JCT	5	5	5	5	5	5	4	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100
FLEM MKETS 625 Pls	5	5	5	5	5	5	4	2904	2536	2339	2211	2077	1833	1786	1736	1495	1442	1324	1236	862		1:85
NTH STRATHFIELD JCT	3	3	3	3	3	3	3	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		Level
CONCORD WEST	2	2	2	2	2	2	2	4102	3587	3314	3134	2949	2607	2535	2472	2133	2055	1892	1766	1232		1:134
RHODES	2	2	2	2	2	2	2	2171	1892	1743	1646	1543	1359	1328	1285	1105	1068	977	912	636		1:60
WEST RYDE	6	7	5	8	9	11	4	1500	1300	1200	1131	1056	926	909	875	750	725	660	615	410		1:40
EPPING	9	11	7	12	13	16	5	1500	1300	1200	1131	1056	926	909	875	750	725	660	615	410		1:42
THORNLEIGH	4	5	4	5	5	6	4	1500	1300	1200	1131	1056	926	909	875	750	725	660	615	410		1:40
HORNSBY	9	10	9	10	12	16	9	1500	1300	1200	1131	1056	926	909	875	750	725	660	615	410		1:40
BEROWRA	4	4	4	4	4	4	4	2985	2607	2405	2274	2136	1885	1837	1785	1539	1484	1363	1272	887		1:87
COWAN	3	3	3	3	3	3	3	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		DG
Boronix X/Over	7	7	7	7	7	6	6	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		DG
HAWKESBURY RIVER	7	7	7	7	7	8	6	2623	2289	2111	1995	1872	1651	1610	1563	1346	1299	1191	1112	776		1:75
Wondabyne X/Over	7	8	7	8	8	10	6	1500	1300	1200	1131	1056	926	909	875	750	725	660	615	410		1:40
WOY WOY	7	7	7	7	7	9	7	2326	2028	1869	1766	1656	1459	1425	1380	1188	1147	1051	980	684		1:65
GOSFORD	14	15	16	16	17	20	13	2477	2161	1992	1882	1766	1557	1519	1473	1268	1224	1122	1047	731		1:71
WYONG	9	10	11	12	12	15	8	2171	1892	1743	1646	1543	1359	1328	1285	1105	1068	977	912	636		1:58
WYEE	6	6	7	8	8	10	6	1846	1607	1479	1396	1307	1149	1125	1085	933	902	823	768	536		1:50
MORISSET	13	14	12	15	16	20	12	1676	1458	1341	1265	1183	1040	1018	980	842	815	743	693	483		1:44
AWABA	4	4	4	4	5	5	4	2171	1892	1743	1646	1543	1359	1328	1285	1105	1068	977	912	636		1:60
FASSIFERN	10	11	10	9	11	14	9	1500	1300	1200	1131	1056	926	909	875	750	725	660	615	410		1:40
SULPHIDE JUNCTION	10	10	10	10	10	13	9	2766	2414	2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820		1:80
ADAMSTOWN	3	3	3	3	3	3	3	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		DG
BROADMEADOW	4	4	4	4	4	4	3	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		Level
WOODVILLE JCT	2	2		2	2	2	1	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		Level
HAMILTON	8	8		8	9	9	5	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		Level
NEWCASTLE																						

For other Sydney Metropolitan area running times, refer to diagram in the 'Sydney Metropolitan Division Pages' Sydney Metropolitan Area - freight and locomotive running times (page 62).

UP loads

SECTIONS	LOCOMOTIVE CLASS = L	LOAD - TONNES				TRAIN DATA			NOTES
		SINGLE	DOUBLE	TRIPLE	QUAD	VEHICLE CLASS	SECT RUN TIMES		
1 BROADMEADOW - SYDNEY METROP.	L2	1000	2000	3000	4000	A	A1		
2 BROADMEADOW - SYDNEY METROP.	L7	735	1470	2205	2940	A	A1		
3 BROADMEADOW - SYDNEY METROP.	AC6	1000	2000	3000	--	A	A1		
4 BROADMEADOW - SYDNEY METROP.	L2	1230	2460	3690	4920	AB	B1		
5 BROADMEADOW - SYDNEY METROP.	L4	970	1940	2910	3880	AB	B1		
6 BROADMEADOW - SYDNEY METROP.	L7	909	1818	2727	3636	AB	B1		
7 BROADMEADOW - SYDNEY METROP.	AC6	1500	3000	4600	--	AB	B1		
8 BROADMEADOW - SYDNEY METROP.	AC6 + #L2	--	2500	--	--	AB	B1	#NR only	
9 BROADMEADOW - SYDNEY METROP.	AC6 + 2 x #L2	--	--	3650	--	AB	B1	#NR only	
10 BROADMEADOW - SYDNEY METROP.	2 x AC6 + #L2	--	--	3850	--	AB	B1	#NR only	
11 BROADMEADOW - SYDNEY METROP.	L2	1230	2460	3690	4920	ABCE	C1		
12 BROADMEADOW - SYDNEY METROP.	L4	970	1940	2910	3880	ABCE	C1		
13 BROADMEADOW - SYDNEY METROP.	L7	909	1818	2727	3636	ABCE	C1		
14 BROADMEADOW - SYDNEY METROP.	L9	590	1180	1770	2360	ABCE	C1		
15 BROADMEADOW - SYDNEY METROP.	AC6	1500	3000	4600	--	ABCE	C1		
16 BROADMEADOW - SYDNEY METROP.	AC6 + #L2	--	2500	--	--	ABCE	C1	#NR only	
17 BROADMEADOW - SYDNEY METROP.	AC6 + 2 x #L2	--	--	3650	--	ABCE	C1	#NR only	
18 BROADMEADOW - SYDNEY METROP.	2 x AC6 + #L2	--	--	3850	--	ABCE	C1	#NR only	
19 BROADMEADOW - SYDNEY METROP.	L3	1200	2400	3600	4800	ABCE	C2		
20 BROADMEADOW - SYDNEY METROP.	L4	1131	2262	3393	4524	ABCE	C2		
21 BROADMEADOW - SYDNEY METROP.	L5	1056	2112	3168	4224	ABCE	C2		
22 BROADMEADOW - SYDNEY METROP.	L6	926	1852	2778	3704	ABCE	C2		
23 BROADMEADOW - SYDNEY METROP.	L7	909	1818	2727	3636	ABCE	C2		
24 BROADMEADOW - SYDNEY METROP.	L8	875	1750	2625	3500	ABCE	C2		
25 BROADMEADOW - SYDNEY METROP.	L9	750	1500	2250	3000	ABCE	C2		
26 BROADMEADOW - SYDNEY METROP.	L10	725	1450	2175	2900	ABCE	C2		
27 BROADMEADOW - SYDNEY METROP.	L11	660	1320	1980	2640	ABCE	C2		
28 BROADMEADOW - SYDNEY METROP.	L12	615	1230	1845	2460	ABCE	C2		
29 BROADMEADOW - SYDNEY METROP.	L13	310	615	925	1230	ABCE	C2		
30 BROADMEADOW - SYDNEY METROP.	L4	1131	2262	3393	4524	ABCDE	D1		
31 BROADMEADOW - SYDNEY METROP.	L10	725	1450	2175	2900	ABCDE	D1		
32 BROADMEADOW - SYDNEY METROP.	L13	410	820	1230	1640	ABCDE	D1		

For other Sydney Metropolitan area running times, refer to diagram in the 'Sydney Metropolitan Division Pages' Sydney Metropolitan Area - freight and locomotive running times (page 62).

UP - sectional running times and full sectional loads

	#SECTIONAL RUNNING TIMES					FULL SECTIONAL LOADS														GRADE				
						LOCOMOTIVE CATEGORIES = L																		
	A1	B1	C1	C2	D1	Loco	AC6	2	3	4	5	6	7	8	9	10	11	12	13		14			
NEWCASTLE to:	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻	↻
HAMILTON	8	8	8	9	9	5	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600					Level
WOODVILLE JCT	3	3	3	3	3	2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600					Level
* BROADMEADOW	4	4	4	4	4	3	5057	4426	4090	3869	3645	3223	3132	3060	2641	2542	2344	2188	1527					1:185
ADAMSTOWN	3	3	3	3	3	2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600					Level
SULPHIDE JCT	8	9	9	10	11	7	2477	2161	1992	1882	1766	1557	1519	1473	1268	1224	1122	1047	731					1:70
FASSIFERN	10	10	10	10	13	8	2477	2161	1992	1882	1766	1557	1519	1473	1268	1224	1122	1047	731					1:69
AWABA	4	4	4	5	6	4	2357	2080	1894	1789	1678	1479	1444	1399	1204	1163	1065	994	693					1:66
MORISSET	12	14	14	15	20	11	2477	2161	1992	1882	1766	1557	1519	1473	1268	1224	1122	1047	731					1:72
WYEE	6	7	7	8	10	6	2623	2289	2111	1995	1872	1650	1610	1563	1345	1300	1191	1110	775					1:73
WYONG	9	9	12	12	16	9	2477	2161	1992	1882	1766	1557	1519	1473	1268	1224	1122	1047	731					1:72
GOSFORD	14	14	16	16	20	14	2623	2289	2111	1995	1872	1651	1610	1563	1346	1299	1191	1112	776					1:75
WOY WOY	8	8	8	8	9	7	3039	2654	2449	2315	2175	1920	1870	1818	1567	1511	1388	1295	904					1:90
Wondabyne X/Over	7	7	7	7	9	6	2171	1892	1743	1646	1543	1359	1328	1285	1105	1068	977	912	636					1:60
HAWKESBURY RIVER	7	8	8	8	9	7	3195	2791	2576	2435	2289	2021	1968	1915	1650	1591	1462	1365	952					1:94
Boronia X/Over	11	15	15	17	21	8	1500	1230	1200	1131	1056	926	909	875	750	725	660	615	410					1:40
\$ COWAN	5	7	7	8	9	3	1676	1458	1341	1265	1183	1040	1018	980	842	815	743	693	483					1:45
BEROWRA	5	7	7	7	9	4	2477	2161	1992	1882	1766	1557	1519	1473	1268	1224	1122	1047	731					1:72
HORNSBY	10	11	10	11	11	9	2477	2161	1992	1882	1766	1557	1519	1473	1268	1224	1122	1047	731					1:68
THORNLEIGH	4	4	4	4	5	4	2477	2161	1992	1882	1766	1557	1519	1473	1268	1224	1122	1047	731					1:72
EPPING	7	7	7	7	6	5	2477	2161	1992	1882	1766	1557	1519	1473	1268	1224	1122	1047	731					1:72
WEST RYDE	5^	5^	5^	5^	5^	4^	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600					DG
RHODES	3	3	3	3	3	3	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600					DG
CONCORD WEST	2	2	2	2	3	2	4102	3587	3314	3134	2949	2607	2535	2472	2133	2055	1892	1766	1232					1:132
NTH STRATHFIELD JCT	3	3	3	3	3	3	4102	3587	3314	3134	2949	2607	2535	2472	2133	2055	1892	1766	1232					1:132
FLEM MKETS 625 Pts	5	5	5	5	5	4	2766	2414	2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820					1:80
MIDDLE JCT	5	5	5	5	5	4	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984					1:100
SOUTH JCT	1	1	1	1	1	1	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984					1:100
CHULLORA JCT	8	8	8	8	8	5	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984					1:100
ENFIELD	5	5	5	5	5	4	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984					1:100

For other Sydney Metropolitan area running times, refer to diagram in the 'Sydney Metropolitan Division Pages' Sydney Metropolitan Area - freight and locomotive running times (page 62).

* Up trains starting from Broadmeadow yards via 409 crossover are to use the Broadmeadow to Adamstown through running times i.e. no additional starting times required.

\$ Allow three minutes from pass Cowan to stop in Up Refuge loop at Signal C.4. Up trains starting from Cowan Up Refuge Loop via 60 points are to use the Cowan to Berowra through running times i.e. no additional starting times required.

^ Additional one minute to traverse Epping – West Ryde on Up Main.

Location of speed signs

Hornsby – Hawkesbury River

KILOM- ETRAGE	DOWN			UP		
	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
For previous speed signs refer to SYDNEY METROPOLITAN section						
33.864	HORNSBY					
33.950	80	80	80	..	..	..
33.950	X60	..	X65	520 Points		
34.100	535 Pts Down Sign on Up Sidings			X15	..	
34.100	Maximum Speed Up Yard			15	..	
34.100	Max Speed app Buffers Up Yard			8	..	
34.110	X45	..	..	540A Points		
34.120	Up Sign on Down Main			70	70	70
34.135	X45	541A Points		Down Sign on Up Main		
34.155	60	80	80	Down Sign on Up Main		
34.230	540B Pts Up Sign on Turnback 1			X45	..	..
34.244	543B Pts Up Sign on Down Relief			X60	..	..
34.245	541B Up Sign on Down Main			X45	..	
34.360	X45	..	..	552A Points		
34.365	551B Pts Up Sign on Down Relief			X25	..	..
34.378	60	60	60	Down Relief		
34.455	552B Points			X40	..	..
34.500	X60	..	X70	560 Pts Down Relief		
34.510	Up Sign on Down Relief			60	60	60
34.510	Up Sign on Turnback 1			60	60	60
34.590	90	90	100	..	..	..
34.595	X60	..	..	569A Pts Down Relief		
34.605	560 Pts Up Sign on Down Relief			X60	..	..
34.675	Up Sign on Down Relief			60	60	60
34.710	Up Sign on Down Relief			15	15	15
34.735	569B Pts Up Sign on Down Main			X60	..	..
34.816	571B Points			X25	..	..
34.926	..	..	..	60	80	80
34.950	75	75	75	Down Relief		
35.000	115	115	115	..	..	..
35.010	X55	..	X65	573A Pts Down Sign Up Main		
35.260	X75	..	..	574B Pts Down Relief		
35.260	Up Sign on Down Relief			25	25	25
35.694	ASQUITH					
36.500	..	..	..	70	100	100
37.444	85	85	90	70	115	115
37.675	MT COLAH					
37.880	..	..	..	95	95	95
37.932	100	100	105	..	..	..
40.178	75	75	80	95	100	100
40.509	..	..	..	80	80	80
40.667	MT KURING-GAI					
41.054	70	70	75	..	..	..
42.030	85	90	90	..	..	..
42.065	..	..	..	70	70	75
42.632	..	..	..	85	90	90
44.030	..	..	..	60	90	90
44.390	X50	..	X50	51 Points		
44.576	..	..	..	85	90	90
44.661	BEROWRA					
44.710	X50	..	..	On Down Loop		
44.823	90	115	115	..	..	..
44.909	..	..	..	85	85	85
45.500	..	..	..	85	90	90
46.995	On Up Loop			X50	..	..
47.041	..	..	..	85	100	100
47.155	80	80	85	..	..	..
47.191	On Up Loop			50	..	..
47.423	60	60	65	..	..	..
47.526	..	..	..	80	80	80
48.555	X25	..	X35	..	..	..
48.557	On Up Loop			35	..	..
48.660	..	..	..	X35	..	..
48.670	60	80	85	..	..	..

KILOM- ETRAGE	DOWN			UP		
	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
48.711	..	..	..	60	60	65
48.814	COWAN					
49.956	..	..	..	60	80	80
49.958	55	60	60	..	..	..
51.375	X50	..	X50	..	..	..
51.409	..	..	..	X50	..	X50
51.409	BORONIA					
51.739	..	..	..	60	60	60
52.479	55	70	75	..	..	..
53.250	50	60	60	..	..	..
53.742	..	..	..	60	65	65
53.745	50	55	55	..	..	..
54.859	55	55	60	..	..	..
55.840	60	60	65	..	..	..
55.841	..	..	..	55	55	55
56.499	65	65	65	..	..	..
56.590	X50	..	X50	..	..	..
56.780	..	..	..	X50	..	X50
57.176	..	..	..	55	60	65
57.397	HAWKESBURY RIVER					
57.527	..	..	..	55	55	60

Bi-directional speed signs Cowan – Hawkesbury River

KILOM- ETRAGE	DOWN SIGNS ON UP MAIN			UP SIGNS ON DOWN MAIN		
	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
48.814	COWAN					
48.890	..	..	..	X25	..	X35
48.960	60	80	85	..	..	..
49.958	55	60	60	60	75	80
51.230	X50	..	X50	..	..	..
51.409	BORONIA					
51.510	..	..	..	X50	..	X50
51.751	..	..	..	60	60	60
52.513	55	70	75	..	..	..
53.250	50	60	60	..	..	..
53.742	..	..	..	60	65	65
53.745	50	55	55	..	..	..
54.859	55	55	60	..	..	..
56.499	..	..	..	55	55	55
56.700	X50	..	X50	..	..	..
57.397	HAWKESBURY RIVER					

Superseded by TS TOC 2 v3.0

Hawkesbury River – Gosford

KILOM-ETRAGE	DOWN			UP		
	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
57.555	80	80	85	..	..	..
58.127	80	100	100	..	..	..
58.130	..	..	..	75	75	85
60.897	80	95	100	..	..	..
60.927	..	..	..	80	100	100
61.625	70	70	75	80	95	100
62.321	65	65	70	..	..	..
63.358	..	..	..	70	70	70
65.146	WONDABYNE					
65.290	60	60	65	..	..	..
65.611	60	75	80	..	..	..
65.615	..	..	..	65	65	70
66.586	..	..	..	65	75	80
66.658	60	60	65	..	..	..
66.894	80	115	115	..	..	..
66.995	..	..	..	60	60	65
69.239	80	105	110	80	115	115
69.488	80	115	125	..	..	..
69.489	..	..	..	80	105	110
72.253	..	..	..	80	115	125
72.378	75	75	85	..	..	..
72.617	WOY WOY					
72.949	..	..	..	70	80	90
73.193	90	95	100	..	..	..
74.713	90	90	100	..	..	..
74.819	KOOLEWONG					
75.359	70	70	75	..	..	..
75.362	..	..	..	80	90	100
75.905	..	..	..	70	70	75
75.907	85	85	95	..	..	..
76.906	TASCOTT					
77.230	85	90	95	85	85	90
78.050	POINT CLARE					
78.207	85	115	120	85	90	95
80.077	..	..	..	85	115	120
80.078	60	60	60	..	..	..
80.579	..	..	..	85	90	95
80.791	..	..	..	60	60	60
80.908	GOSFORD					

Gosford – Newcastle

KILOM-ETRAGE	DOWN			UP		
	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
80.908	GOSFORD					
81.045	50	60	60	..	..	..
81.640	..	..	..	50	60	60
81.800	80	85	90	..	..	..
83.974	75	75	80	80	85	90
84.597	NARARA					
84.754	..	..	..	75	75	80
84.820	75	90	100	..	..	..
85.845	..	..	..	75	90	100
86.111	75	75	80	..	..	..
86.193	NIAGARA PARK					
86.800	100	100	105	..	..	..
86.802	..	..	..	75	75	80
87.729	LISAROW					
87.983	110	115	125	100	100	105
90.004	..	..	..	110	115	125
90.031	110	110	120	..	..	..
90.607	OURIMBAH					
92.231	..	..	..	110	110	120
92.231	115	115	145	..	..	..
95.334	115	115	135	115	115	145
97.104	110	110	115	..	..	..

KILOM-ETRAGE	DOWN			UP		
	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
97.143	..	..	..	115	115	135
97.676	..	..	..	110	110	115
98.540	TUGGERAH					
99.088	90	90	100	..	..	..
99.400	100	100	105	..	..	..
100.089	..	..	..	115	115	150
100.641	..	..	..	115	115	135
101.082	WYONG					
101.291	60	60	60	<i>Down Sign on Up Main</i>		
101.291	115	115	115	90	90	95
101.419	<i>Up Sign on Down Main</i>			45	60	60
102.491	X60	<i>107 Points</i>		<i>Down Sign on Up Main</i>		
102.558	<i>Up Sign on Down Main</i>			60	60	60
102.760	<i>108 Points</i>			X60	..	..
103.084	..	..	..	95	95	105
103.687	115	115	160	..	..	..
105.896	WARNERVALE					
106.488	110	110	115	..	..	..
111.803	..	..	..	110	115	115
113.009	105	105	115	110	115	135
114.532	115	115	140	..	..	..
114.534	..	..	..	105	105	115
114.864	WYEE					
115.115	..	..	..	115	115	130
116.801	115	115	130	115	115	140
117.436	110	110	120	115	115	130
118.106	105	105	115	110	110	120
119.545	85	85	90	105	105	115
120.265	..	..	..	80	80	85
120.502	115	115	120	..	..	..
123.146	110	110	120	..	..	..
123.189	..	..	..	115	115	125
123.334	MORISSET					
124.478	70	70	75	..	..	..
124.480	..	..	..	110	110	115
125.255	80	80	85	..	..	..
125.303	..	..	..	75	75	80
125.680	..	..	..	80	80	85
125.680	95	95	105	..	..	..
126.137	110	115	120	..	..	..
126.139	..	..	..	95	95	105
127.232	DORA CREEK					
127.931	110	110	115	..	..	..
127.998	..	..	..	105	115	115
128.364	..	..	..	105	110	115
129.519	85	85	95	..	..	..
129.521	..	..	..	105	105	115
130.447	85	85	90	..	..	..
131.217	70	70	75	..	..	..
131.219	..	..	..	85	90	95
131.638	70	75	80	..	..	..
133.039	70	70	75	70	75	80
134.080	..	..	..	70	70	75
134.838	75	75	80	..	..	..
134.840	..	..	..	65	65	70
136.195	..	..	..	70	70	75
137.231	70	70	80	..	..	..
137.305	AWABA					
137.778	100	115	130	70	70	80
140.162	..	..	..	115	115	130
140.165	95	95	105	..	..	..
141.102	75	75	80	95	95	100
142.313	FASSIFERN					
142.388	..	..	..	75	75	80
142.498	75	100	105	..	..	..
142.510	X25	..	..	<i>51 Points</i>		
142.710	10	..	..	<i>On South Fork</i>		
142.710	<i>On South Fork</i>			25	..	..
143.496	..	..	..	75	100	105
143.496	70	70	75	..	..	..
143.913	70	70	80	..	..	..

KILOM- ETRAGE	DOWN			UP		
144.302	..	..	..	65	75	80
144.819	..	..	..	70	70	75
144.874	75	80	85	..	..	..
146.194	..	..	..	75	80	85
146.392	BOORAGUL					
146.869	75	75	80	..	..	..
147.540	..	..	..	75	75	80
147.565	TERALBA					
147.770	75	115	130	..	..	..
149.544	..	..	..	75	115	130
149.544	75	100	105	..	..	..
150.361	75	110	115	..	..	..
150.364	..	..	..	75	95	105
150.626	COCKLE CREEK					
152.264	65	110	115	..	..	..
153.451	SULPHIDE JUNCTION					
153.546	75	75	85	75	110	115
153.908	..	..	..	75	80	85
154.845	65	65	70	..	..	..
154.897	..	..	..	75	75	80
155.083	CARDIFF					
155.512	70	70	75	..	..	..
156.399	85	85	95	..	..	..
156.400	..	..	..	70	70	75
158.339	..	..	..	85	85	90
158.498	60	85	90	..	..	..
158.922	KOTARA					
159.045	60	90	90	..	..	..
160.144	60	90	90	..	..	..
160.536	..	..	..	90	100	110
161.120	ADAMSTOWN					
162.033	..	..	..	90	90	100
162.804	60	60	60	..	..	..
162.935	BROADMEADOW					
163.670	X30	..	X30	..	..	..
163.685	WOODVILLE JUNCTION					
163.690	WOODVILLE JUNCTION SIGNAL BOX					
163.910	40	..	45	<i>On Down Islington Loop</i>		
163.910	<i>On Up Islington Loop</i>			X30	..	X30
Note: General only speed signs between 163.913 km and Newcastle						
163.913	..	..	..	80	80	80
163.938	40	..	..	..	..	..
164.310	X25	..	..	..	..	..
164.330	..	..	..	40	..	..
164.395	80	..	..	..	..	..
	# To Newcastle			@ From Newcastle		
164.410	..	..	..	X25	..	..
164.633	HAMILTON					
165.411	..	..	..	75	..	..
165.934	WICKHAM					
166.750	65	..	..	..	..	..
167.021	CIVIC					
167.670	..	..	..	80	..	..
167.750	30	..	..	..	..	..
168.103	NEWCASTLE					
# Up Main Hamilton to Newcastle						
@ Down Main Newcastle to Hamilton						

Station data

Station	Kilo - metrage	Signal Box Status	Hours of Signal Box	Facilities
Hornsby	33.864	A	Controlled from Homebush	P
Asquith	35.694			P
Mt Colah	37.675			P
Mt Kuring-gai	40.667			P
Berowra	44.661	C	Controlled from Homebush	P
Cowan	48.814	C	Controlled from Homebush	LP, P
Boronia	51.409	C	Controlled from Homebush	L
Hawkesbury River	57.397	C	Controlled from Homebush	P
Wondabyne	65.146			P
Woy Woy	72.617			P
Koolewong	74.819			P
Tascott	76.906			P
Point Clare	78.050			P
Gosford	80.908	A	Always	P, TT, WC
Narara	84.597			P
Niagara Park	86.193			P
Lisarow	87.729			P
Ourimbah	90.607			P
Tuggerah	98.540			P
Wyong	101.082	A	Always	P
Warnervale	105.896			P
Wye	114.864			P
Vales Point Coal	119.230	C	Controlled from Morisset	L
Morisset	123.334	A	Always	P
Eraring Coal	132.590	C	Controlled from Broadmeadow Signal Control Centre	L
Dora Creek	127.232			P
Awaba	137.305	C	Controlled from Broadmeadow Signal Control Centre	LP, P
Fassifern	142.313		Attended as required for Newstan Colliery	P
Booragul	146.392			P
Teralba	147.565			P
Teralba Colliery				L
Cockle Creek	150.626			P
Sulphide Junction	153.451	C	Controlled from Broadmeadow Signal Control Centre	
Cardiff	155.083			P
Kotara	158.922			P
Adamstown	161.120	C	Controlled from Broadmeadow Signal Control Centre	P
Broadmeadow	162.935	C	Controlled from Broadmeadow Signal Control Centre	P
Woodville Junction	163.690	A	Always	
Hamilton	164.633	A	Always	P
Wickham	165.934	A	Always	P
Civic	167.021			P
Newcastle	168.103	A	Always	P

Advisory speed signs

Special advisory speed signs have been positioned approaching signals at the locations shown below. Drivers of trains (except XPT's / Xplorer, Endeavour, Hunter trains and EMU's) are required to regulate the speed of their train at such locations to ensure that before reaching the signal indicated the speed is not in excess of that figure shown on the special advisory sign. If at any point approaching the signal it is seen to be exhibiting a full clear indication, normal track speed for the train concerned may be resumed.

Location	Signal number	Speed shown on sign
141.540 km	Fassifern No 48 Down Home, Main (88.1)	60
142.145 km	Fassifern Down Second Home, Main (88.5)	60

Tonnage signals

Certain signals listed herein are treated as **Tonnage Signals**, that is to say, in order to avoid the risk of trains over a certain tonnage being brought to a stand at signals where it would be difficult for them to restart, these tonnage signals shall not be passed by trains conveying loads in excess of 75% of the prescribed load (i.e. 75% of Full Sectional Load) unless the Tonnage signal is in the clear position (or by telephone instructions in the case of failure)

The following signals are to be treated as a Tonnage signal, in accordance with Sydney Trains Network Rule *NSG 608 Passing signal at STOP*.

Kilometrage	Signal number	Section located
Refer to Sydney Metropolitan Section		
Tonnage signals (page 64) for Tonnage Signals between Sydney and Hornsby		
57.290	# 146	Hawkesbury River
57.295	# 148	Hawkesbury River
57.300	# 150	Hawkesbury River
57.420	# 148 Repeater	Hawkesbury River
65.804	40.9	Wondabyne – Woy Woy
126.900	78.8	Dora Creek – Morisset
128.420	79.9	Dora Creek – Awaba

The signals at Hawkesbury River are fitted with a notice plate which reads as follows:

TONNAGE SIGNAL
 TRAINS OVER
 PRESCRIBED
 LOAD TO WAIT
 UNTIL SIGNAL IS
 AT FULL CLEAR
 OR 'T' INDICATOR
 IS ILLUMINATED

Transfer of 90, TT, 5000 and 5020 class locomotives Woodville Junction – Enfield/Chullora and return for wheel lathe attention or maintenance

90, TT, 5000 and 5020 Class locomotives may be transferred from Woodville Junction to Enfield or Chullora and return for wheel lathe attention or maintenance **as a light locomotive movement in each direction** subject to the following conditions:

1. Single or multiple 90/TT class locomotives are permitted, or a 90/TT class locomotive can be transferred in multiple with any other Pacific National locomotive.
2. Single or multiple 5000/5020 class locomotives shall be hauled dead attached by 423 and/or 6000 class locomotives. The mass of the 5000/5020 class locomotives shall not exceed 167 tonnes.
3. The axle loads are to be decreased by ensuring the locomotive has a reduced fuel load. (Do not fill fuel tank prior to transfer.)
4. The locomotives shall reduce its speed to **20 km/h** when traversing the following bridges:
 - **Main North:** 12.628 km (Parramatta Rd.)
 - **Bankstown Line:** 19.202 km
 - In addition, the speed of **5000/5020** class locomotives shall be reduced to **40 km/h** when traversing the following bridge:
 - **Main North:** 160.300 km (Kotara – Northcott Drive)
5. **Maximum track speed:**

	90/TT class	5000/5020 class
Woodville Junction – Vales Point Junction – Woodville Junction	60 km/h	50 km/h
Enfield – Vales Point Junction – Enfield	50 km/h	45 km/h
6. Sector Civil Engineers to be advised at least 48 hours in advance.
7. Transfer of these locomotives from **Woodville Junction to Enfield/Chullora** are to be done under block working conditions as per *NSY 512 Manual block working*.

Transfer of these locomotives from **Enfield/Chullora to Woodville Junction** shall be blocked worked where specified in the *General Instruction Pages of the Train Operating Conditions Manual, Locomotive Operations*.

Superseded by TS TOC 2 v3.0

Section 14

Western Division Pages

14. Western Division pages

Version December 2014

Maximum speed of locomotives and rolling stock

	Penrith – Lithgow DOWN MAIN	Lithgow – Valley Heights UP MAIN	Valley Heights – Penrith UP MAIN
Class of Line	1	1	1
Line Map Reference	A	B	C

LOCOMOTIVES

Class	Max Speed km/h		
90, TT	N/A	N/A	N/A
31, L, LQ, LZ	100	100	100
92, 93, 6000, 6020, ACC, C, CEY, CF, GWA, GWU, LDP10, RL, SCT, TT100, WH, XRN	115	115	115
82, CLP, GL NR	115	115	115
14, 81, ALF, AN, BL, CLF, G, VL	115	115	115
42, 80, 80s, B, DL	115	115	115
18	90	90	90
442, 442s, 700, GM(12), S, X	115	115	115
22, 421, 422, 44, 45, 45s, 600, DC, EL, FL, GM(1), HL	115	115	115
43, 44s, 930	115	115	115
423	80	80	80
D, K, T	100	100	100
47, 48, 48200, 48s, 49, 830, 900, GPU, MM, PL	100	100	100
73 (c)	70	70	70
46, 86 Electric	100(b)	100(b)	100(b)
Multiple Locomotive working	4	5	4

FREIGHT

Class A	115	115	115
Class B	100	100	100
Class C	80	80	80
Class D	65	65	65
Class E	80	80	80
Class F	65	65	65
Class G	N/A	N/A	N/A

PASSENGER

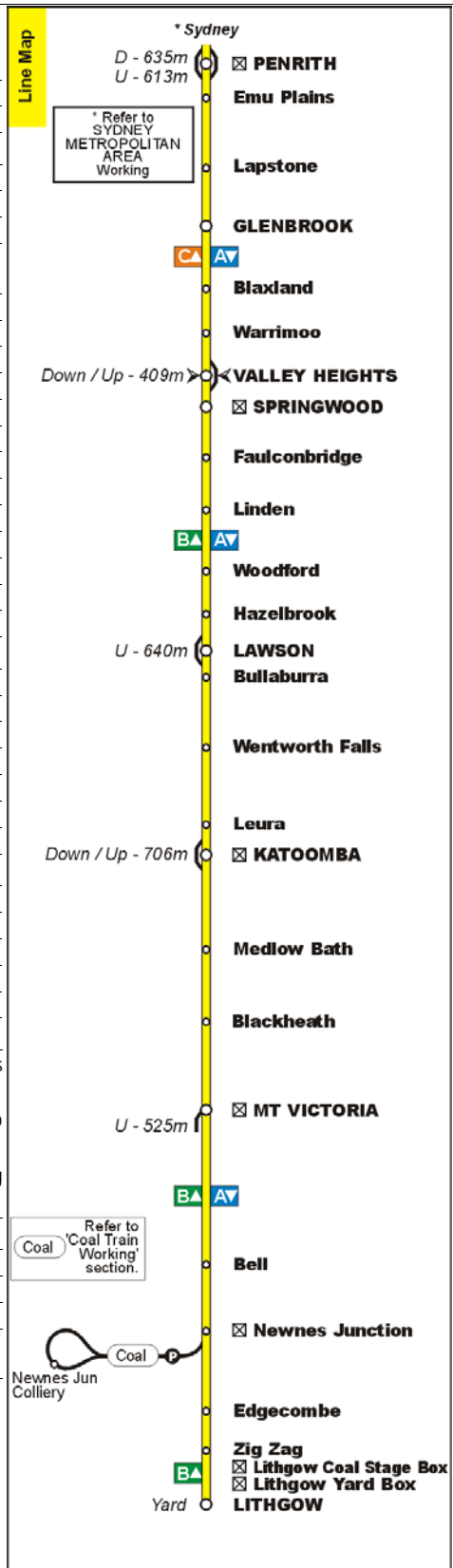
XPT	160	160	160
XPLOER	145	145	145
DIESEL RAILCARS	115	115	115
LOCO HAULED	115	115	115
		(a)	

NOTES

- (a) See instructions contained in *General Instructions* for operation of trains and light locomotives over the section Katoomba to Valley Heights.
- (b) Applies to SINGLE and distributed locomotives (separated by at least 70 metres of train). No OHW restrictions apply. Both pantographs may be raised.
- (c) Only locomotives fitted with vigilance control system are approved to operate outside shunting yards.

SAFeworking SYSTEMS

Penrith – Edgecombe	#Rail Vehicle Detection
Edgecombe – Zig Zag	Rail Vehicle Detection (Bi-directional)
Zig Zag – Lithgow Coal Stage Signal Box	Rail Vehicle Detection
Lithgow Coal Stage Signal Box – Lithgow Yard Signal Box	Rail Vehicle Detection
#Valley Heights to Springwood – Two way running Down Main	



DOWN loads

Version December 2014

SECTIONS	LOCOMOTIVE CLASS = L	LOAD - TONNES				TRAIN DATA			NOTES
		SINGLE	DOUBLE	TRIPLE	QUAD	VEHICLE CLASS	SECT RUN TIMES		
1 SYDNEY METROP – LITHGOW	L2	900	1800	2700	3600	A	A1		
2 SYDNEY METROP – LITHGOW	L3/L4	550	1100	1650	2200	A	A1		
3 SYDNEY METROP – LITHGOW	AC6	900	1800	2700	--	A	A1		
4 SYDNEY METROP – LITHGOW	AC6 + #L2	--	1950	--	--	A	A1	# NR Only	
5 SYDNEY METROP – LITHGOW	AC6 + 2 x #L2	--	--	2850	--	A	A1	# NR Only	
6 SYDNEY METROP – LITHGOW	2 x AC6 + #L2	--	--	3000	--	A	A1	# NR Only	
7 SYDNEY METROP – LITHGOW	L3/L4	450	900	1350	1800	ABCE	C1		
# SYDNEY METROP – LITHGOW	L4/L11	--	691	--	--	ABCE	C1, G + 442		
# SYDNEY METROP – LITHGOW	L4 + 2 x L11	--	--	932	--	ABCE	C1, G + 442		
# SYDNEY METROP – LITHGOW	3 x L11	--	--	723	--	ABCE	C1, G + 442		
# SYDNEY METROP – LITHGOW	2 x L11 + L12	--	--	723	--	ABCE	C1, G + 442		
# SYDNEY METROP – LITHGOW	4 X L11	--	--	--	964	ABCE	C1	G + 442 only	
# SYDNEY METROP – LITHGOW	3 x L11 + L12	--	--	--	964	ABCE	C1	G + 442 only	
8 SYDNEY METROP – LITHGOW	L2	900	1800	2700	3600	ABCDE	C2		
9 SYDNEY METROP – LITHGOW	L3/L4	550	1100	1650	2200	ABCE	C2		
10 SYDNEY METROP – LITHGOW	AC6	900	1800	2700	--	ABCDE	C2		
11 SYDNEY METROP – LITHGOW	AC6 + #L2	--	1950	--	--	ABCDE	C2	# NR Only	
12 SYDNEY METROP – LITHGOW	AC6 + 2 x #L2	--	--	2850	--	ABCDE	C2	# NR Only	
13 SYDNEY METROP – LITHGOW	2 x AC6 + #L2	--	--	3000	--	ABCDE	C2	# NR Only	
14 SYDNEY METROP – LITHGOW	L13	281	562	843	1124	ABCDE	C4		
15 SYDNEY METROP – LITHGOW	L3/L4	750	1500	2250	3000	ABCDE	D1		
16 SYDNEY METROP – LITHGOW	L5	700	1400	2100	2800	ABCDE	D1		
17 SYDNEY METROP – LITHGOW	L6/L7	599	1198	1497	2396	ABCDE	D1		
18 SYDNEY METROP – LITHGOW	L8	573	1146	1719	2292	ABCDE	D1		
19 SYDNEY METROP – LITHGOW	L9/L10	450	900	1350	1800	ABCDE	D1		
20 SYDNEY METROP – LITHGOW	L11/L12	402	804	1206	1608	ABCDE	D1		
21 SYDNEY METROP – LITHGOW	AC6	1246	2492	3738	--	ABCDE	D1		

DOWN - sectional running times and full sectional loads

Version December 2014

	#SECTIONAL RUNNING TIMES						FULL SECTIONAL LOADS														GRADE		
	A\$	A1	C1	C2	C4	D1	LOCOMOTIVE CATEGORIES = L																
							Loco	AC6	2	3	4	5	6	7	8	9	10	11	12	13	14		
ENFIELD																							
CHULLORA JCT		5	5	5	5	5	4	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		DG	
SOUTH JCT		8	8	8	8	8	5	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100	
LIDCOMBE	3	3	3	3	3	3	2	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100	
AUBURN	3	3	3	3	3	3	2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		DG	
CLYDE	3	3	3	3	3	3	2	3542	3096	2858	2702	2541	2245	2185	2128	1835	1768	1627	1518	1059		1:110	
GRANVILLE	1	1	2	2	2	2	1	3775	3300	3047	2882	2711	2395	2330	2271	1959	1887	1737	1621	1131		1:120	
PARRAMATTA	3	2	2	2	2	2	2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		Level	
WESTMEAD	2	2	2	2	2	2	2	2766	2414	2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820		1:80	
SEVEN HILLS	7	6	6	6	6	7	6	2477	2161	1992	1882	1766	1557	1519	1473	1268	1224	1122	1047	731		1:70	
BLACKTOWN	3	2	2	2	3	3	2	2904	2536	2339	2211	2077	1833	1786	1736	1495	1442	1324	1236	862		1:85	
ST MARYS	12	12	10	10	11	12	10	2766	2414	2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820		1:80	
PENRITH	7	7*	6*	7*	7*	8*	6*	2623	2289	2111	1995	1872	1651	1610	1563	1346	1299	1191	1112	776		1:75	
EMU PLAINS	3	2	2	2	2	2	2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		Level	
GLENBROOK	12	12	10	12	19	14	11	2171	1892	1743	1646	1543	1359	1328	1285	1105	1068	977	912	636		1:60	
VALLEY HEIGHTS	14	14	12	13	23	16	13	2171	1892	1743	1646	1543	1359	1328	1285	1105	1068	977	912	636		1:60	
SPRINGWOOD	4	4	3	4	7	5	4	1246	900	750	750	700	610	599	573	490	476	431	402	281		1:33	
LAWSON	29	29	24	29	47	36	23	1246	900	750	750	700	610	599	573	490	476	431	402	281		1:33	
WENTWORTH FALLS	12	12	9	12	18	14	11	1246	900	750	750	700	610	599	573	490	476	431	402	281		1:33	
KATOOMBA	12	11	10	12	20	15	12	1246	900	750	750	700	610	599	573	490	476	431	402	281		1:33	
MT VICTORIA	22	20	17	18	19	19	16	2357	2055	1894	1789	1678	1479	1444	1399	1204	1163	1065	994	693		1:66	
NEWNES JCT	18	16	14	15	19	17	15	2623	2289	2111	1995	1872	1651	1610	1563	1346	1299	1191	1112	776		1:75	
EDGECOMBE	5	4	4	4	4	4	4	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		DG	
ZIG ZAG	9	8	5	6	6	6	5	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		DG	
LITHGOW CS BOX	6	5	5	5	5	5	4	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		DG	
LITHGOW	3	3	2	2	2	2	2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		DG	

For other Sydney Metropolitan area running times, refer to diagram in the 'Sydney Metropolitan Division Pages' Sydney Metropolitan Area - freight and locomotive running times (page 62).

* Additional one minute to be added when traversing the Down Main between Blacktown and St. Marys.

Superseded by TS TOC 2 v3.0

\$

This schedule is for 1500 m trains.

UP loads

Version 10.0 December 2012

SECTIONS	LOCOMOTIVE CLASS = L	LOAD - TONNES				TRAIN DATA			NOTES
		SINGLE	DOUBLE	TRIPLE	QUAD	VEHICLE CLASS	SECT RUN TIMES		
1 LITHGOW – SYDNEY METROP	L2	850	1700	2550	3400	A	A1		
2 LITHGOW – SYDNEY METROP	L3/L4	550	1100	1650	2200	A	A1		
3 LITHGOW – SYDNEY METROP	AC6	850	1700	2550	--	A	A1		
4 LITHGOW – SYDNEY METROP	L2	1300	2600	3900	5200	A	A2		
5 LITHGOW – SYDNEY METROP	L3/L4	1000	2000	3000	4000	A	A2		
6 LITHGOW – SYDNEY METROP	AC6	1500	3000	4600	--	A	A2		
7 LITHGOW – SYDNEY METROP	AC6 + #L2	--	2750	--	--	A	A2	# NR Only	
8 LITHGOW – SYDNEY METROP	AC6 + 2 x #L2	--	--	4050	--	A	A2	# NR Only	
9 LITHGOW – SYDNEY METROP	2 x AC6 + #L2	--	--	4200	--	A	A2	# NR Only	
10 LITHGOW – SYDNEY METROP	L2	1300	2600	3900	5200	ABCE	C1		
11 LITHGOW – SYDNEY METROP	L3/L4	1000	2000	3000	4000	ABCE	C1		
12 LITHGOW – SYDNEY METROP	AC6	1500	3000	4600	--	ABCE	C1		
13 LITHGOW – SYDNEY METROP	AC6 + #L2	--	2750	--	--	ABCE	C2	# NR Only	
14 LITHGOW – SYDNEY METROP	AC6 + 2 x #L2	--	--	4050	--	ABCE	C2	# NR Only	
15 LITHGOW – SYDNEY METROP	2 x AC6 + #L2	--	--	4200	--	ABCE	C2	# NR Only	
16 LITHGOW – SYDNEY METROP	L3/L4	1400	2800	--	--	ABCE	C2	1	
17 LITHGOW – SYDNEY METROP	L4 + L13	--	1800	--	--	ABCE	C2	1	
18 LITHGOW – SYDNEY METROP	L3/L4	1131	2262	3393	4524	ABCE	C2		
19 LITHGOW – SYDNEY METROP	L5	1056	2112	3168	4224	ABCE	C2		
20 LITHGOW – SYDNEY METROP	L6	926	1852	2778	3704	ABCE	C2		
21 LITHGOW – SYDNEY METROP	L7	909	1818	2727	3636	ABCE	C2		
22 LITHGOW – SYDNEY METROP	L8	875	1750	2625	3500	ABCE	C2		
23 LITHGOW – SYDNEY METROP	L9	750	1500	2250	3000	ABCE	C2		
24 LITHGOW – SYDNEY METROP	L10	725	1450	2175	2900	ABCE	C2		
25 LITHGOW – SYDNEY METROP	L11	640	1280	1920	2560	ABCE	C2		
26 LITHGOW – SYDNEY METROP	L12	615	1230	1845	2460	ABCE	C2		
27 LITHGOW – SYDNEY METROP	L13	410	820	1230	1640	ABCE	C3		
28 LITHGOW – SYDNEY METROP	L3/L4	1131	2262	3393	4524	ABCDE	D1		

1. This train shall be given a clear run from Bowenfels to Zig Zag. The train shall not stop at Lithgow.

For other Sydney Metropolitan area running times, refer to diagram in the 'Sydney Metropolitan Division Pages' Sydney Metropolitan Area - freight and locomotive running times

UP - sectional running times and full sectional loads

Version 10.0 December 2012

	#SECTIONAL RUNNING TIMES						FULL SECTIONAL LOADS														GRADE			
							LOCOMOTIVE CATEGORIES = L																	
	A1	A2	C1	C2	C3	D1	Loco	AC6	2	3	4	5	6	7	8	9	10	11	12	13		14		
LITHGOW	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	
LITHGOW CS BOX	2	2	2	2	2	2	2	4407	3855	3562	3369	3171	2803	2726	2660	2295	2210	2036	1900	1326			1:150	
ZIG ZAG	5	6	6	7	10	7	4	1500	1300	1200	1131	1056	926	909	875	750	725	660	615	410			1:40	
EDGECOMBE	7	10	10	12	14	12	6	3039	2654	2449	2315	2175	1920	1870	1818	1567	1511	1388	1295	904			1:90	
NEWNES JCT	3	4	4	5	5	5	3	3039	2654	2449	2315	2175	1920	1870	1818	1567	1511	1388	1295	904			1:90	
MT VICTORIA	16	17	17	18	21	17	14	3039	2654	2449	2315	2175	1920	1870	1818	1567	1511	1388	1295	904			1:90	
KATOOMBA	17	18	18	19	21	20	17	2766	2414	2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820			1:80	
WENTWORTH FALLS	16	16	16	16	16	16	8	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600			DG	
LAWSON	14	14	14	14	14	14	7	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600			DG	
SPRINGWOOD	27	27	27	27	27	27	17	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600			DG	
VALLEY HEIGHTS	4	4	4	4	4	4	2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600			DG	
GLENBROOK	11	11	11	11	11	15	10	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600			DG	
EMU PLAINS	12	12	12	12	12	10	9	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600			Level	
PENRITH	3	3	3	3	3	4	2	5057	4426	4090	3869	3645	3223	3132	3060	2641	2542	2344	2188	1527			1:186	
ST MARYS	7	8	8	10	10	8	6	2357	2055	1894	1789	1678	1479	1444	1399	1204	1163	1065	994	693			1:66	
BLACKTOWN	9*	10*	11*	12*	12*	13*	10*	2766	2414	2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820			1:80	
SEVEN HILLS	3	3	3	3	3	2	2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600			DG	
WESTMEAD	6	6	6	6	6%	7	4	3195	2791	2576	2435	2289	2021	1968	1915	1650	1591	1462	1365	952			1:95	
PARRAMATTA	2	2	2	2	3	3	2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600			DG	
GRANVILLE	3	3	3	3	3	2	2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600			DG	
CLYDE	1	1	1	1	1	2	1	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600			DG	
AUBURN	3	3	3	3	3	3	2	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984			1:100	
LIDCOMBE	3	3	3	3	3	3	2	3775	3300	3047	2882	2711	2395	2330	2271	1959	1887	1737	1621	1131			1:120	
SOUTH JCT	3	3	3	3	3	3	2	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984			1:100	
CHULLORA JCT	8	8	8	8	8	8	5	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984			1:100	
ENFIELD	5	5	5	5	5	5	4	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984			1:100	

- # For other Sydney Metropolitan area running times, refer to diagram in the 'Sydney Metropolitan Division Pages' Sydney Metropolitan Area - freight and locomotive running times (page 62).
- * Additional one minute to be added when traversing the Up Main between St. Marys and Blacktown.
- % Additional one minute to be added when traversing the Up Main between Seven Hills and Westmead.

Assisting Lithgow to Zig Zag

December 2013

The assist locomotive can be marshalled either on the front or on the rear of the train depending upon operational requirements and vehicle gross masses in the trailing 1/3 of the train mass as outlined in General Instruction Pages, Section 2 Locomotive Operations, Assisting (banking) locomotives.

When trains are **assisted in the lead** from Lithgow, the assist locomotives are to remain on the train until it arrives at Mt. Victoria. This is to avoid the situation of removing the assist locomotives from the train at Zig Zag whilst a portion of the train is still on the rising 1 in 40 grade.

When trains are **assisted in the rear** from Lithgow, bank locomotive traction motor currents shall not exceed 250 amps on diesel locomotives, until all the bank locomotives are on the Main line and completely clear of the crossovers in Lithgow yard.

Bank Locomotive working between Lithgow Coal Stage and Zig Zag is to be carried out as outlined in Sydney Trains Network Local Appendices *NLA 218 Lithgow*.

Location of speed signs

Version 10.0 December 2012

KILOM- ETRAGE	DOWN			UP		
	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
55.086	PENRITH					
55.500	..	..	..	#75	..	%80
57.350	#100	..	%100	..	..	..
END NORMAL/XPT SIGNS - START GENERAL/MEDIUM/HIGH SIGNS						
57.439	EMU PLAINS					
58.882	..	..	..	60	85	85
58.883	75	75	80	..	..	..
59.539	70	70	75	60	75	80
60.785	70	75	80	..	..	..
60.965	..	..	..	60	70	75
61.703	..	..	..	40	70	75
61.988	..	..	..	40	60	60
62.046	70	70	75	..	..	..
63.617	LAPSTONE					
65.105	65	65	65	70	70	75
65.563	65	70	75	..	..	..
65.793	..	..	..	65	65	65
66.800	65	65	70	..	..	..
66.926	..	..	..	65	70	75
67.080	GLENBROOK					
67.147	70	70	75	65	65	70
69.144	..	..	..	50	70	75
71.427	70	80	85	..	..	..
71.484	BLAXLAND					
71.484	..	..	..	70	70	75
72.744	65	65	70	..	..	..
72.780	..	..	..	70	80	85
73.085	65	80	85	65	65	70
74.035	65	65	70	65	80	85
74.296	WARRIMOO					
75.313	..	..	..	65	65	70
76.259	65	70	75	..	..	..
77.040	Up Sign on Down West Main			X15	..	X25
77.278	60	60	65	..	..	..
77.410	VALLEY HEIGHTS					
77.563	..	..	..	70	70	75
79.294	Up Sign on Down West Main			60	60	65
79.419	50	50	55	..	..	..
79.460	..	..	..	X25	..	X25
79.566	..	..	..	65	65	70
79.669	SPRINGWOOD					
79.776	..	..	..	60	60	65
80.263	60	65	65	..	..	..
80.449	..	..	..	65	65	70
81.657	60	60	65	..	..	..
81.722	..	..	..	65	70	75
82.546	55	55	60	60	60	65
82.916	60	60	65	55	55	60
82.962	FAULCONBRIDGE					
83.195	65	65	70	..	..	..
84.617	..	..	..	60	65	70
84.761	..	..	..	60	60	65
86.073	55	60	65	60	65	70
86.805	LINDEN					
87.810	60	60	65	..	..	..
88.752	..	..	..	60	60	65
89.950	55	55	55	..	..	..
90.366	WOODFORD					
90.579	60	65	70	..	..	..
90.629	..	..	..	55	55	60
90.836	60	70	75	..	..	..
90.910	..	..	..	60	65	70
92.099	60	60	65	60	70	75
92.733	..	..	..	60	60	65
93.411	55	55	60	..	..	..
93.473	HAZELBROOK					
93.671	60	60	65	..	..	..
94.256	..	..	..	60	65	70
95.177	60	70	75	60	60	65
96.033	LAWSON					
96.749	60	60	65	60	70	75
97.685	BULLABURRA					
97.760	..	..	..	60	60	65
98.107	..	..	..	40	60	65

KILOM- ETRAGE	DOWN			UP		
	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
99.726	75	75	80	60	60	65
102.251	55	55	60	60	75	75
102.614	WENTWORTH FALLS					
102.858	..	..	..	35	55	60
102.909	60	75	80	..	..	..
104.735	60	60	65	60	75	80
107.299	55	55	60	60	60	65
107.592	LEURA					
107.651	..	..	..	55	55	60
107.739	55	60	65	..	..	..
109.211	..	..	..	55	60	65
109.402	50	50	55	..	..	..
109.943	KATOOMBA					
110.064	..	..	..	45	45	50
110.132	60	60	65	..	..	..
113.607	70	70	75	60	60	65
114.116	80	85	100	70	70	75
115.727	..	..	..	80	100	115
115.803	MEDLOW BATH					
116.200	65	65	70	..	..	..
116.219	..	..	..	80	80	80
116.853	55	55	60	65	65	75
117.243	75	75	80	55	55	60
119.467	60	60	65	75	75	80
120.724	BLACKHEATH					
121.600	65	65	70	..	..	..
121.655	..	..	..	60	60	65
124.455	40	65	75	..	..	..
124.519	..	..	..	65	65	70
125.050	65	65	75	..	..	..
126.595	..	..	..	70	70	75
126.720	MT. VICTORIA					
126.860	60	60	65	..	..	..
127.135	65	65	70	..	..	..
127.580	..	..	..	40	40	40
128.023	..	..	..	65	65	70
128.091	85	85	90	..	..	..
129.233	85	95	95	85	85	90
131.958	80	80	85	95	100	105
132.635	..	..	..	60	60	65
132.829	75	75	80	..	..	..
137.126	BELL					
137.387	..	..	..	75	75	80
137.920	100	100	110	..	..	..
138.152	..	..	..	45	75	80
139.770	70	70	75	95	95	100
140.854	60	60	70	..	..	..
141.099	..	..	..	70	70	75
141.484	65	65	70	60	60	70
141.763	NEWNES JUNCTION					
143.549	..	..	..	65	65	70
143.554	70	80	85	..	..	..
145.240	X25	..	X35	..	..	..
145.240	Up Sign on Down West Main			X25	..	X35
145.394	65	65	70	Down Sign on Up West Main		
145.406	65	65	70	70	80	85
150.520	X25	..	X35	Down Sign on Up West Main		
150.587	Up Sign on Down West Main			65	65	70
150.700	..	..	..	X25	..	X35
150.937	ZIG ZAG					
150.998	..	..	..	65	65	70
151.150	45	45	50	..	..	..
152.268	60	70	70	45	45	50
153.144	..	..	..	50	75	80
154.175	LITHGOW COAL STAGE BOX					
155.224	LITHGOW YARD BOX					
154.305	70	75	75	..	..	..
155.479	..	..	..	50	90	90
155.781	LITHGOW					
END GENERAL/MEDIUM/HIGH SIGNS - START NORMAL/XPT SIGNS						
155.986	..	..	..	#60	..	%70
156.016	#70	..	%80	..	..	..
158.753	#80	..	%90	#70	..	%85

Down/Up Normal Signs
% Down/Up XPT signs

Station data

Version 10.0 December 2012

Station	Kilo - metrage	Signal Box Status	Hours of Signal Box	Facilities
Penrith	55.086	A	Always	P, WC
Emu Plains	57.439		Controlled from Penrith	P
Lapstone	63.617			P
Glenbrook	67.080			P
Blaxland	71.484			P
Warrimoo	74.296			P
Valley Heights	77.410	C	Controlled from Springwood	P
Springwood	79.669	A	Always	P
Faulconbridge	82.962			P
Linden	86.805			P
Woodford	90.366			P
Hazelbrook	93.473			P
Lawson	96.033	C	Controlled from Springwood	P
Bullaburra	97.685			P
Wentworth Falls	102.614			P
Leura	107.592			P
Katoomba	109.943	A	Always	P
Medlow Bath	115.803			P
Blackheath	120.724			P
Mt. Victoria	126.720	A	Always	P
Bell	137.126			P
Newnes Junction	141.763	U	Attended as required for Clarence Colliery	P, S
Edgecombe	145.200	C	Controlled from Lithgow Coal Stage Signal Box	
Zig Zag	150.937	C	Controlled from Lithgow Coal Stage Signal Box	P, LP
Lithgow Coal Stage Signal Box	154.175	A	Always	
Lithgow Yard Signal Box	155.224	A	Always	
Lithgow	155.781			P, TT

Tonnage signals

Version 10.0 December 2012

Certain signals listed herein are treated as **Tonnage Signals**, that is to say, in order to avoid the risk of trains over a certain tonnage being brought to a stand at signals where it would be difficult for them to restart, these tonnage signals shall not be passed by trains conveying loads in excess of 75% of the prescribed load unless the Tonnage signal is in the clear position (or by telephone instructions in the case of failure)

The following signals are to be treated as a Tonnage signal, in accordance with Sydney Trains Network Rule *NSG 608 Passing signal at STOP*.

Kilometrage	Signal Number	Section located
77.500	SD 21 Valley Heights	Valley Heights – Springwood
77.574	SD 23 Valley Heights	Valley Heights – Springwood
93.331	58.1	Springwood - Lawson

Freight train braking requirements

Version 10.0 December 2012

■ Conditions for freight trains – Down direction

- (a) Ballast and work trains, with less than 80% of vehicles fitted with fixed exhaust chokes, operating from the Metropolitan area beyond Valley Heights and terminating before Lithgow then returning **LOADED** to the Metropolitan area are required to have a HP grade inspection carried out on the train.

■ Conditions for freight trains – Up direction

The following conditions apply to loaded freight trains operating between Katoomba and Valley Heights:

- (a) Braking requirements
 - (1) Unless at least 80% of the train mass is fitted with approved fixed exhaust chokes, freight trains are required to have a HP grade inspection.
 - (2) Grade control valves (where fitted) are to be set in the IP position at the inspection location or other approved location.
 - (3) Dynamic / Regenerative brake shall be used if available.
 - (4) Maximum length of train with single piped vehicles is **1100 metres**.
 - (5) A HP grade inspection does not apply to ECP braked trains.

Refer also to General Instruction Pages – Section 3 Train Operations.

Superseded by TS TOC 2 v3.0

Superseded by TS TOC 2 v3.0

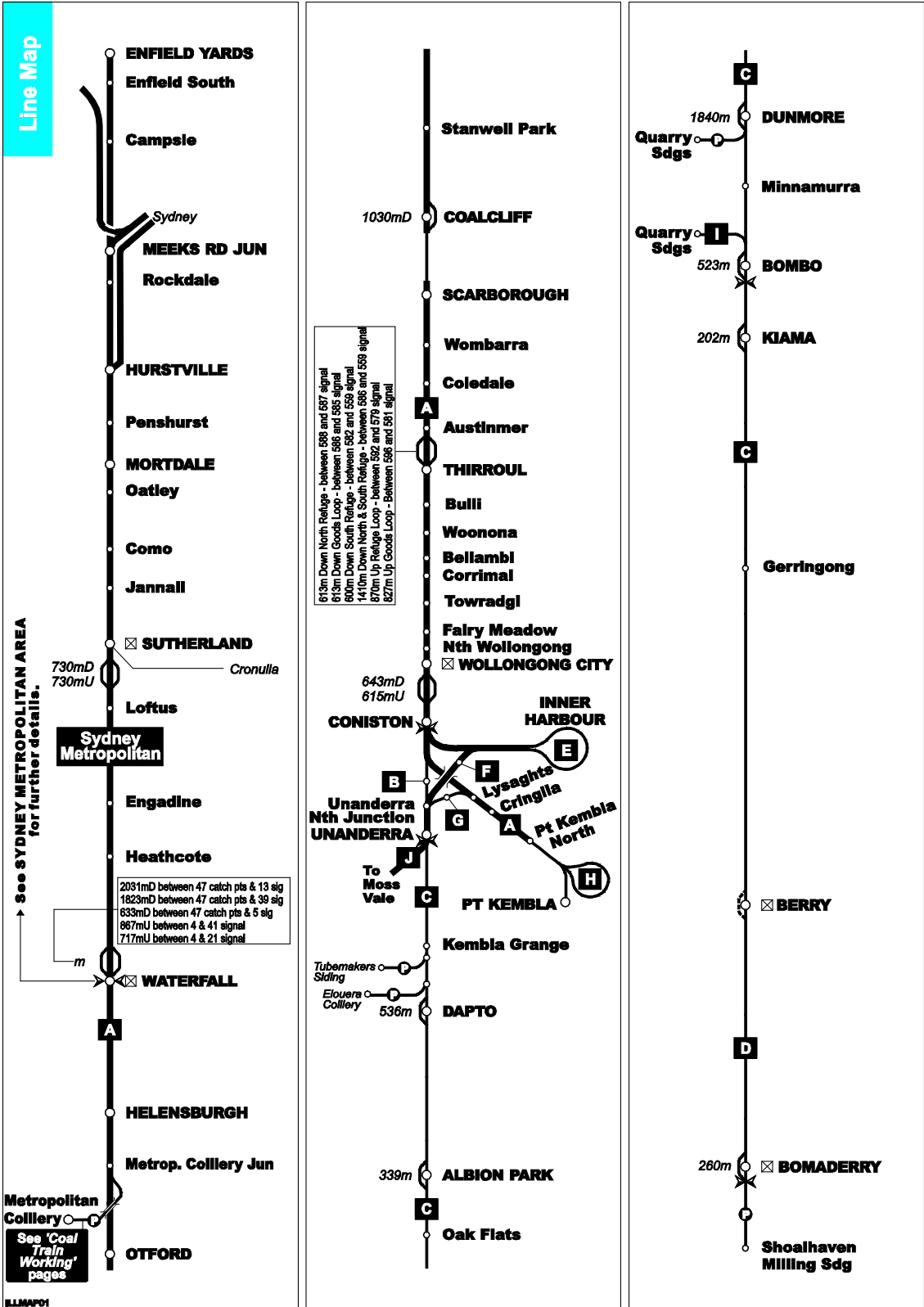
Section 15

Illawarra Division Pages

15. Illawarra Division pages

Version 14.0 December 2014

ILLAWARRA Enfield Yards - Pt Kembla - Bomaderry



Version 15.0 December 2014

UNCONTROLLED WHEN PRINTED

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Maximum speed of locomotives and rolling stock

	Waterfall - Port Kembla	Coniston- Unanderra	Unanderra - Berry	Berry - Bomaderry	Coniston - Inner Harbour	South Frk Unanderra North Junction	Allans Creek - Unanderra North Junction	Port Kembla Balloon Loop	Quarry Siding Bombo 2	Unanderra - 91.0km Moss Vale line
Class of Line	1	1	1	2	1	1	1	1	2	1
Line Map Reference	A	B	C	D	E	F	G	H	I	J

LOCOMOTIVES

Class	Maximum Speed km/h									
90, TT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31, L, LQ, LZ	100	100	100	70(e)	25	35	60	25	15	50
92, 93, 6000, 6020, ACC, C, CEY, CF, GWA, GWU, LDP, RL, LDP10, SCT, TT100, WH, XRN	115	100	80	80(e)	25	35	60	25	15	50
82, CLP, GL, NR	115	100	80(a)	N/A	25	35	60	25	15	50
14, 81, ALF, AN, BL, CLF, G, VL	115	100	80	80	25	35	60	25	15	50
42, 80, 80s, B, DL	115	100	80	80	25	35	60	25	15	50
18	90	90	80	80	25	35	60	25	15	50
442, 442s, 700, GM(12), S, X	115	100	80	80	25	35	60	25	15	50
22, 421, 422, 44, 45, 45s, 600, DC, EL, FL, GM(1), HL	115	100	100	100	25	35	60	25	15	50
43, 44s, 930	115	100	100	100	25	35	60	25	15	50
423	80	80	80	80	25	35	60	25	15	50
D, K, T	100	100	100	100	25	35	60	25	15	50
47, 48, 48200, 48s, 49, 830, 900, GPU, MM, PL	100	100	100	100	25	35	60	25	15	50
73 (d)	70	70	70	70	25	35	60	25	15	50
46, 86 Electric	100(b)	100(b)	100(b,c)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Multiple Locomotive working	4	4	4	4	4	4	4	4	4	4

FREIGHT

Class A	115	115	100	100	25	35	60	25	15	50
Class B	100	100	80	80(e)	25	35	60	25	15	50
Class C	80	80	80	80	25	35	60	25	15	50
Class D	65	65	60	60	25	35	60	25	15	50
Class E	80	80	70	70	25	35	60	25	15	50
Class F	65	65	65	N/A	25	35	60	25	15	50
Class G	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

PASSENGER

XPT	160	160	140	140	25	35	60	25	15	50
XPLORER	145	145	140	140	25	35	60	25	15	50
DIESEL RAILCARS	115	115	100	100	25	35	60	25	15	50
LOCO HAILED	115	115	100	100	25	35	60	25	15	50

NOTES

- (a) NR locomotives restricted to operate between **Unanderra** and **Dunmore**.
- (b) Applies to SINGLE and distributed locomotive (separated by at least 70 metres of train). No OHW restrictions apply. Both pantographs may be raised.
- (c) Unanderra to Kiama only.
- (d) Only locomotives fitted with vigilance control system are approved to operate outside shunting yards..
- (e) These locomotives and freight vehicles when loaded to axle loads greater than 22 tonnes are NOT permitted to use Berry Perway Siding.

SAFeworking SYSTEMS

WATERFALL TO BOMADERRY

Waterfall to Coal Cliff	Rail Vehicle Detection (Bi directional)	Unanderra to Dapto	Rail Vehicle Detection
Coal Cliff to Scarborough	Rail Vehicle Detection	Dapto to Albion Park	Rail Vehicle Detection
Scarborough to Wollongong – WG466D, WG468U	Rail Vehicle Detection (Bi directional)	Albion Park to Dunmore	Rail Vehicle Detection
Austinmer to Bulli	Thirroul Yard area	Dunmore to Bombo	Rail Vehicle Detection
Wollongong (Unanderra North – WG1001, WG1003, WG1005, WG1007) to Unanderra	Rail Vehicle Detection (Bi directional)	Bombo to Kiama	Rail Vehicle Detection
		Kiama to Berry	Rail Vehicle Detection (Bi directional)
		Berry to Bomaderry	Rail Vehicle Detection (Bi directional)

INNER HARBOUR

Wollongong (WG121D) to Inner Harbour Balloon Loop	Wollongong Yard Area	Unanderra North (WG1003, WG1005) to Inner Harbour Balloon Loop	Wollongong Yard Area
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PORT KEMBLA BRANCH

Wollongong to Port Kembla	Rail Vehicle Detection
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DOWN loads

SECTIONS	LOCOMOTIVE CLASS = L	SINGLE	LOAD - TONNES				TRAIN DATA		NOTES
			DOUBLE	TRIPLE	QUAD	VEHICLE CLASS	SECT RUN TIMES		
1 SYDNEY METROP – UNANDERRA	L2	--	--	2700	--	ABC	A1	%	
2 SYDNEY METROP – UNANDERRA	AC6	--	--	2700	--	ABC	A1		
3 SYDNEY METROP – BOMADERRY	L2/L3/L4	--	606	--	--	ABC	C1		
4 SYDNEY METROP – BOMADERRY	L4/L5 + L2	--	606	--	--	ABC	C1		
5 SYDNEY METROP – BOMBO	L13	--	--	500	--	ABC	C1	1	
6 SYDNEY METROP – BOMADERRY	AC6	1500	3000	4600	--	ABC	C2		
7 SYDNEY METROP – PT KEMBLA (3)	AC6 + #L2	--	2750	--	--	ABC	C2	#NR only	
8 SYDNEY METROP – PT KEMBLA (3)	AC6 + 2 X #L2	--	--	4050	--	ABC	C2	#NR only	
9 SYDNEY METROP – PT KEMBLA (3)	2 X AC6 + #L2	--	--	4200	--	ABC	C2	#NR only	
10 SYDNEY METROP – PT KEMBLA (3)	L2	1300	2600	--	--	ABCE	C2	2	
11 SYDNEY METROP – BOMADERRY	L3/L4	1131	2262	3393	4524	ABCE	C2/C3	4	
12 SYDNEY METROP – BOMADERRY	L5	1056	2112	3168	4224	ABCE	C2/C3	4	
13 SYDNEY METROP – BOMADERRY	L6	926	1852	2778	3704	ABCE	C2/C3	4	
14 SYDNEY METROP – BOMADERRY	L7	909	1818	2727	3636	ABCE	C2		
15 SYDNEY METROP – BOMADERRY	L8	875	1750	2625	3500	ABCE	C2		
16 SYDNEY METROP – BOMADERRY	L9	750	1500	2250	3000	ABCE	C2		
17 SYDNEY METROP – BOMADERRY	L10	805	1610	--	--	ABCE	C2		
18 SYDNEY METROP – BOMADERRY	L11	660	1320	1980	2640	ABCE	C2		
19 SYDNEY METROP – BOMADERRY	L12	615	1230	--	--	ABCE	C2		
20 PORT KEMBLA – BOMADERRY	L3/L4	1200	2400	3600	--	ABC	C4	2	

Notes:

1. Empty ballast train.
2. Includes Inner Harbour
3. Includes Unanderra
4. C3 Schedule Additional running time between Kiama – Berry – Bomaderry when conveying 100 tonne MGFH and NGXH vehicles. Only the following locomotive classes are permitted for the conveying of 100 tonne MGFH and NGXH vehicles: GWA, LDP, LDP10, SCT, TT, TT100, WH, 81, GL, CLF, CLP, 82, 31, L, LQ, LZ. A 50km/h speed restriction applies between 121.000 km and 125.000km (due to track restrictions).
- \$ Trains conveying D classification vehicles to run to C Schedule without loss of time.
- # For other Sydney Metropolitan area running times, refer to diagram in the 'Sydney Metropolitan Division Pages' Sydney Metropolitan Area - freight and locomotive running times

DOWN - sectional running times and full sectional loads

	#SECTIONAL RUNNING TIMES				FULL SECTIONAL LOADS														GRADE					
	%A1	C1	C2	C3	C4	Loco	LOCOMOTIVE CATEGORIES = L																	
							AC6	2	3	4	5	6	7	8	9	10	11	12		13	14			
ENFIELD																								
CAMPSIE	5	5	5	5		4	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984				1:100	
WARDELL RD JCT	5	5	5	5		4	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984				1:100	
MARRICKVILLE JCT	5	5	5	5		4	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600				DG	
MEEKS RD JCT	3	3	3	3		3	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600				DG	
WOLLI CREEK JCT	3	2	2	2		2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600				DG	
HURSTVILLE	11	10	12	12		7	2171	1892	1743	1646	1543	1359	1328	1285	1105	1068	977	912	636				1:60	
MORTDALE	3	3	3	3		2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600				DG	
SUTHERLAND	10	8	13	13		7	1500	1300	1200	1131	1056	926	909	875	750	725	660	615	410				1:40	
WATERFALL	13	12	22	22		12	1500	1300	1200	1131	1056	926	909	875	750	725	660	615	410				1:40	
HELENSBURGH	10	10	10	10		9	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600				DG	
METROP. COLL JCT	11	3	3	3		3	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600				DG	
OTFORD	8	5	5	5		5	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984				1:100	
\$ COALCLIFF	23	8	9	9		8	2766	2414	2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820				1:80	
SCARBOROUGH	11	5	5	5		4	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984				1:100	
THIRROUL	9	8	8	8		8	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600				DG	
CORRIMAL	6	6	6	6		6	2766	2414	2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820				1:80	
WOLLONGONG	5	5	5	5		5	2766	2414	2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820				1:80	
CONISTON	2	2	2	2		2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600				Level	
Unanderra North Jct	4	4	4	4		1	3775	3300	3047	2882	2711	2395	2330	2271	1959	1887	1737	1621	1131				1:120	
UNANDERRA	4	4*	4	4		3	3775	3300	3047	2882	2711	2395	2330	2271	1959	1887	1737	1621	1131				1:120	
WONGAWILLI JCT	To	--	--	--	--	--	3887	3398	3138	2968	2792	2467	2400	2340	2018	1944	1790	1670	1166				1:125	
DAPTO	Moss	6	7	7	8	6	3887	3398	3138	2968	2792	2467	2400	2340	2018	1944	1790	1670	1166				1:125	
ALBION PARK	Vale	7	7	7	7	8	2766	2414	2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820				1:80	
FLINDERS		4	5	5	5	5	1676	1458	1341	1265	1183	1040	1018	980	842	815	743	693	483				1:44	
DUNMORE		2	2	2	2	2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600				DG	
BOMBO		7	7	7	7	6	1846		1479	1396	1307	1149	1125	1085	933	902	823	768	536				1:50	
KIAMA		3	3	3	3	3a	3297		2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984				1:100	
Gerrington		--	--	--	--	9	2011		1613	1523	1427	1256	1228	1186	1020	986	901	841	587				1:55	
BERRY		22	24	26	24	10a	2326		1869	1766	1656	1459	1425	1380	1188	1147	1051	980	684				1:65	
BOMADERRY		12	13	18	13	10a	2623		2111	1995	1872	1651	1610	1563	1346	1299	1191	1112	776				1:75	
Coniston – Inner Harbour																								
CONISTON																								
INNER HARBOUR						5a	3775	3300	3047	2882	2711	2395	2330	2271	1959	1887	1737	1621	1131				1:120	
Coniston – Port Kembla																								
CONISTON																								
CRINGILA		5	5			4	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600				Level	
PT KEMBLA NTH		3	3			2	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984				1:100	
PT KEMBLA/YARD		4a	4a			3a	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600				Level	
Unanderra – 91.000km (Moss Vale Line)																								
UNANDERRA																								
89.200km		Refer to Coal Train Working Pages					3	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984				1:100
91.000km		Section 18 pages (page 89) for running times.					3	1133	903	791	750	696	551	543	517	442	430	388	362	253				1:30

% A1 refers to Interstate Container trains conveying High Containers – refer to page 50
 \$ Down trains starting from Down Refuge via 353 points to Scarborough are to use Coalcliff to Scarborough through running times i.e. no additional starting times required.
 * From Port Kembla Yard allow 18 minutes
 # For other Sydney Metropolitan area running times, refer to diagram in the ‘Sydney Metropolitan Division Pages’ Sydney Metropolitan Area - freight and locomotive running times (page 62).

UP loads

	SECTIONS	LOCOMOTIVE CLASS = L	LOAD - TONNES				TRAIN DATA		
			SINGLE	DOUBLE	TRIPLE	QUAD	%VEHICLE CLASS	SECT RUN TIMES	NOTES
1	UNANDERRA – SYDNEY METROP	L2	--	--	2700	--	ABC	A1	%
2	UNANDERRA – SYDNEY METROP	AC6	--	--	2700	--	ABC	A1	%
3	BOMADERRY- SYDNEY METROP	L3/L4	750	1500	2250	--	ABC	C1	
4	BOMADERRY- SYDNEY METROP	L3/L4	1140	2280	3420	4560	ABCE	C2	
5	BOMADERRY- SYDNEY METROP	L6	1062	2124	3186	4248	ABCE	C2	
6	BOMADERRY- SYDNEY METROP	L7	1040	2080	3120	4160	ABCE	C2	
7	BOMADERRY- SYDNEY METROP	L8	1002	2004	3006	4008	ABCE	C2	
8	BOMADERRY- SYDNEY METROP	L9	860	1720	2580	3440	ABCE	C2	
9	BOMADERRY- SYDNEY METROP	L11	759	1518	2277	3036	ABCE	C2	
10	BOMADERRY- SYDNEY METROP	L12	708	1416	2124	2832	ABCE	C2	
11	DUNMORE – SYDNEY METROP	L2/L3/L4	1400	2800	--	--	ABCE	C2	
12	DUNMORE – SYDNEY METROP	L4/L5 +L2	--	2760	--	--	ABCE	C2	
13	DUNMORE – SYDNEY METROP	L5	--	2780	--	--	ABCE	C2	2
14	PT KEMBLA –SYDNEY METROP (3)	L10	805	1610	--	--	ABCE	C2	1
15	PT KEMBLA –SYDNEY METROP (3)	L2	2230	4460	6690	--	ABC	C4	1
16	PT KEMBLA –SYDNEY METROP (3)	AC6	2623	5246	7869	--	ABC	C4	1
17	PT KEMBLA –SYDNEY METROP (3)	AC6 + #L2	--	4200	--	--	ABC	C4	#NR only
18	PT KEMBLA –SYDNEY METROP (3)	AC6 + 2 X #L2	--	--	6150	--	ABC	C4	#NR only
19	PT KEMBLA –SYDNEY METROP (3)	2 X AC6 + #L2	--	--	6450	--	ABC	C4	#NR only
20	PORT KEMBLA –SYDNEY METROP	L4	2000	4000	6000	--	ABC	C5	1
21	PORT KEMBLA –SYDNEY METROP	L5	1850	3700	5550	--	ABC	C5	1

Notes:

- 1 Includes Inner Harbour
- 2 Tested and approved double unit load.
- 3 Includes Unanderra
- % Trains conveying D classification vehicles to run to C Schedule without loss of time.
- # For other Sydney Metropolitan area running times, refer to diagram in the ‘Sydney Metropolitan Division Pages’ Sydney Metropolitan Area - freight and locomotive running times

UP - sectional running times and full sectional loads

	#SECTIONAL RUNNING TIMES					FULL SECTIONAL LOADS														GRADE	
	%A1	C1	C2	C4	C5	LOCOMOTIVE CATEGORIES = L															
						Loco	AC6	2	3	4	5	6	7	8	9	10	11	12	13		14
BOMADERRY																					
BERRY		12	13			11a	2766		2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820		1:80
Gerringong		..	..			10	2623		2111	1995	1872	1651	1610	1563	1346	1299	1191	1112	776		1:76
KIAMA		21	23			9a	2477		1992	1882	1766	1557	1519	1473	1268	1224	1122	1047	731		1:70
BOMBO		4	4			3	5283		4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		DG
DUNMORE		7	8			6	1846	1607	1479	1396	1307	1149	1125	1085	933	902	823	768	536		1:50
FLINDERS		2	2			2	1710	1488	1400	1400	1208	1062	1040	1002	860	833	759	708	494		1:46
ALBION PARK	From	5	6			5	1710	1488	1400	1400	1208	1062	1040	1002	860	833	759	708	494		1:46
DAPTO	Moss	8	10			8	1846	1607	1479	1400	1307	1149	1125	1085	933	902	823	768	536		1:50
WONGAWILLI JCT	Vale	--	--			--	1846	1607	1479	1400	1307	1149	1125	1085	933	902	823	768	536		1:50
UNANDERRA		6	6			6	1846	1607	1479	1400	1307	1149	1125	1085	933	902	823	768	536		1:50
Unanderra North Jct		4	3	3		3	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		Level
CONISTON		3	3	3		2	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		Level
WOLLONGONG		2	2	2	2	3	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		Level
CORRIMAL		5	5	5	6	5	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100
THIRROUL		6	6	6	7	6	2623	2289	2111	1995	1872	1651	1610	1563	1346	1299	1191	1112	776		1:75
SCARBOROUGH		8	8	12	13	8	2623	2289	2111	1995	1872	1651	1610	1563	1346	1299	1191	1112	776		1:75
COALCLIFF		10	5	5	5	4	3775	3300	3047	2882	2711	2395	2330	2271	1959	1887	1737	1621	1131		1:120
OTFORD		24	9	12	13	7	2623	2289	2111	1995	1872	1651	1610	1563	1346	1299	1191	1112	776		1:75
METROP. COLL JCT		8	4	6	6	4	2623	2289	2111	1995	1872	1651	1610	1563	1346	1299	1191	1112	776		1:75
HELENSBURGH		11	4	4	6	4	2623	2289	2111	1995	1872	1651	1610	1563	1346	1299	1191	1112	776		1:75
WATERFALL		10	10	18	19	8	2766	2414	2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820		1:80
SUTHERLAND		13	12	13	13	12	3775	3300	3047	2882	2711	2395	2330	2271	1959	1887	1737	1621	1131		1:120
MORTDALE		9	7	8	8	7	2766	2414	2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820		1:80
HURSTVILLE		3	3	5	5	2	2623	2289	2111	1995	1872	1651	1610	1563	1346	1299	1191	1112	776		1:75
WOLLI CREEK JCT		8	8	9	8	7	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100
MEEKS RD JCT		2	2	2	2	2	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100
MARRICKVILLE JCT		3	3	3	3	3	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100
WARDELL RD JCT		5	5	5	5	4	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100
CAMPSIE		5	5	5	5	4	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100
ENFIELD		5	5	5	5	4	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100
Pt Kembla – Coniston																					
PT KEMBLA/YARD																					
PT KEMBLA NTH		4	4	4		3	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100
CRINGILA		3	3	3		3	5283	4624	4274	4044	3809	3369	3274	3199	2761	2658	2452	2288	1600		DG
CONISTON		5	5	5		4	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984		1:100
Inner Harbour - Coniston																					
INNER HARBOUR																					
CONISTON		7				5	3039	2654	2449	2315	2175	1920	1870	1818	1567	1511	1388	1295	904		1:90

% A1 refers to Interstate Container trains conveying High Containers – refer to page 50

For other Sydney Metropolitan area running times, refer to diagram in the 'Sydney Metropolitan Division Pages' Sydney Metropolitan Area - freight and locomotive running times (page 62).

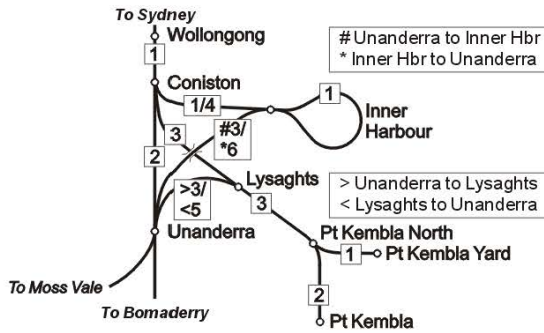
Wollongong local area - loads

WOLLONGONG - PORT KEMBLA - INNER HARBOUR - UNANDERRA -

Local area Full sectional Loads

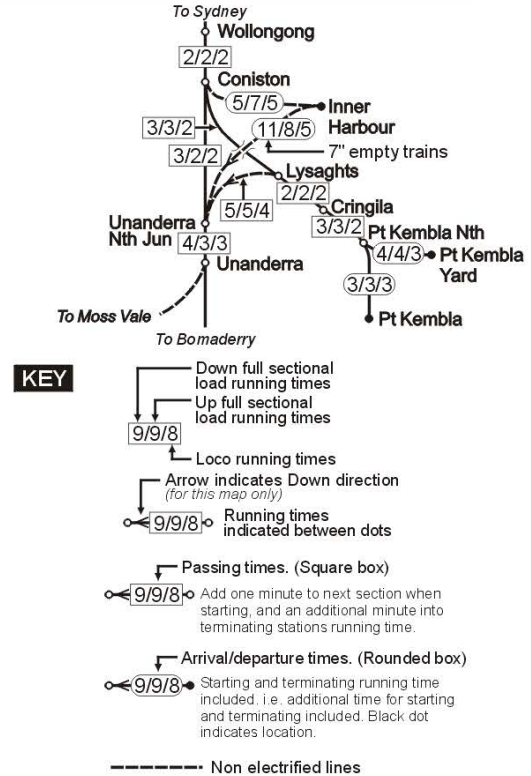
①	LOCOMOTIVE CATEGORY												
	AC6	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13
1	3775	3300	3047	2882	2711	2395	2330	2271	1959	1887	1737	1621	1131
2	3542	3096	2858	2702	2541	2245	2185	2128	1835	1768	1627	1518	1059
3	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984
4	3039	2654	2449	2315	2175	1920	1870	1818	1567	1511	1388	1295	904
5	2011	1752	1613	1523	1427	1256	1228	1186	1020	986	901	841	587
6	1846	1607	1479	1396	1307	1149	1125	1085	933	902	823	768	536

Refer to table for loads. Where only one figure is shown e.g. ① this represents the Down load and Up load. Where two figures are shown the first figure represents the Down load and the second figure represents the Up load e.g. ③/⑤. This table does not give the authority for all classes of locomotives to run on all sections of line. Refer to MAXIMUM SPEED OF LOCOMOTIVES AND ROLLING STOCK table for authority to run on each section



August 2012

Local area Sectional Running Times



Location of speed signs

Waterfall to Thirroul

LOCATION	KILO-METRAGE	DOWN MAIN						UP MAIN					
		▼ DOWN SIGNS▼			▲ UP SIGNS▲			▲ UP SIGNS▲			▼ DOWN SIGNS▼		
		GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
WATERFALL	38.741												
	38.800	..	..	..	..	..	..	X50	60B Points Up Refuge				
	38.835	..	..	..	..	..	..	57B Points Up Refuge		X50	..	..
	38.910	..	..	..	..	..	..	X50	57B points Up Refuge				
	39.174	..	..	..	..	..	..	50	55	60	60	75	80
	39.234	60	75	80	55	55	60	..	..	..	..	..	..
	40.605	60	60	65	60	75	80	60	75	80	60	60	65
	40.930	55	55	55	60	60	65	..	..	..	55	55	55
	40.980	..	..	..	..	..	..	60	60	65	..	..	..
	41.602	..	..	..	..	..	..	55	55	55	..	..	..
	41.656	60	60	65	55	55	55	..	..	..	60	60	65
	45.718	50	50	55	60	60	65	60	60	65	50	50	55
HELENSBURGH	46.384												
	46.549	..	..	..	..	..	..	50	50	55	60	60	60
	46.571	60	60	60	50	50	55	..	..	..	..	..	..
Metropolitan Coll. Jct	48.947												
	49.977	55	55	60	60	60	60	60	60	60	55	55	60
	50.578	60	80	85	55	55	60	55	55	60	60	80	85
	51.832	..	..	..	60	80	85	60	80	85	50	50	55
	51.886	50	50	55	..	..	..	..	..	..	..	..	..
	52.520	..	..	..	50	50	55	..	..	..	..	..	..
OTFORD	52.639												
	52.932	60	60	65	55	55	55	..	..	..	..	..	..
	52.967	..	..	..	..	..	..	50	50	55	60	60	65
	54.197	60	70	70	..	..	..	..	..	..	60	70	70
	54.199	..	..	..	60	60	65	60	60	65	..	..	..
	55.426	60	60	60	60	70	70	60	70	70	60	60	60
STANWELL PARK	55.950												
Stanwell Park Viaduct	56.725	40	60	60	60	60	60	60	60	60	40	60	60
Stanwell Park Viaduct	56.877	60	60	60	40	60	60	40	60	60	60	60	60
	58.508	60	70	75	60	60	60	60	60	60	60	75	80
	58.870	50	70	75	..	..	..	..	..	..	50	75	80
COALCLIFF	59.273												
	59.829	X40	358 Points		..	..	..	..	..	..	..	..	..
	59.870	..	..	..	60	70	75	..	..	..	..	..	..
	59.919	..	..	..	..	..	..	60	75	80	..	..	..
	59.948	^50	^50	^50	^Single line sign			..	..	..	50	50	50
	60.310	^Single line sign			^50	^50	^50	50	50	50	..	..	..
	60.338	50	80	80	..	..	..	^Single line sign		^50	^80	^80	
	61.337	^Single line sign			^50	^80	^80	50	80	80	..	..	..
	61.360	50	50	50	..	..	..	^Single line sign		^50	^50	^50	
	61.797	X50	351 Points		..	..	..	..	..	..	..	..	..
	61.868	..	..	..	50	50	50	..	..	..	..	..	..
	61.898	75	75	80	..	..	..	..	..	..	..	..	..
	61.898	..	..	..	X50 351 Points			..	..	..	..	..	..
	61.916	..	..	..	..	..	..	50	50	50	75	75	80
	62.340	..	..	..	50	70	70	65	70	70	..	..	..
SCARBOROUGH	62.529												
	63.805	65	65	70	..	..	..	..	..	..	65	65	70
	63.806	..	..	..	65	75	80	65	75	80	..	..	..
WOMBARRA	64.335												
	65.735	70	80	85	65	65	70	65	65	70	70	95	100
COLEDALE	66.233												
	67.109	70	70	75	..	..	..	..	..	..	70	70	75
	67.176	..	..	..	70	80	85	70	95	100	..	..	..
	67.496	100	115	115	70	70	75	70	70	75	100	115	115
	68.366	60	85	85	..	..	..	..	..	..	..	..	..

		DOWN MAIN						UP MAIN					
AUSTINMER	68.585												
	68.706	100	115	115	..	..	..	..	..	..	..	..	..
	68.985	..	..	..	100	115	115	..	..	..	..	..	..
	69.283	..	..	..	50	90	100	..	..	..	..	..	..
THIRROUL	70.237												

Thirroul to RailCorp Boundary (Unanderra – Moss Vale Line)

		DOWN MAIN						UP MAIN					
LOCATION	KILO-METRE	▼ DOWN SIGNS▼			▲ UP SIGNS▲			▲ UP SIGNS▲			▼ DOWN SIGNS▼		
		GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
	70.359	70	70	75	..	..	..	..	..	..	70	70	75
	70.625	..	..	..	100	115	115	100	100	100	..	..	..
	70.982	80	80	80	70	70	75	60	70	75	80	80	80
	71.630	..	..	..	80	80	90	80	80	90	..	..	..
BULLI	72.151												
	72.421	80	80	80	80	80	80	80	80	80	80	80	80
	73.076	75	75	85	60	85	90	60	85	85	75	75	85
	73.610	85	100	100	75	75	85	75	75	85	95	100	100
	73.899	..	..	..	..	..	..	90	90	90	..	..	..
WOONONA	73.993												
	75.472	85	90	95	85	100	100	..	..	..	..	..	..
BELLAMBI	75.547												
	75.630	90	95	95	85	90	95	..	..	..	..	..	..
	76.859	..	..	..	..	..	..	..	..	..	90	100	100
CORRIMAL	76.989												
	77.378	..	..	..	90	100	100	95	100	100	..	..	..
TOWRADGI	78.021												
	78.184	90	90	90	..	..	..	..	..	..	90	90	90
	78.452	..	..	..	90	95	95	95	95	95	..	..	..
	78.720	..	..	..	80	95	95	80	95	95	..	..	..
FAIRYMEADOW	79.358												
NORTH WOLLONGONG	81.320												
	81.438	75	90	90	..	..	..	..	..	..	75	90	90
	82.490	60	90	90	..	..	..	..	..	..	60	90	90
	82.782	..	..	..	..	..	..	95	95	95	..	..	..
	82.784	..	..	..	95	95	95	..	..	..	..	..	..
WOLLONGONG CITY	82.919												
	83.446	..	..	..	70	90	90	70	90	90	..	..	..
	83.801	..	..	..	60	90	90	60	90	90	60	65	70
CONISTON	84.097												
	84.190	X25	206 Points										
	84.190										X25	205 Points	
	84.200	60	65	65									
	84.298	X25	204 Points										
	84.368	..	..	..	..	..	..	60	65	65	..	..	..
	84.382	..	..	..	..	..	..	X25	204 Points			..	..
	84.382	..	..	..	..	..	..	..	..	..	X25	203 Points	
	84.431	..	..	..	..	..	..	X25	203 Points			..	..
	84.488	50	65	65	..	..	..	..	..	..	..	..	..
	85.199	..	..	..	..	..	..	65	65	65	..	..	..
	85.199	X50	1101 Points										
	85.333	..	..	..	..	..	..	..	..	..	X50	1103 Points	
	85.335	..	..	..	..	..	..	X50	1101 Points			..	..
	85.435	..	..	..	X50	1103 Points			..	..	..	..	..
	85.478	100	100	100	..	..	..	..	..	..	100	100	100
Unanderra North Jct	86.541												
	87.727	..	..	..	100	100	100	100	100	100	..	..	..
	87.727	..	..	..	..	..	..	..	..	..	X50	1105 Points	
	87.850	X50	1106 Points										
	87.850	..	..	..	X50	1105 Points			..	..	..	..	..

DOWN MAIN							UP MAIN						
UNANDERRA	88.273	..	..	..	..	..	..	..	..	..	..	..	..
	88.390	..	..	..	80	85	90	..	..	..	..	..	..
	88.403	..	..	..	..	..	..	80	..	90	..	..	..
	88.845	..	..	..	..	..	..	..	..	..	60	..	60
	88.853	60	..	60	..	..	..	..	..	..	..	..	..
	90.920	..	..	..	..	..	..	..	..	..	40	..	40
	90.928	40	..	40	..	..	..	..	..	..	..	..	..
	90.997	..	..	..	50	..	60	50	..	60	..	..	..
RAILCORP BOUNDARY	91.080												

Unanderra to Bomaderry

KILO METRAGE	DOWN			UP			KILO METRAGE	DOWN			UP		
	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH		GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
87.924	..	..	..	X50	1106 Points		114.758	75	75	80	..	..	..
87.924	50	50	50				114.806	..	..	..	75	90	95
88.273	UNANDERRA						116.166	50	50	60	..	..	..
88.661	100	100	100	..	..	..	116.209	..	..	..	75	75	80
88.743	X50	1115 Points		..	..	..	116.816	60	80	85	50	50	60
88.870	..	..	..	X50	1115 Points		117.160	40	80	85	60	80	80
89.174	..	..	..	80	85	90	117.292	60	80	85	40	80	80
91.586	KEMBLA GRANGE						117.551	BOMBO					
93.151	85	100	100	..	..	..	117.940	..	..	..	60	80	80
93.618	100	100	100	..	..	..	117.985	60	60	60	..	..	..
94.500	..	..	..	100	100	100	118.946	25	25	25	..	..	..
95.047	DAPTO						118.955	..	..	..	60	60	60
95.300	..	..	..	90	100	100	119.160	KIAMA					
95.862	80	80	80	..	..	..	119.430	..	..	..	25	..	25
96.813	..	..	..	100	100	100	119.473	100	..	100	..	..	..
96.873	100	115	140	..	..	..	123.210	45	..	45	75	..	95
97.847	..	..	..	80	80	80	123.800	..	..	..	45	..	45
101.804	80	100	100	..	..	..	123.814	60	..	60	..	..	..
102.203	90	100	100	..	..	..	124.360	100	..	100	60	..	60
102.857	90	90	100	..	..	..	125.696	90	..	90	..	..	..
102.932	..	..	..	100	115	140	126.434	..	..	..	100	..	100
103.341	ALBION PARK						126.457	100	..	125	..	..	..
							127.221	..	..	..	90	..	90
103.746	100	100	100	..	..	..	128.560	GERRINGONG					
103.755	..	..	..	40	40	40	129.171	100	..	100	100	..	125
105.194	100	100	110	..	..	..	131.620	100	..	140	..	..	..
105.522	OAK FLATS						131.997	..	..	..	100	..	100
							134.877	100	..	100	100	..	140
106.085	..	..	..	100	100	100	139.063	80	..	80	100	..	100
107.930	..	..	..	100	100	110	139.473	..	..	..	80	..	80
107.940	80	80	85	..	..	..	140.629	..	..	..	90	..	90
108.750	X60	51A Points		..	..	..	140.760	@40					
108.790	..	..	..	80	80	85	140.844	BERRY					
108.832	100	100	100	..	..	..	141.200	..	..	..	@50	..	..
108.887	SHELLHARBOUR JUNCTION						141.250	90	..	95	..	..	..
108.890	60	60	60	..	On Loop	..	141.720	..	..	..	@50	..	80
108.890	..	On Loop	..	X60	51B Points		142.272	100	..	100	90	..	95
110.657	DUNMORE						145.886	90	..	90	100	..	100
110.860	..	On Loop	..	60	60	60	146.436	100	..	100	90	..	90
111.668	80	80	80	..	..	..	150.540	100	..	140	..	..	..
112.078	..	..	..	100	100	100	151.000	..	..	..	100	..	100
112.270	75	75	80	..	..	..	152.290	80	..	80	..	..	..
112.776	75	90	95	..	..	..	153.169	50	..	50	100	..	140
113.040	..	..	..	75	75	75	153.348	BOMADERRY					
113.372	MINNAMURRA												

@ Level crossing sign NGE216

Coniston to Port Kembla

KILO METRAGE	DOWN			UP			KILO METRAGE	DOWN			UP		
	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH		GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
84.097	CONISTON						86.422	X45	195A Points	Down Sign Up Main			
84.190	X25	206 Points		..	..	..	86.543	Up Sign Down Main			X45	195B Points	

KILO	DOWN			UP			KILO	DOWN			UP		
84.190	X25	205 Points		Down Sign Up Main			87.238	..	..	..	55	75	75
84.200	60	65	65	On Main Line			87.650	CRINGILA					
84.298	X25	204 Points		..	..	..	88.280	55	60	60	..	..	..
84.382	..	..	..	X25	204 Points		88.583	..	..	..	45	65	65
84.382	X25	203 Points		Down Sign Up Main			88.667	..	..	..	X30	186 Points	
85.045	45	75	75	55	65	65	88.771	PORT KEMBLA NORTH					
86.267	LYSAGHTS						89.697	..	..	..	45	60	60
86.385	55	80	80	..	..	..	89.950	25	25	25	..	..	..
86.386	..	..	..	X45	197 Points		90.015	..	..	..	25	25	25
							90.239	PORT KEMBLA					

Unanderra North Junction to Inner Harbour (via Flyover)

DOWN SOUTH FORK							UP SOUTH FORK					
KILO-	▼ DOWN SIGNS▼			▲ UP SIGNS▲			▲ UP SIGNS▲			▼ DOWN SIGNS▼		
METRAGE	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
85.133	100	..	..	40	..	..	40	..	..	100	..	..
85.318				X25	1102 Points							

Unanderra North Junction to Lysaghts

KILO	DOWN			UP		
METRAGE	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
#85.318	# Illawarra Line Km			X25	1102 Points	
+84.843	X25	1102 Points		+ Triangle Loop Line		
+84.840	50	..	..	+ Triangle Loop Line		
+84.860	+ Triangle Loop Line			30	..	..
+86.282	+ Triangle Loop Line			50	..	
+86.321	X45	197 Points		+ Triangle Loop Line		
86.386	Port Kembla Line			X45	197 Points	

+ Kilometrage measured back from Port Kembla Line

Coniston to Inner Harbour

KILO	DOWN			UP		
METRAGE	GENERAL	MEDIUM	HIGH	GENERAL	MEDIUM	HIGH
84.097	CONISTON					
84.190	#X25	206 Points		# On Main Line		
84.190	X25	205 Points		Down Sign Up Main		
84.296	Up Sign Up Fork			X25	206 Points	
84.296	Up Sign Down Fork			X25	205 Points	

Station data

Station	Kilo - metrage	Signal Box Status	Hours of Signal Box	Facilities
Waterfall	38.627	A	Always	P,WC
Helensburgh	46.384	C	Controlled from Wollongong Signal Box	P,LP
Metropolitan Coll Jct	48.947	C	Controlled from Wollongong Signal Box	L
Metropolitan Colliery	*50.221	C	* On Branch	PS
Otford	52.639	C	Controlled from Wollongong Signal Box	P,LP
Stanwell Park	55.950			P
Coalcliff	59.273	C	Controlled from Wollongong Signal Box	P,LP
Scarborough	62.529	C	Controlled from Wollongong Signal Box	P,LP
Wombarra	64.335			P
Coledale	66.233			P
Austinmer	68.585	C	Controlled from Wollongong Signal Box	P
Thirroul	70.237	C	Controlled from Wollongong Signal Box	P,LP
Bulli	72.151	C	Controlled from Wollongong Signal Box	P
Woonona	73.993			P
Bellambi	75.547			P
Corrimal	76.989	C	Controlled from Wollongong Signal Box	P
Towradgi	78.021			P
Fairy Meadow	79.358			P
North Wollongong	81.320			P
Wollongong	82.919	C	Controlled from Wollongong Signal Box	P
Wollongong Sig Box	83.250	A	Always	
Coniston	84.097	C	Controlled from Wollongong Signal Box	P,LP
Unanderra Nth Jct	86.541	C	Controlled from Wollongong Signal Box	L
Unanderra	88.273	C	Controlled from Wollongong Signal Box	P,LP
Kembla Grange	91.586			P
Tubemakers Siding				PS
Dapto	95.047	C	Controlled from Wollongong Signal Box	P,LP
Albion Park	103.341	C	Controlled from Wollongong Signal Box	P
Oak Flats	105.522			P
Dunmore	110.657	C	Controlled from Wollongong Signal Box	P
Quarry Siding	*112.060		* On Branch	PS
Minnamurra	113.372			P
Bombo Quarry Siding	*117.212		* On Branch	PS
Bombo	117.551	C	Controlled from Wollongong Signal Box	P
Kiama	119.160	P	Controlled from Wollongong Signal Box	P,TT
Gerringong	128.560			P
Berry	140.844	P	Monday to Friday: 0430 – 2000 Saturday, Sunday, and Public Holidays: 0510 – 2105	P
Bomaderry	153.348	A	Always	P,TT
Mill Siding	*155.913		* On Branch	PS
Port Kembla Branch				
Allans Creek	86.267	C	Controlled from Wollongong Signal Box	L
Cringila	87.650	C	Controlled from Wollongong Signal Box	P
Port Kembla North	88.771	C	Controlled from Wollongong Signal Box	P
Port Kembla	90.239	C	Controlled from Wollongong Signal Box	P
Inner Harbour Branch				
Inner Harbour	84.488	C	Controlled from Wollongong Signal Box	G, L

Emergency working or diversion of container trains Tempe – Unanderra (en-route to and from Moss Vale)

The operation of container trains, on the UP and DOWN tracks between Unanderra and Tempe, (en-route to and from Moss Vale), shall comply with the following special working conditions.

These conditions shall apply to all container trains because of the potential for any vehicle in the consist to be loaded to the maximum allowable height above rail of 4050 mm, as published in the *TOC manual General Instructions, Section 5 Loading Restrictions* covering vehicles subject to Note R10.

As the UP and DOWN tracks between Tempe and Unanderra are presently only authorised for container traffic operating to a maximum height of 3916 mm above rail, all trains conveying container traffic shall operate as an out of gauge train. Note that this gauge infringement is in height only and does not affect passing traffic.

Therefore the following operating conditions shall apply:

- A maximum speed limit of **15 km/h** is imposed on all tunnels between Unanderra and Tempe.
- The speed limit shall apply for the full length of the train (excluding locomotives).
- Train to run to Schedule A1 shown on *DOWN - sectional running times and full sectional loads* (page 41) *UP - sectional running times and full sectional loads* (page 43).

Train Control is to ensure that crews operating the relevant container trains on this route are aware of the above conditions of operation.

Loads and conditions between Unanderra and 91.080 km (Unanderra – Moss Vale line)

DOWN loads

SECTIONS	LOCOMOTIVE CLASS = L	LOAD - TONNES				TRAIN DATA		NOTES
		SINGLE	DOUBLE	TRIPLE	QUAD	VEHICLE CLASS	SECT RUN TIMES	
1 UNANDERRA – (#91.080 km)	AC6	1130	2260	3390	4520	ABCDEF	%	
2 UNANDERRA – (#91.080 km)	L3/L4	500	1000	1500	--	ABCDEF	%	1
3 UNANDERRA – (#91.080 km)	L2	900	1800	2700	3600	ABCDEF	%	
4 UNANDERRA – (#91.080 km)	L3/L4	750	1500	2250	3000	ABCDEF	%	
5 UNANDERRA – (#91.080 km)	L5	690	1380	2070	2760	ABCDEF	%	
6 UNANDERRA – (#91.080 km)	L6	551	1102	1653	2204	ABCDEF	%	
7 UNANDERRA – (#91.080 km)	L7	543	1086	1629	2172	ABCDEF	%	
8 UNANDERRA – (#91.080 km)	L8	517	1034	1551	2068	ABCDEF	%	
9 UNANDERRA – (#91.080 km)	L9	485	970	1455	1940	ABCDEF	%	
10 UNANDERRA – (#91.080 km)	L10	430	860	1290	1720	ABCDEF	%	
11 UNANDERRA – (#91.080 km)	L11	388	776	1164	1552	ABCDEF	%	
12 UNANDERRA – (#91.080 km)	L12	362	724	1086	1448	ABCDEF	%	

Notes:

1. Empty wheat / coal vehicles.

91.080 km RailCorp/ARTC boundary.

% ARTC Unanderra to Dombarton running times to apply

DOWN - sectional running times and full sectional loads

	#SECTIONAL RUNNING TIMES						FULL SECTIONAL LOADS														GRADE		
							LOCOMOTIVE CATEGORIES = L																
	1	2	3	4	5	6	Loco	AC6	2	3	4	5	6	7	8	9	10	11	12	13		14	
UNANDERRA	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
ARTC boundary (91.080 km)	%	%	%	%	%	%	%	1130	903	791	745	696	551	543	517	442	430	388	362	253		1:30	

% ARTC Unanderra to Dombarton running times to apply.

UP loads

SECTIONS	LOCOMOTIVE CLASS = L	LOAD - TONNES				TRAIN DATA		NOTES
		SINGLE	DOUBLE	TRIPLE	QUAD	VEHICLE CLASS	SECT RUN TIMES	
1 (#91.080 km) - UNANDERRA	AC6	--	--	--	--	ABCDEF	%	1, 2
2 (#91.080 km) - UNANDERRA	AC6	--	--	4600	--	ABCDEF	%	3
3 (#91.080 km) - UNANDERRA	L2	--	3600	--	--	ABCDEF	%	2, 4
4 (#91.080 km) - UNANDERRA	L4/L9	--	3300	--	--	ABCDEF	%	2, 4
5 (#91.080 km) - UNANDERRA	L2	2080	2400	--	--	ABCDEF	%	1, 4
6 (#91.080 km) - UNANDERRA	L3/L4	1840	2400	--	--	ABCDEF	%	1, 4
7 (#91.080 km) - UNANDERRA	L5	1872	2400	--	--	ABCDEF	%	1, 4
8 (#91.080 km) - UNANDERRA	L6	1651	2400	--	--	ABCDEF	%	1, 4
9 (#91.080 km) - UNANDERRA	L7	1610	2400	--	--	ABCDEF	%	1, 4
10 (#91.080 km) - UNANDERRA	L8	1563	2400	--	--	ABCDEF	%	1, 4
11 (#91.080 km) - UNANDERRA	L9/L10	1200	2400	--	--	ABCDEF	%	1, 4
12 (#91.080 km) - UNANDERRA	L11	1191	2382	2400	--	ABCDEF	%	1, 4
13 (#91.080 km) - UNANDERRA	L12	1112	2224	2400	--	ABCDEF	%	1, 4
14 (#91.080 km) - UNANDERRA	L13	500	1000	1500	2000	ABCDEF	%	4

% ARTC Unanderra to Dombarton running times to apply.

UP - sectional running times and full sectional loads

Single Pipe Trains – See Note 1:

	#SECTIONAL RUNNING TIMES						FULL SECTIONAL LOADS														GRADE		
							LOCOMOTIVE CATEGORIES = L																
	1	2	3	4	5	6	Loco	AC6	2	3	4	5	6	7	8	9	10	11	12	13		14	
ARTC boundary (91.080 km)	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
UNANDERRA	%	%	%	%	%	%	%	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	DG

% ARTC Unanderra to Dombarton running times to apply

Two Pipe Trains – See Note 2:

	#SECTIONAL RUNNING TIMES						FULL SECTIONAL LOADS														GRADE		
							LOCOMOTIVE CATEGORIES = L																
	1	2	3	4	5	6	Loco	AC6	2	3	4	5	6	7	8	9	10	11	12	13		14	
ARTC boundary (91.080 km)	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
UNANDERRA	%	%	%	%	%	%	%	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	DG

ECP Braking Trains – See Note 3:

	#SECTIONAL RUNNING TIMES						FULL SECTIONAL LOADS														GRADE		
							LOCOMOTIVE CATEGORIES = L																
	1	2	3	4	5	6	Loco	AC6	2	3	4	5	6	7	8	9	10	11	12	13		14	
ARTC boundary (91.080 km)	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
UNANDERRA	%	%	%	%	%	%	%	2657	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DG

% ARTC Unanderra to Dombarton running times to apply

\$ ARTC approved full sectional loads between Moss Vale and 91.080 km to apply

UP – 91.080 km to Unanderra – Explanatory Notes

Note 1 – Single Pipe Trains:

On steeply falling grades between 91.080 km and Unanderra loads for single pipe trains are limited due to air brake capacity to a **maximum load of 2400 tonnes**. The combination of loaded and empty vehicles in a train shall not exceed that listed in the table below. For multipack/articulated vehicles the number of platforms shall be counted instead of vehicles; i.e. an RRAY 5 pack shall count as 5 vehicles.

For trains over 2400 tonnes see section **Operation of Single Pipe Trains in Excess of 2400 tones and up to 1500 metres long from Summit Tank to Unanderra** on page 53.

Loaded Vehicles	Maximum empties	Loaded Vehicles	Maximum empties	Loaded Vehicles	Maximum empties
0	45	12	29	24	14
1	43	13	28	25	12
2	42	14	27	26	11
3	41	15	25	27	10
4	39	16	24	28	9
5	38	17	23	29	7
6	37	18	21	30	6
7	36	19	20	31	5
8	34	20	19	32	3
9	33	21	18	33	3
10	32	22	16	34	1
11	30	23	15	35	0

Note 2 – Two Pipe Trains:

Two pipe vehicles have a main reservoir that recharges the air brake system. These vehicles listed in the General Instruction Pages, **Section 10 Locomotive and Rolling Stock Data** and are identified by ●● in the Brake Type column.

The maximum train length of two pipe vehicles on a train is 46 vehicles. Up to 6 empty or loaded single pipe vehicles may be attached to the **REAR** of a loaded or empty two pipe train. The two pipe portion shall not exceed 40 wagons.

Note 3 – ECP Braked Trains:

The maximum train length of trains operating under ECP brakes is 46 vehicles. This is the approved load for ECP trains operating from the western coal fields.

Note 4 – Pressure Maintaining Brake Valves:

Lead locomotives on freight trains operating from 91.080 km to Unanderra should have pressure maintaining brake valves (26L brake equipment or equivalent).

Where the lead locomotive is not fitted with a pressure maintaining brake valve, and the train is to be held stationary on the grade for periods in excess of ten (10) minutes, handbrakes shall be applied in accordance with the requirements in the **General Instructions Pages, Section 3 train Operations, Holding a train stationary on a grade.**

Conditions of Operation of Freight trains - Unanderra and 91.080 km (en-route to and from Moss Vale)

Braking Requirements – DOWN direction:

- Freight trains with grade control valves are required to have a HP grade inspection carried out on the train.
- Grade control valves are to be set in the **EX position**.

Braking Requirements – UP direction:

- Unless at least 80% of the train mass is fitted with fixed exhaust chokes, freight trains are required to have a HP grade inspection carried out on the train.
- Grade control valves (where fitted) are to be set in the **IP position** at the inspection location or other approved location.
- Dynamic brake shall be used if available.

Operation of Single Pipe Trains in Excess of 2400 tonnes and up to 1500 metres long from Summit Tank to Unanderra

Single pipe trains between **2400 and 4000 tonnes and up to 1500 metres long** may operate from the **ARTC/RailCorp boundary** to Unanderra under mandatory dynamic brake conditions as follows:

- these trains shall have a HP grade Inspection and grade control valves set in 'IP'
- the minimum allowable vehicle mass for vehicles in the front third of a train shall not be less than 215 tonnes. In the case of multipack vehicles the minimum allowable vehicle mass shall be the gross mass divided by the number of platforms (decks).
- there shall not be any empty platforms (decks)
- maximum train length 1500 metres plus locomotives.
- maximum train mass 4000 tonnes plus locomotives.
- train shall have three (3) locomotives at the front of the train and up to two (2) locomotives at the rear of the train from the **ARTC/RailCorp boundary** to Unanderra.
- one locomotive shall be provided for each 800 tonnes or part thereof of train load.
- all locomotives shall have operable extended range dynamic brake and a minimum mass of 129 tones.

- the speed of the train shall be controlled by dynamic brake supplemented by use of air brake as required
- the speed of the train shall not exceed 25 km/h
- Crews shall have clear understanding of procedures for operating these trains in the event of loss of radio communication

If the dynamic brake fails on one locomotive only after departing the ARTC/RailCorp boundary the train may continue under the control of the remaining dynamic brake and supplemented by the air brake.

- If the driver has any trouble in adequately recharging the brake pipe, the train shall be brought to a stand and held on the locomotive independent brake and sufficient handbrakes and the brake pipe fully recharged.
- The grade control valves shall be placed in the **"HP" position**.
- The train may then continue under the control of the remaining dynamic brake and supplemented by the air brake.
- If the driver again has trouble in adequately recharging the brake pipe, the train shall be brought to a stand and secured by handbrakes.
- The train may be subsequently moved only by dividing the train or attaching additional locomotive/s with operable dynamic brake.

If the dynamic brake fails on more than one locomotive only after departing the ARTC/RailCorp boundary the train shall be brought to a stand and secured by hand brakes. The train may be subsequently moved only by dividing the train or attaching additional locomotive/s with operable dynamic brake.

- If the train is required to be divided as above, each portion of the train shall comply with the single pipe train load and length limits as specified in Note 1 above.

Conditions for the Operation of Self Propelled Diesel trains - Unanderra and 91.080 km (en-route to and from Moss Vale)

XPT	Xplorer, Endeavour	Conditions of Operation – Down Direction
√	--	All power cars operating
--	√	All engines operating
√	--	Maximum 7 trailer cars ⁰ with 2 power cars or 3 trailer cars with 1 power car
√	√	All compressors operating
√	√	Emergency coupler available
√	√	No brake cut outs permitted
√	√	Electro-pneumatic (EP) brake, automatic brake, hand and all spring parking brakes fully operational

XPT	Xplorer, Endeavour	Conditions of Operation – UP Direction
√	--	One or two power cars operating
√	--	All engines operating
--	√	At least half of traction motors working. Single car not permitted.
√	--	Maximum 7 trailers with 2 power cars or 3 trailer cars with 1 power car
√	√	All compressors operating (compressor on any dead power car to be switched to hotel supply)
√	√	Emergency coupler available
√	√	No brake cut outs permitted
√	√	Electro-pneumatic (EP) brake, automatic brake, hand and all spring parking brakes fully operational

Superseded by TS TOC 2 v3.0

Superseded by TS TOC 2 v3.0

Section 16

Sydney Metropolitan Area Pages

16. Sydney Metropolitan Area pages

Maximum speed of locomotives and rolling stock - Sydney Metropolitan Area

Version December 2014

SECTION	Notes	LOCOMOTIVES														FREIGHT VEHICLES						PASSENGER VEHICLES				
		^1	^2	^3	^4	^5	^6	^7	^8	^9	^10	^11	^12	^13	Class											
Class of Line		L, LO, LZ, 31	92, 93, 6000, 6020, ACC, C, CF, CM, CEY, FIE, GWA, GWU, LDP, LDP10, RL, SCT, TT100, WH, XRN, SSR 82, CLP, GL, NR	14, 81, ALF, AN, BL, CLF, G, VL	42, 80, 80s, B, DL	18	442, 442s, 700, GMT12, S, X	22, 421, 422, 44, 45, 45s, 600, DC, EL, FL, GM11, HL 43, 44s, 930	423	D, K, T	47, 48, 48200, 48s, 49, 830, 900, GPU, MM, PL 73, (K)	46, 86	Multi, Loco, W/kg	A	B	C	D	E	F	XPT	Xplorer	Loco Hauled	Diesel Railcars			
City Circle																										
Central-Quay-Central (Inner)	1 A,B,C,H	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	N/A	N/A	40	40	40	40	
Central-Quay-Central (Outer)	1 A,B,H	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	N/A	N/A	40	40	40	40	
Main Suburban/West																										
Sydney Terminal-Granville (Main)	1	100	100	100	100	100	90	100	100	100	80	100	100	70	100	4	100	100	80	65	80	65	100	100	100	100
Granville-St Marys (West Sub/Sub)	1	100	115	115	115	115	90	115	115	115	80	100	100	70	100	4	115	100	80	65	80	65	160	145	115	115
St Marys-Penrith (Main)	1	100	115	115	115	115	90	115	115	115	80	100	100	70	100	4	115	100	80	65	80	65	160	145	115	115
Central-Homebush (Suburban)	1 D	50	50	50	50	50	50	50	50	50	50	50	50	50	50	4	50	50	50	50	50	50	100	100	50	100
Homebush-Granville (Suburban)	1 D	80	80	80	80	80	80	80	100	100	80	100	100	70	80	4	100	100	80	65	80	65	100	100	100	100
Granville-St Marys (West Main/Main)	1	100	115	115	115	115	90	115	115	115	80	100	100	70	100	4	115	100	80	65	80	65	160	145	115	115
Central-Homebush (Local)	1 D,H	50	50	50	50	50	50	50	50	50	50	50	50	50	50	4	50	50	50	50	N/A	N/A	100	100	50	100
Carlingford																										
Clyde-Carlingford	2 H	50	50	50	50	50	50	50	50	50	50	50	50	50	50	4	50	50	50	50	N/A	N/A	60	60	50	60
Rosehill-Sandown	2 H,J	20	20	20	20	20	20	20	20	20	20	20	20	20	N/A	4	20	20	20	20	N/A	N/A	20	20	20	20
Richmond																										
Blacktown-Richmond	1 H	50	50	50	50	50	50	50	50	50	50	50	50	50	50	4	50	50	50	50	N/A	N/A	115	115	50	115
Seven Hills-Blacktown (Down Bch)	1 H	70	70	70	70	70	70	70	70	70	70	70	70	70	70	4	70	70	70	70	N/A	N/A	70	70	70	70
Main North																										
Strathfield-Hornsby (Main)	1	100	115	115	115	115	90	115	115	115	80	100	100	70	100	4	115	100	80	65	80	65	115	115	115	115
Strathfield-North Strath Jct (Flyovers)	1 H	40	40	40	40	40	40	40	40	40	40	40	40	40	40	4	40	40	40	40	N/A	N/A	40	40	40	40
Nth Strath Jct-Rhodes (Down Relief)	1	80	80	80	80	80	80	80	80	80	80	80	80	70	80	4	80	80	80	65	80	65	80	80	80	80
West Ryde-Epping (Down Suburban)	1	90	90	90	90	90	90	90	90	90	80	90	90	70	90	4	90	90	80	65	80	65	90	90	90	90
Epping-West Ryde (Up Suburban)	1	90	90	90	90	90	90	90	90	90	80	90	90	70	90	4	90	90	80	65	80	65	90	90	90	90
Pennant Hills-Thornleigh (Dwn Rlf)	1	25	25	25	25	25	25	25	25	25	25	25	25	25	25	4	25	25	25	25	25	25	25	25	25	25
Thornleigh-Pennant Hills (Up Relief)	1	50	50	50	50	50	50	50	50	50	50	50	50	50	50	4	50	50	50	50	50	50	50	50	50	50
North Shore																										
Central-North Sydney	1 A,C,H	50	50	50	50	50	50	50	50	50	50	50	50	50	50	4	40	40	40	40	N/A	N/A	80	80	50	80
North Sydney-Hornsby	1 H	50	50	50	50	50	50	50	50	50	50	50	50	50	50	4	50	50	50	50	N/A	N/A	80	80	50	80
Chatswood - Epping																										
Chatswood - Epping	1 M	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50	N/A	N/A	4	50	50	50	50	N/A	N/A	N/A	N/A	N/A
Main South																										

		LOCOMOTIVES												FREIGHT VEHICLES						PASSENGER								
Lidcombe-Campbelltown (via Regents Pk)	1	100	115	115	115	115	90	115	115	115	80	100	100	70	100	4	115	100	80	65	80	65	160	145	115	115		
Granville-Cabramatta	1	100	100	100	100	100	90	100	100	100	80	100	100	70	100	4	100	100	80	65	80	65	100	100	100	100		
Lidcombe Triangle Loop	1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	4	35	35	35	35	35	35	35	35	35	35		
Granville Y-Link	1	75	75	75	75	75	75	75	75	75	75	75	75	75	75	4	75	75	75	65	75	65	75	75	75	75		
Illawarra																												
Central-Hurstville (Illawarra)	1	D	100	100	100	100	100	90	100	100	100	80	100	100	70	100	4	100	100	80	65	80	65	100	100	100	100	
Hurstville-Waterfall (Main)	1		100	115	115	115	115	90	115	115	115	80	100	100	70	100	4	115	100	80	65	80	65	115	115	115	115	
Central-Meeks Rd Jct (Illawarra Local)	1	D	50	50	50	50	50	50	50	50	50	50	50	50	50	4	50	50	50	50	N/A	65	100	100	50	100		
Meeks Rd Jct-Hurstville (Illawarra Local)	1	D	100	100	100	100	100	90	100	100	100	80	100	100	70	100	4	100	100	80	65	N/A	65	100	100	100	100	
Up Engine Dive Redfern-Acdep	1	H	10	10	10	10	10	10	10	10	10	10	10	10	10	4	10	10	10	10	N/A	N/A	10	10	10	10	10	
Illawarra Dives Redfern-Illawarra Jct	1	I	30	30	30	30	30	30	30	30	30	30	30	30	30	4	30	30	30	30	N/A	N/A	30	30	30	30	30	
Eastern Suburbs																												
Erskineville Junction-Martin Place	1	A,L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40	40	40	40	4	N/A	N/A	N/A	N/A	N/A	N/A	40	40	N/A	N/A
Martin Place-Bondi Junction	1	A,L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15	15	15	15	4	N/A	N/A	N/A	N/A	N/A	N/A	15	15	N/A	N/A
Bankstown																												
Sydenham-Regents Park	1	G,H	50	50	50	50	50	50	50	50	50	50	50	50	50	4	50	50	50	50	N/A	N/A	80	80	50	60		
Airport / East Hills																												
Central - Wollri Creek Junction	1	D, H	50	50	50	50	50	50	50	50	50	50	50	50	50	4	50	50	50	50	N/A	N/A	80	80	50	80		
Wollri Creek Junction-Glenfield	1	H	100	100	100	100	100	90	100	100	100	80	100	100	70	100	4	100	100	80	65	N/A	N/A	160	145	60	60	
Leppington																												
Glenfield-Leppington	1	H, N	N/A	N/A	N/A	35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35	N/A	N/A	4	35	35	35	N/A	N/A	N/A	115	115	N/A	N/A	
Cronulla																												
Sutherland-Cronulla	1	H	N/A	N/A	N/A	N/A	50	50	50	50	50	50	50	50	50	4	50	50	50	50	N/A	N/A	100	100	50	60		
Freight Lines																												
North Strathfield-Flemington South Jct	1		50	50	50	50	50	50	50	50	50	50	50	50	50	4	50	50	50	50	50	50	50	50	50	50	50	
Flem Middle Junction-Flem West Jct	1		35	35	35	35	35	35	35	35	35	35	35	35	35	4	35	35	35	35	35	35	35	50	50	35	35	
Flem East Jct/Flem Middle Junction-Homebush Bay Loop (Olympic Park)	1	H	20	20	20	20	20	20	20	50	50	50	50	50	20	2	20	20	20	20	N/A	N/A	50	50	20	20		
Lidcombe Goods Jct-Chullora Sth Jct	1		70	70	70	70	70	70	70	70	70	70	70	70	70	4	70	70	70	65	70	65	70	70	60	60		
Chullora Sth Jct-Sefton Park Sth Jct	1		80	80	80	80	80	80	80	80	80	80	80	80	80	4	80	80	80	65	80	65	80	80	60	60		
Chullora North Jct-Chullora West Jct	1		25	25	25	25	25	25	25	25	25	25	25	25	25	4	25	25	25	25	25	25	25	25	25	25		
Chullora West Jct-Pac. Nat. Depot	1		50	50	50	50	50	50	50	50	50	50	50	50	N/A	4	50	50	50	50	N/A	N/A	50	50	50	50		
Chullora NRC Jct-Industrial Siding	1	H	30	30	30	30	30	30	30	30	30	30	30	30	N/A	4	30	30	30	30	N/A	N/A	30	30	30	30		
Chullora Sth Jct - Wardell Rd West Jct	1		70	70	70	70	70	70	70	70	70	70	70	70	N/A	4	70	70	70	65	70	65	70	70	70	70		
Wardell Rd Wst Jct-Meeks Rd Tempe Jct	1		40	40	40	40	40	40	40	40	40	40	40	40	N/A	4	40	40	40	40	40	40	40	40	40	40		
Meeks Rd Syd'ham Jct-Meeks Rd Wst Jctn	1	I	25	25	25	25	25	25	25	25	25	25	25	25	N/A	4	25	25	25	25	N/A	N/A	25	25	25	25		
Meeks Rd Sth Jct-Meeks Rd Nth Jct	1	I	25	25	25	25	25	25	25	25	25	25	25	25	N/A	4	25	25	25	25	N/A	N/A	25	25	25	25		
Marrickville Junction-Cooks River	1	I	50	50	50	50	50	50	50	50	50	50	50	50	N/A	4	50	50	50	50	N/A	N/A	50	50	20	20		
Cooks River-10.410km Botany	1	I	30	30	30	30	30	30	30	30	30	30	30	30	N/A	4	30	30	30	30	N/A	N/A	30	30	20	20		

For note details, see notes on page 60, 'Notes for Maximum speed of locomotives and rolling stock - Sydney Metropolitan Area'.

Notes for *Maximum speed of locomotives and rolling stock - Sydney Metropolitan Area*

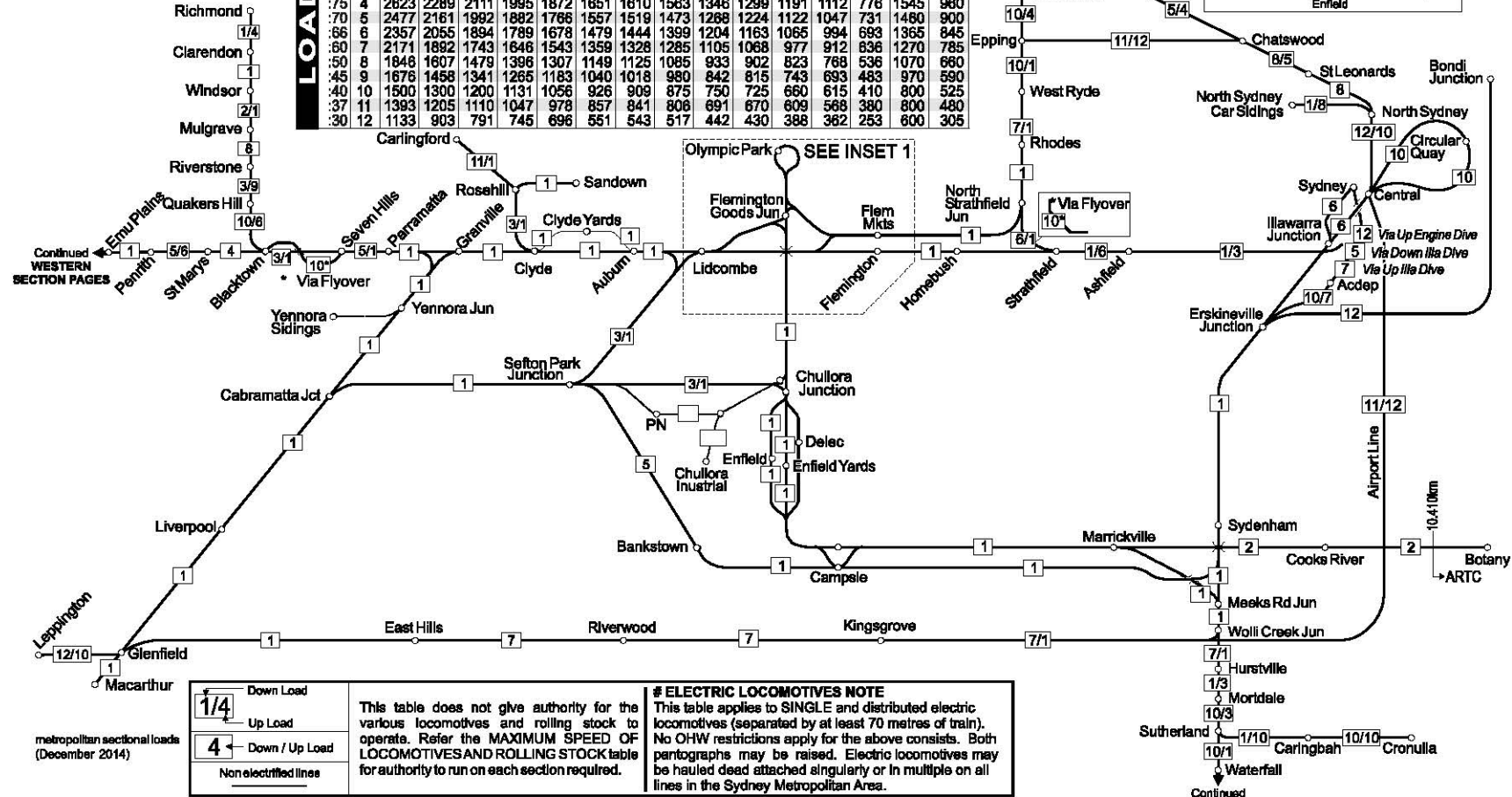
- N/A Not allowed to run on this section under normal working conditions.
- ^ Numbered columns represent axle loadings. Column 1 heaviest to column 13 lightest.
- A The maximum speed for all non-stopping trains, for all underground platforms, is 10 km/h in the tunnel before the platform and 15 km/h through the platform.
- B The max speed for all locomotives in the Circular Quay area, outside of the platform, between the Harrington St and the Macquarie St portals is 25 km/h.
- C Heavy axle loads and unscrubbed diesel locomotives (i.e. diesel locomotives not fitted with approved exhaust conditioners) are only approved for restricted operation in the city underground as follows :-
 (a) Locomotives designated in columns numbered 1 to 6 (Includes 86 class) above and freight vehicles heavier than 76 tonnes gross are not permitted to run through platforms at: (1) Wynyard station, Up and Down Shore, and (2) Town Hall station, Up and Down Shore and City Inner except in an emergency and only when issued with a current TOC waiver covering each movement.
 (b) Unscrubbed diesel locomotives are also permitted to operate in the city underground but only when issued with a current TOC waiver covering each movement.
- D The following rolling stock is not allowed to run over the Flying Junctions between Redfern and Central in the Up direction:
Locomotives designated in columns numbered 1 to 6 above and freight vehicles heavier than 76 tonnes gross.
- E Not used.
- F Electric locomotives are allowed on the **UP NORTH FORK** between Meeks Road West Junction and Meeks Road Sydenham Junction **ONLY**.
- G 81/82/NR class locomotives and E/F class freight vehicles allowed between Sefton Park North Junction and Sefton Park East Junction at a max speed of 25 km/h.
- H Freight vehicles loaded greater than 20 tonnes axle load NOT PERMITTED, unless authorised by a **TOC Waiver**.
- I Freight vehicles loaded greater than 23 tonnes axle load NOT PERMITTED, unless authorised by a **TOC Waiver**.
- J Electrified between Rosehill & Electric train Stop sign located at location CC22+736 (Overhead Wire Structure)
- K Only locomotives fitted with vigilance control system are approved to operate outside shunting yards.
- L **Maximum load**
 Freight trains shall not contain any freight vehicles with a **gross mass exceeding 73 tonnes**.
Operational requirements
 Between Martin Place and Bondi Jct to conform to structure loading limits on the viaducts the following conditions shall be obeyed:
 The only time that simultaneous movements are permitted on adjacent tracks over this section is when the freight trains are in the **empty** condition.
All trains when passing each other on the above section shall not exceed a **maximum speed of 15 km/h**.
- M Freight vehicles loaded greater than 20 tonnes axle load and unscrubbed diesel locomotives (i.e. diesel locomotives not fitted with approved exhaust conditioners) are NOT PERMITTED, unless authorised by a TOC Waiver.
- N 81 Class and 48 Class locomotives only.

Sydney Metropolitan Area - sectional freight loads

Version 16.0 December 2014

Sydney Metropolitan Area Sectional Freight Loads

GRADE 1: xx	LOCOMOTIVE CATEGORY													85 # See Note below	86 # See Note below	48
	AC6	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13			
:100	1	3297	2881	2659	2514	2363	2086	2032	1975	1704	1643	1511	1410	984	1950	1225
:90	2	3039	2654	2449	2315	2175	1920	1870	1818	1567	1511	1388	1295	904	1715	1070
:80	3	2766	2414	2227	2104	1976	1743	1699	1650	1422	1372	1259	1175	820	1630	1015
:75	4	2823	2289	2111	1995	1872	1651	1610	1563	1346	1299	1191	1112	776	1545	980
:70	5	2477	2181	1992	1882	1766	1557	1519	1473	1268	1224	1122	1047	731	1480	900
:66	6	2357	2055	1894	1789	1678	1479	1444	1399	1204	1163	1065	994	693	1365	845
:60	7	2171	1892	1743	1646	1543	1359	1328	1285	1105	1068	977	912	636	1270	785
:50	8	1848	1607	1479	1396	1307	1149	1125	1085	933	902	823	768	536	1070	680
:45	9	1676	1458	1341	1265	1183	1040	1018	980	842	815	743	693	483	970	590
:40	10	1500	1300	1200	1131	1056	926	909	875	750	725	660	615	410	800	525
:37	11	1393	1205	1110	1047	978	857	841	806	691	670	609	568	380	800	480
:30	12	1133	903	791	745	696	551	543	517	442	430	388	362	253	600	305

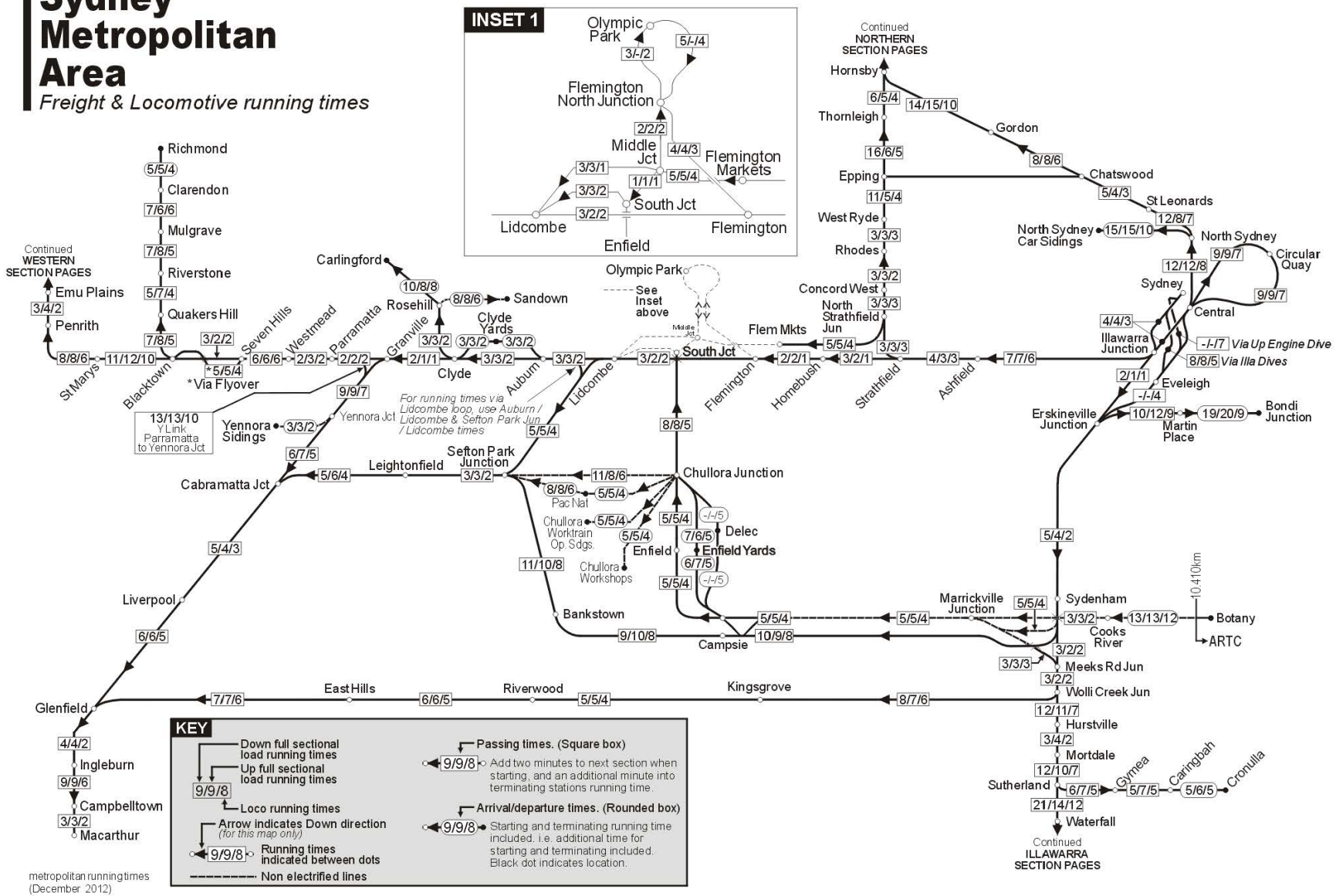


<p>1/4 Down Load</p> <p>Up Load</p> <p>4 Down / Up Load</p> <p>Non electrified lines</p>	<p>This table does not give authority for the various locomotives and rolling stock to operate. Refer the MAXIMUM SPEED OF LOCOMOTIVES AND ROLLING STOCK table for authority to run on each section required.</p>	<p># ELECTRIC LOCOMOTIVES NOTE</p> <p>This table applies to SINGLE and distributed electric locomotives (separated by at least 70 metres of train). No OHW restrictions apply for the above consists. Both pantographs may be raised. Electric locomotives may be hauled dead attached singularly or in multiple on all lines in the Sydney Metropolitan Area.</p>
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Sydney Metropolitan Area - freight and locomotive running times

Version 15.0 December 2012

Sydney Metropolitan Area Freight & Locomotive running times



Hours of signal boxes

Version December 2014

	Signal Box / Complex	Hours of duty
	Sydney	Always
	Strathfield / Homebush	Always
Illawarra	Sydenham	Always
	Waterfall	Always
Southern	# Fairfield	Always
	Campbelltown	Always
Western	Auburn	Always
	Clyde	Always
	Parramatta Road	Always
	Granville	Always
	Blacktown	Always
	St Marys	Always
	Penrith	Always
Freight Lines	Enfield Control Centre	Refer ARTC network control centre south (June)

This location is manned by a qualified employee for station duties, which includes switching in for timetabled movements through the interlocking or to meet operational requirements as per requests from the Train Controller.

Dangerous goods in the Sydney Underground

Version 15.0 December 2012

The following goods are totally banned from being carried by freight trains through the Sydney Underground lines (Central to North Sydney; City Inner and City Outer; Redfern to Bondi Junction; Central to Wollie Creek Junction), Chatswood to Epping:

CLASS 1	Explosives in any quantity which requires marking of freight containers.
CLASS 2.1	Flammable gas in bulk tankers
CLASS 2.3	Poison gas in any quantity which requires marking of freight containers
CLASS 3	Flammable liquids in bulk tanks where the hazchem code includes the letter E (this includes petrol tankers returning unpurged).

Tonnage signals

Version 15.0 December 2012

Certain signals listed herein are treated as **Tonnage Signals**, that is to say, in order to avoid the risk of trains over a certain tonnage being brought to a stand at signals where it would be difficult for them to restart, these tonnage signals shall not be passed by trains conveying loads in excess of 75% of the prescribed load (i.e. 75% of Full Sectional Load) unless the Tonnage signal is in the clear position (or by telephone instructions in the case of failure).

The following signals are to be treated as a Tonnage signal, in accordance with Sydney Trains Network Rule *NSG 608 Passing signal at STOP*.

	Kilometrage	Signal number	Section located
North	17.880	WR1	Meadowbank – West Ryde
	22.308	EG21 – Down Suburban	Eastwood – Epping
	22.308	EG23 – Down Main	Eastwood – Epping
	23.745	EG45 – Down Main	Epping – Cheltenham
	23.759	EG43 – Down Suburban	Epping – Cheltenham
	32.051	HY13	Normanhurst – Hornsby
Illawarra	26.025	SD71 DI Down Home & Starting	Sutherland
	26.055	SD69 DR Down starting Refuge to Down Main	Sutherland
West	17.506	ST420M Up Home	Up Main Lidcombe
	17.506	ST422S Up Home	Up Suburban Lidcombe

Bondi Junction – trains / vehicles less than 4 cars using diamond crossover

Version 15.0 December 2012

Whenever a train or vehicle less than 4 cars in length has to traverse the diamond crossing at Bondi Junction, through points 907 in the reverse position it shall be block worked in accordance with Sydney trains Network Rule *NSY 512 Manual block working between SY767 and SY783 or SY770 and ES6.48 signals*.

Trains or vehicles shorter than 4 cars in length may not reliably operate the track circuits.

Main South – DOWN schedules and running times

Version 15.0 December 2012

	DOWN LOADS SECTIONS	LOCO-MOTIVE CLASS = L	SINGLE	DOUBLE LOAD - TONNES			QUAD	VEHICLE CLASS	SECT RUN TIMES	NOTES
				TRIPLE	QUAD	VEHICLE CLASS				
1	SYDNEY METROP – MACARTHUR	L4	675	1350	2025	2700	A	A		
2	SYDNEY METROP – MACARTHUR	L4	800	1600	2400	3200	A	A1		
3	SYDNEY METROP – MACARTHUR	L8	650	1300	--	--	A	A1		
4	SYDNEY METROP – MACARTHUR	L9	500	1000	1500	2000	A	A1		
5	SYDNEY METROP – MACARTHUR	L2	1300	2600	3900	5200	A	A2		
6	SYDNEY METROP – MACARTHUR	L4	970	1940	2910	3880	A	A2		
7	SYDNEY METROP – MACARTHUR	L8	875	1750	2625	3490	A	A2		
8	SYDNEY METROP – MACARTHUR	L9/L10	610	1220	1830	2440	A	A2		
9	SYDNEY METROP – MACARTHUR	AC6	1500	3000	4600	--	A	A2		
10	SYDNEY METROP – MACARTHUR	AC6 + #L2	--	2750	--	--	A	A2	#NR only	
11	SYDNEY METROP – MACARTHUR	AC6 + 2 x #L2	--	--	4050	--	A	A2	#NR only	
12	SYDNEY METROP – MACARTHUR	2 x AC6 + #L2	--	--	4200	--	A	A2	#NR only	
13	SYDNEY METROP – MACARTHUR	AC6 + #L2	--	2750	--	--	ABCE	C1	#NR only	
14	SYDNEY METROP – MACARTHUR	L2	1300	2600	3900	5200	ABCE	C1		
15	SYDNEY METROP – MACARTHUR	L4	970	1940	2910	3880	ABCE	C1		
16	SYDNEY METROP – MACARTHUR	L8	875	1750	2625	3490	ABCE	C1		
17	SYDNEY METROP – MACARTHUR	L9/L10	610	1220	1830	2440	ABCE	C1		
18	SYDNEY METROP – MACARTHUR	L11	550	1100	1650	2200	ABCE	C1		
19	SYDNEY METROP – MACARTHUR	AC6	1500	3000	4600	--	ABCE	C2		
20	SYDNEY METROP – MACARTHUR	L3	1200	2400	3600	4800	ABCE	C2		
21	SYDNEY METROP – MACARTHUR	L4	1130	2260	3390	4520	ABCE	C2		
22	SYDNEY METROP – MACARTHUR	L5	1047	2094	3141	4188	ABCE	C2		
23	SYDNEY METROP – MACARTHUR	L6	926	1852	2778	3704	ABCE	C2		
24	SYDNEY METROP – MACARTHUR	L7	909	1818	2727	3636	ABCE	C2		
25	SYDNEY METROP – MACARTHUR	L8	875	1750	2625	3490	ABCE	C2		
26	SYDNEY METROP – MACARTHUR	L9	750	1500	2250	3000	ABCE	C2		
27	SYDNEY METROP – MACARTHUR	L10	725	1450	2175	2900	ABCE	C2		
28	SYDNEY METROP – MACARTHUR	L11	640	1280	1920	2560	ABCE	C2		
29	SYDNEY METROP – MACARTHUR	L12	615	1230	1845	2460	ABCE	C2		
30	SYDNEY METROP – MACARTHUR	L13	310	615	925	1230	ABCE	C2		

All the above published loads in the Down direction can depart Metropolitan sites via the Main or East Hills.

Refer to table of Sydney Metropolitan Area – freight and locomotive running times

For trains via the East Hills line refer to Note H, Notes for Maximum speed of locomotives and rolling stock - Sydney Metropolitan Area (page 60) of this section.

Main South – DOWN sectional running times and full sectional loads

DOWN	SECTIONAL RUNNING TIMES					Loco	FULL SECTIONAL LOADS														GRADE
	A	A1	A2	C1	C2		LOCOMOTIVE CATEGORIES = L														
ENFIELD	5	5	5	5	5	Refer to Sydney Metropolitan Area - freight and locomotive running times (page 62) for running times	Refer to Sydney Metropolitan Area - sectional freight loads (page 61) for Full Sectional Freight loads														
CHULLORA JCT	5	5	5	5	5																
SEFTON PRK JCT	11	11	11	11	11																
LEIGHTONFIELD	3	3	3	3	3																
CLYDE YARDS	..	..	..	..	..											
GRANVILLE	..	..	..	..	..											
FAIRFIELD	..	..	..	..	..											
CABRAMATTA JCT	4	4	4	4	4																
LIVERPOOL	4	4	4	4	4																
GLENFIELD	5	5	5	6	6																
INGLEBURN	3	3	3	3	3																
CAMPBELLTOWN	7	7	7	8	8																
MACARTHUR	2	2	2	2	2																

Superseded by TS TOC 2 v3.0

Main South – UP schedules and running times

Version 15.0 December 2012

SECTIONS	UP LOADS	LOCO-MOTIVE CLASS = L	LOAD - TONNES				TRAIN DATA		NOTES
			SINGLE	DOUBLE	TRIPLE	QUAD	VEHICLE CLASS	SECT RUN TIMES	
1	MACARTHUR - SYDNEY METROP	L4	675	1350	2025	2700	A	A	
2	MACARTHUR - SYDNEY METROP	L4	800	1600	2400	3200	A	A1	
3	MACARTHUR - SYDNEY METROP	L8	650	1300	--	--	A	A1	
4	MACARTHUR - SYDNEY METROP	L9/L10	500	1000	1500	2000	A	A1	
5	MACARTHUR - SYDNEY METROP	L2	1300	2600	3900	5200	A	A2	
6	MACARTHUR - SYDNEY METROP	L4	970	1940	2910	3880	A	A2	
7	MACARTHUR - SYDNEY METROP	L8	822	1644	--	--	A	A2	
8	MACARTHUR - SYDNEY METROP	L8+L10	--	1360	--	--	A	A2	
9	MACARTHUR - SYDNEY METROP	L9/L10	610	1220	1830	2440	A	A2	
10	MACARTHUR - SYDNEY METROP	AC6	1500	3000	4500	--	A	A2	
11	MACARTHUR - SYDNEY METROP	AC6 + #L2	--	2750	--	--	A	A2	#NR only
12	MACARTHUR - SYDNEY METROP	AC6 + 2 x #L2	--	--	4050	--	A	A2	#NR only
13	MACARTHUR - SYDNEY METROP	2 x AC6 + #L2	--	--	4200	--	A	A2	#NR only
14	MACARTHUR - SYDNEY METROP	L2	1500	3000	4500	6000	AB	B1	
15	MACARTHUR - SYDNEY METROP	AC6	1500	3000	4500	--	AB	B1	
16	MACARTHUR - SYDNEY METROP	AC6 + #L2	--	3000	--	--	AB	B1	#NR only
17	MACARTHUR - SYDNEY METROP	AC6 + 2 x #L2	--	--	4050	--	AB	B1	#NR only
18									
19	MACARTHUR - SYDNEY METROP	L2	1100	2200	3300	4400	ABCE	C1	
20	MACARTHUR - SYDNEY METROP	L4	970	1940	2910	3880	ABCE	C1	
21	MACARTHUR - SYDNEY METROP	L8	875	1750	2625	3490	ABCE	C1	
22	MACARTHUR - SYDNEY METROP	L9/L10	610	1220	1830	2440	ABCE	C1	
23	MACARTHUR - SYDNEY METROP	AC6	1100	2200	3300	--	ABCE	C1	
24	MACARTHUR - SYDNEY METROP	L2	1600	3200	4800	6400	ABCE	C2	
25	MACARTHUR - SYDNEY METROP	L3/L4	1200	2400	3600	4800	ABCE	C2	
26	MACARTHUR - SYDNEY METROP	L5	1047	2094	3141	4188	ABCE	C2	
27	MACARTHUR - SYDNEY METROP	L6	926	1852	2778	3704	ABCE	C2	
28	MACARTHUR - SYDNEY METROP	L7	909	1818	2727	3636	ABCE	C2	
29	MACARTHUR - SYDNEY METROP	L8	875	1750	2625	3490	ABCE	C2	
30	MACARTHUR - SYDNEY METROP	L9	750	1500	2250	3000	ABCE	C2	
31	MACARTHUR - SYDNEY METROP	L10	725	1450	2175	2900	ABCE	C2	
32	MACARTHUR - SYDNEY METROP	L11	640	1280	1920	2560	ABCE	C2	
33	MACARTHUR - SYDNEY METROP	L12	615	1230	1845	2460	ABCE	C2	
34	MACARTHUR - SYDNEY METROP	L13	310	615	925	1230	ABCE	C2	
35									
36	MACARTHUR - SYDNEY METROP	L3/L4	1650	3250	--	--	ABCE	C3	
37	MACARTHUR - SYDNEY METROP	L10	1290	2580	--	--	ABCE	C3	
38									
39	MACARTHUR - SYDNEY METROP	L11	1020	2040	3200	--	ABCE	C4	
40	MACARTHUR - SYDNEY METROP	L13	510	1020	1530	2040	ABCE	C4	

All the above published loads in the Up direction may enter Metropolitan sites via the Main or East Hills line with the following conditions:

Clear run shall be given Revesby to Narwee.

Refer to table of Sydney Metropolitan Area – freight and locomotive running times

For trains via the East Hills line refer to Note H, Notes for Maximum speed of locomotives and rolling stock - Sydney Metropolitan Area (page 60) of this section.

Main South – UP sectional running times and full sectional loads

UP	SECTIONAL RUNNING TIMES						Loco	FULL SECTIONAL LOADS LOCOMOTIVE CATEGORIES = L														GRADE				
	A/A1/A2	B1	C1	C2	C3	C4		1	2	3	4	5	6	7	8	9	10	11	12	13	14					
MACARTHUR	3	3	3	3	3	3	Refer to Sydney Metropolitan Area - freight and locomotive running times (page 62) for running times	Refer to Sydney Metropolitan Area - sectional freight loads (page 61) for Full Sectional Freight loads																		
CAMPBELLTOWN	3	3	3	3	3	3																				
INGLEBURN	8	8	9	9	9	9																				
GLENFIELD	3	3	3	3	3	4																				
LIVERPOOL	5	5	5	5	5	5																				
CABRAMATTA JCT	4	4	4	4	4	4																				
LEIGHTONFIELD	5	5	6	6	6	6																				
SEFTON PRK JCT	3	3	3	3	3	3																				
CHULLORA JCT	8	8	8	8	8	8																				
ENFIELD	5	5	5	5	5	5																				

Location of speed signs

Version December 2014: Section 2d, 2e, 7a, 7c, 9, 12, 14g, 15, 15a

Version 15.0 December 2012: Section 1 - 2d, 7b - 8d, 14a - 14g

Version 15.1 April 2013: Section 2e - 7a, 9 - 13a

Speed signs for the area bounded by Hornsby, Penrith, Macarthur and Waterfall

For speed signs beyond **Hornsby** refer to **Northern Division Pages** Location of speed signs (page 21)

For speed signs beyond **Penrith** refer to **Western Division Pages** Location of speed signs (page 33)

For speed signs beyond **Waterfall** refer to **Illawarra Division Pages** Location of speed signs (page 45)

	Sub Section Area	Tracks
City	1 City Circle	City Outer, City Inner
West Suburban	2a Central - Homebush	Main
	2b Central - Homebush	Suburban
	2c Central - Homebush	Local
	2d Homebush - St Marys	Main, West Suburban, Suburban
	2e Homebush - St Marys	Suburban, West Main, Main
West Suburban	2f St Marys - Penrith	Down and Up Main lines
	2g Eveleigh - Redfern	Up Engine Dive
	2h Illawarra Dive	Down and Up Illawarra line
	2i Strathfield Flyover	Down and Up North Suburban
	2j Lidcombe Loop	Single line loop
	2k Y Link Granville	South - West Inner and Outer
	Carlingford	3a Clyde - Carlingford	Down and Up lines (Single/Double)
Richmond	4 Blacktown - Richmond	Single line
South	5a Lidcombe - Macarthur	Down and Up Main line
	5b Granville - Cabramatta	Down and Up Old South lines
	5d Glenfield	Turnback Road
North Shore	6a Central - Hornsby	Down and Up Shore lines
	6b Chatswood – Epping Line	Down and Up Main Lines
	6c Waverton - North Sydney Car Sidings	Single line
North	7a Strathfield - Hornsby	Down and Up Main lines
	7b Nth Strathfield - Rhodes	Down Relief
	7c West Ryde - Epping	Down and Up Suburban
Illawarra	8a Central - Hurstville	Down and Up Illawarra lines
	8b Central - Hurstville	Down and Up Illawarra Local lines
	8c Hurstville - Waterfall	Down and Up Main lines
	8d Hurstville – Sutherland Bi Directional	Down and Up Main lines
	8e Eveleigh Yard	Yard
	9 Sutherland - Cronulla	Double line
Eastern Suburbs	10 Erskineville Junction - Bondi Junction	Down and Up Eastern Suburbs Down and Up Illawarra Relief
Bankstown	11 Sydenham - Regents Park	Down and Up lines
Airport Line	12 Central – Wollie Creek	Down and Up lines
East Hills	13 Wollie Creek Junction - Glenfield	Down and Up lines
	13a Turrella – Revesby	Down and Up Local lines
Metropolitan Freight	14a Meeks Rd - Enfield - Flemington West Jun	Metropolitan Freight Lines
	14b Marrickville - Botany	Metropolitan Freight Lines
	14d Chullora Junction - Sefton Park Junction	Metropolitan Freight Lines
	14e Flemington East Jun - Flemington Sth Jn	Metropolitan Freight Lines
	14f Nth Strathfield Jun - Flemington Mkts Jn	Metropolitan Freight Lines
	14g Flemington Goods Jun - Olympic Park	Metropolitan Freight Lines
Leppington	15 Glenfield – Leppington	Down and Up lines
	15a Glenfield - Leppington	Down and Up loop lines

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Section 1 City Circle

KILO-MET-RAGE	OUTER		INNER	
	Nor-mal	XPT	Nor-mal	XPT
5.895#	Central			
0.270	..	..	40	..
0.440	30	..	..	..
0.660	..	..	30	..
0.885	40	..	..	..
1.176	Town Hall			
1.680	..	..	40	..
1.851	40	..	..	..
2.047	Wynyard			
2.974	Circular Quay			
4.401	St James			
4.990	Museum			
5.310	30	..	..	..
5.437	40	..	..	..
5.895#	Central			

Via City Outer

Section 2a Central – Homebush Sydney Yard

Location	K/M	DWN		UP	
		Nor-mal	Nor-mal	Nor-mal	Nor-mal
	0.000		Sydney		
	0.060	X15	..		
Road 1, P1 points to Middle Road	0.060	X15	..		
Road 2, P2 points to Middle Road	0.120	..	X15		
Mdle Rd, P1/P2 points to Road 1/2	0.200	X15	..		
Mdle Rd, 151/ 154 points to Road 1/2	0.250	..	X15		
Road 1, 151 points to Mdle Road	0.250	..	X15		
Rd 2, 154 points to Middle Road	0.270	X40	..		
Road 9, 154 points to Road 9	0.275	X15	..		
Rd 15, 208 points to Up/Dn Bank'n	0.300	X15	..		
Dn Bank'n, 203 points to Up Bank'n	0.300	..	X40		
Road 9, 195 points to Road 9	0.305	X40	..		
Road 5, 238 points to Road 6	0.310	X40	..		
Road 9, 192 points to Road 10	0.335	..	X40		
Road 3, 166 points to Road 4	0.340	X15	..		
Road 3, 161 points to Road 4	0.350	..	X15		
Up Bank'n, 203 points to Dn Bank'n	0.365	X40	..		
Road 7, 183 points to Down Yd Subn	0.370	X15	..		
Road 2, 157 points to Up Main	0.380	X15	..		
Road 10, 193 points to Up Bank'n					

Location	K/M	DWN	UP
	0.390	..	X15
Up Main, 160 points to Road 2	0.395	..	X40
Dn Sub Yard, 183 points to Road 7	0.395	X40	..
Rd 2/4, 162 points to Down Main	0.395	..	X15
Road 4, 161 points to Road 3	0.400	X40	..
Road 8, 182 points to Dn Yard Subn	0.400	..	X15
Up Bank'n, 193 points to Road 10	0.425	..	X40
Up Main, 157 points to Road 1/3	0.430	..	X40
Dn Sub Yard, 182 points to Road 8	0.455	X40	..
Dn Bank'n, 240 points to Dn Sub Yrd	0.465	X40	..
Dn Sub Yd, 235 points to Dn Sub Yd	0.465	X40	..
Up Main, 234 points to Down Main	0.535	..	X40
Up Sub Yd, 235 points to Dn Sub Yd	0.565	..	X40
Up Sub Yd, 239 points to Up Bank'n	0.575	X40	..
Down Sub Yd, 241 points to Dn Main	0.640	X40	..
Dn Sub Yd, 243 points to Dn Sub Yd	0.670	..	X40
Up Main, 247 points to Up Sub Yard	0.670	..	X40
Up Sub Yard, 242 points to Up Bank'n	0.670	X15	..
Up Sub Yard, 246 points to Dn Sub Yd	0.695	..	15
Mortuary / Goods line	0.730	..	X15
Dn Sub Yard, 246 points to Up Sub Yd	0.935	..	X40
Up Main, 264 points to Up Sub Yard	0.960	X40	..
Dn Sub Yard, 265 points to Dn Main	0.980	..	40

Section 2a Central – Homebush Main lines

KILO-MET-RAGE	DOWNS		UP	
	Nor-mal	XPT	Nor-mal	XPT
1.080	X15	..	..	..
	Up Main 266A points			
1.025	80	..	..	..
1.299	Redfern			
1.330	X15	..	..	..
	Up Main 647 crossover			
1.405	..	..	50	..
2.235	667 Pts	X25	..	..
2.476	Macd'town			
3.100	Newtown			
4.005	..	..	70	..
4.671	Stanmore			
5.499	Petersham			
6.246	Lewisham			
6.255	100	..	80	..
7.032	Summer Hill			
8.376	Ashfield			
9.424	Croydon			

KILO-	DOWNS		UP	
MET-RAGE	Nor-mal	XPT	Nor-mal	XPT
10.060	80	..	..	..
10.624	Burwood			
11.530	80	..	90	..
11.806	Strathfield			
11.950	X25	..	..	..
12.195	..	..	50	..
12.742	Homebush			

Section 2b Central – Homebush Suburban Lines

KILO-MET-RAGE	DOWNS		UP	
	Nor-mal	XPT	Nor-mal	XPT
0.000	Central			
0.211	..	..	45	..
0.513	65	..	..	..
1.299	Redfern			
1.351	..	..	60	..
1.655	80	..	..	..
2.476	Macd'town			
3.040	..	..	80	..
3.100	Newtown			
3.200	50	..	..	..
3.270	-	..	50	..
3.360	80	..	..	..
4.671	Stanmore			
5.499	Petersham			
6.246	Lewisham			
7.032	Summer Hill			
7.750	50	..	80	..
8.290	80	..	50	..
8.376	Ashfield			
9.424	Croydon			
10.624	Burwood			
11.200	..	..	80	..
11.344	60	..	..	..
11.630	..	..	60	..
11.806	Strathfield			
11.930	X25			
11.930	55	..	..	..
12.470	..	..	80	..
12.575	602 Pts	X25	..	..
12.600	80	..	..	..
12.602	..	..	55	..
12.742	Homebush			

Section 2c Central – Homebush Local Lines

KILO-MET-RAGE	DOWNS		UP	
	Nor-mal	XPT	Nor-mal	XPT
0.000	Central			
0.900	50	..	..	..
1.299	Redfern			
2.476	Macd'town			
3.100	Newtown			
3.315	..	..	50	..
4.000	70	..	..	..
4.671	Stanmore			
5.499	Petersham			
5.600	75	..	..	..
6.140	..	..	60	..
6.246	Lewisham			
7.032	Summer Hill			
7.725	50	..	..	..

KILO-	DOWN	UP
7.750	.. ..	75 ..
8.200	X25 ..	50 ..
8.376	Ashfield	
8.460	25 ..	Term. Rd
8.460	25 ..	.. ..
8.580	50 ..	.. ..
8.700	70 ..	.. ..
9.424	Croydon	
10.624	Burwood	
11.000	.. ..	70 ..
11.335	50 ..	.. ..
11.733	.. ..	50 ..
11.806	Strathfield	
12.500	45 ..	70 ..
12.500	X35 ..	603B Pts
12.600	.. ..	45 ..
#12.654	Homebush	
12.770	40 ..	.. ..
12.774	X35 ..	617A Pts
	Local terminal Road	
12.890	X40 ..	618B Pts

**Section 2d
Homebush – St Marys**

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
	Main			
12.742	Homebush			
13.000	.. ..	70 ..		
14.324	Flemington			
14.605	.. ..	X25 ..		
14.615	X35 ..	.. ..	
14.882	Flem CS Jun			
15.290	X40 ..	.. ..	
16.130	.. ..	X35	X40MU	
16.195	X40 ..	.. ..	
16.606	Lidcombe			
16.695	60	80MU	.. ..
16.775	.. ..	80 ..		
18.350	.. ..	100 ..		
18.625	Auburn			
20.660	Clyde			
21.224	Granville			
21.465	70	75	60	80MU
	Suburban			
21.540	X50	.. ..	711 Pts	
21.645	.. ..	X50	.. ..
	<i>Up Sign Down West Suburban</i>			
21.850	.. ..	70	75	
22.200	80	85	.. ..
22.533	Harris Park			
22.800	.. ..	80	85	
23.040	60	65	.. ..
23.206	Parramatta			
23.350	.. ..	60	65	
23.550	80	90	.. ..
24.660	.. ..	60	75	
24.800	X50 ..	.. ..	728A pts	
25.000	.. ..	80	105	
25.050	80	105	.. ..
25.162	Westmead			
25.300	80	115	.. ..
26.637	Wentworthville			
28.294	Pendle Hill			
29.962	Toongabbie			

KILO-	DOWN	UP
31.500	80	100 80 115
32.060	Seven Hills	
32.410	X40 ..	304A Pts
33.231	80	115
34.000	.. ..	80 105
34.048	80	115
34.075	X35 ..	306A Pts
34.210	X40 ..	307A Pts
	<i>Down Sign on Up Suburban</i>	
34.210	80	100
	<i>Down Sign on Up Suburban</i>	
34.710	X35 ..	311A Pts
	<i>Down Sign on Up Suburban</i>	
34.801	.. ..	80 100
34.874	Blacktown	
35.000	115	115
35.747	.. ..	100
35.830	.. ..	X25 ..
	<i>Down Sign Up Suburban</i>	
35.835	X40 ..	320 Pts
35.895	.. ..	X25 ..
38.592	Doonside	
40.800	115	115
40.905	Rooty Hill	
42.200	..	115
43.291	Mt DrUITT	
46.715	.. ..	X50 ..
47.000	.. ..	115 115
47.420	St Marys	
47.580	X40 ..	.. ..

**Section 2e
Homebush – St Marys
Suburban / Main**

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
	Suburban			
12.742	Homebush			
12.986	80	.. ..	
14.324	Flemington			
14.400	X25 ..	.. ..	
14.882	Flem CS Jun			
15.501	X40 ..	.. ..	
16.331	.. ..	X40 ..		
16.606	Lidcombe			
16.715	45	.. ..	80	..
16.715	X35 ..	.. ..	713 Points	
16.800	.. ..	714 Points	X35 ..	
16.890	60	80MU	.. ..
18.625	Auburn			
20.570	.. ..	60	80MU	
20.660	Clyde			
21.224	Granville			
21.465	X40 ..	.. ..	708 Points	
21.465	75	75	55	55MU
	Main			
21.510	709 Points	X40	..	
21.547	X40 ..	.. ..	710A Points	
21.640	.. ..	ⓧX35	..	
	<i>Up Sign on Down Main</i>			
21.685	.. ..	50	50	
21.685	ⓧX35 ..	.. ..	713A Points	
	<i>Down Sign on Up Main</i>			
21.800	714B Points	X50	..	
21.850	80	80	.. ..
22.190	.. ..	ⓧ50	50	

KILO-	DOWN	UP
	<i>Up Sign on Down Main</i>	
22.190	715 Pts	ⓧX75 ..
	<i>Up Sign on Down Main</i>	
22.360	716B Pts	X75 ..
22.400	75	80
22.533	Harris Park	
23.206	Parramatta	
24.000	.. ..	75 80
24.635	.. ..	60 65
25.000	60	65
25.100	730B Pts	X40
25.162	Westmead	
25.300	80	100
25.350	.. ..	80 85
26.637	W'worthville	
28.045	.. ..	80 115
28.294	Pendle Hill	
28.365	.. ..	80 100
28.525	80	115
29.962	Toongabbie	
31.500	.. ..	80 115
32.060	Seven Hills	
32.220	80	90
32.220	X50 ..	301 Pts
33.380	X65 ..	305A Pts
34.000	.. ..	80 105
34.265	307B Pts	X40 ..
34.265	ⓧ80	100
	<i>Down Sign on Up Main</i>	
34.720	ⓧX40 ..	312A Pts
34.801	.. ..	80 100
34.835	312B Pts	X40 ..
	Up Relief	
34.874	Blacktown	
35.000	115	.. ..
35.745	.. ..	100 ..
35.780	.. ..	X25 ..
38.592	Doonside	
40.600	95	.. ..
40.905	Rooty Hill	
41.250	115	.. ..
43.291	Mt DrUITT	
47.000	.. ..	115 ..
47.250	95	.. ..
47.420	St Marys	
47.670	.. ..	X40 ..

(Continued next column)
ⓧ Down sign on Up Main
ⓧ Up sign on Down Main

**Section 2f
St Marys – Penrith**

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
47.420	St Marys			
47.580	X40	.. ..	
47.715	.. ..	.. ..	115	
47.900	115	115	.. ..
48.000	.. ..	X40	..	
48.900	.. ..	115	.. ..
49.084	Werrington			
49.300	.. ..	.. ..	115	
49.900	.. ..	115	.. ..
52.030	.. ..	115	.. ..
52.702	Kingswood			
53.990	100	115	.. ..

KILO-	DOWN		UP	
54.700	75	80	115	115
54.970	61 Points		⊗X35	..
55.086	Penrith			
	⊕ Up sign on Down Main			

**Section 2g
Up Engine Dive
Eveleigh – Redfern**

KILO- MET- RAGE	DOWN		UP	
	Nor- mal	XPT	Nor- mal	XPT
1.100	15	..	..	..
1.490	..	..	15	..

**Section 2h
Illawarra Dive
Down – Up**

KILO- MET- RAGE	DOWN		UP	
	Nor- mal	XPT	Nor- mal	XPT
1.299	..	..	Redfern	
1.540	X30	..	..	..
2.260	X25	..	..	..
2.300	..	..	30	..

**Section 2i
Strathfield Flyovers
Down / Up North
Suburban**

KILO- MET- RAGE	DOWN		UP	
	Nor- mal	XPT	Nor- mal	XPT
12.028	35	..	..	..
12.454	..	..	35	..

**Section 2j
Lidcombe Loop**

KILO- MET- RAGE	DOWN		UP	
	Nor- mal	XPT	Nor- mal	XPT
	Down and Up			
17.140	15	..	..	..

**Section 2k
Y Link Granville**

KILO- MET- RAGE	SOUTH WEST OUTER		SOUTH WEST INNER	
	Nor- mal	XPT	Nor- mal	XPT
21.530	X75	..
21.730	50
22.530	70
22.620	50	..

**Section 3a
Clyde – Carlingford**

KILO-	DOWN		UP	
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MET- RAGE	Nor- mal	XPT	Nor- mal	XPT
20.660	Clyde			
20.980	40
21.200	40	..
21.280	60
22.100	X15
22.180	..	..	60	..
22.422	Rosehill			
22.550	45	..	..	..
22.952	Camellia			
23.030	..	..	45	..
23.060	60	..	..	..
23.950	..	..	60	..
24.013	Rydalmere			
24.050	50	..	..	..
24.836	Dundas			
26.342	Teloepa			
27.760	..	..	50	..
27.850	Carlingford			

**Section 4
Blacktown –
Richmond**

KILO- MET- RAGE	DOWN		UP	
	Nor- mal	Up Signs	Nor- mal	Down Signs
32.060	Seven Hills			
	Branch			
32.400	70	..	..	..
32.850	..	..	X70	..
34.685	..	..	..	70
34.720	X40	..	..	314 Pts
34.760	50	..	..	..
34.874	Blacktown			
35.200	X25	..	..	321 Pts
35.300	..	50	..	..
35.300	115	..	..	..
35.340	..	..	70	..
35.640	..	..	..	100
36.244	..	..	X20	..
36.895	..	..	..	X40
36.895	..	..	100..	..
36.999	..	X40	..	..
37.151	100	..	..	..
37.406	Marayong			
37.621	..	100	..	..
37.624	..	..	100	..
37.921	80	..	..	..
37.924	..	..	..	80
38.240	..	..	80	..
38.244	..	80	..	..
38.540	..	..	..	85
38.544	85	..	..	..
39.480	..	100	..	..
39.482	345A Pts		..	X40
39.587	..	X40	..	345B Pts
39.608	X40	..	..	347A Pts
39.711	347B Pts		X40	..
39.786	..	..	100	..
39.809	..	..	..	80
39.970	Quakers Hill			
40.130	..	..	80	100
40.415	100	85	..	..
42.200	..	..	100	115
42.210	115	100	..	..
42.215	X60	..	..	51A Pts
42.345	51B Pts		X60	..

KILO-	DOWN		UP	
42.358	52A Pts		..	X60
42.488	..	X60	..	52B Pts
42.855	Schofields			
43.212	..	..	115	60
43.267	..	..	60	..
43.267	53 Pts		..	X60
43.335	115	..	X60	..
45.290	⊗60	..	..	..
45.600	..	..	115	..
45.959	Riverstone			
46.253	X35	..	..	42 Points
46.340	85	..	..	..
46.342	42 Points		X35	..

(Continued next column)

**Section 4
Blacktown –
Richmond**

KILO- MET- RAGE	DOWN		UP	
	Nor- mal	Up Signs	Nor- mal	Up Signs
46.405	..	..	⊗60	..
46.476	⊗20	..	..	..
46.586	..	..	⊗20	..
47.480	115	..	85	..
49.225	Vineyard			
52.586	Mulgrave			
52.910	75	..	115	..
54.958	..	..	75	..
54.979	Windsor			
55.000	60	..	..	..
55.279	105	..	..	..
55.640	..	..	60	..
56.160	..	..	115	..
56.190	115	..	..	..
56.900	X50	..	..	..
57.020	100	..	115	..
57.100	^50	..	..	^X50
57.218	Clarendon			
57.405	^X50	..	..	^50
57.440	115	..	100	..
57.560	..	..	X50	..
59.800	50	..	115	..
59.996	East Richmond			
60.630	..	..	40	..
60.681	Richmond			

^ On Loop

⊗ Level crossing sign NGE 216 Level crossings

**Section 5a
Lidcombe -
Macarthur**

KILO- MET- RAGE	DOWN		UP	
	Nor- mal	XPT	Nor- mal	XPT
16.606	Lidcombe			
16.715	#45	..	#80	..
	#On Suburban line			
16.715	X35	..	..	713 Points
16.815	X35	..	..	708B Pts
	Down Sign on Turnback Road			
16.853	708B Pts		⊕X15	..
16.853	..	..	⊕30	..

KILO-	DOWN		UP	
17.035	709B Pts		X30	..
17.045	45	..	..	..
17.240	..	..	45	..
17.500	90	..	70	..
18.357	Berala			
19.575	..	..	90	..
19.720	70	..	..	..
19.859	Regents Park			
20.035	X25	..	..	..
20.035	50	..	..	..
+ Kilometrage Via Regents Park				
+20.657	Sefton Pk Jn			
+20.701	..	..	X50	..
+20.820	105	..	50	..
+21.192	Sefton			
+22.309	Chester Hill			
+23.665	Leightonfield			
+24.160	U25	..	..	..
+24.496	Villawood			
+25.220	..	..	U40	..
+25.310	225 points		X40	..
+25.892	Carramar			
+27.550	..	..	100	..
+27.560	80	..	..	..
+28.065	X70	..	..	..
31.820	..	..	X80	..
31.940	..	..	80	..
31.991	Cabramatta			
32.100	100	..	..	..
32.500	..	..	70	90MU
34.158	Warwick Farm			
34.545	X60	..	260A Pts	
34.670	60	..	..	..
34.947	60	80MU	100	..
35.325	X40	..	265A Pts	
On Down Refuge				
35.540	..	..	65	75MU
35.681	Liverpool			
U Down sign on Up Main				
U Up sign on Down Main				

**Section 5a
Lidcombe -
Macarthur**

KILO-MET-RAGE	DOWN			UP		
	Nor-mal	XPT	Nor-mal	XPT	..	..
35.785	X40	..	270A Pts			
On Back Platform Road						
35.854	8	..	..	..	..	..
On Back Platform Road						
35.940	60	..	..	..	..	..
36.284	..	..	65	95MU		
36.570	95	100	..	..	..	..
KILO-MET-RAGE	DOWN			UP		
	General	Medium	High	General	Medium	High
38.801	Casula					
39.602	..	..	..	75	95	95
39.774	80	115	115	..	..	..
41.064	..	..	..	80	115	115
41.082	60	100	100	..	..	..
41.300	60	100	100	..	..	..
41.343	..	..	..	80	115	115

	DOWN			UP		
	X60	..	..	53A Pts	..	..
41.359	X60	..	..	53A Pts		
41.640	54B Pts X60					
41.817	56B Pts X40					
41.925	Glenfield					
42.017	X45	..	..	60A Pts		
42.020	..	..	..	60	115	115
42.670	Glenfield South Junction					
42.701	80	115	115	..	..	..
42.730	58 Pts X60					
43.703	..	..	..	60	115	115
43.802	Macquarie Fields					
44.560	70	115	115	..	..	..
45.109	100	115	115	..	..	..
45.646	Ingleburn					
46.670	..	..	..	95	115	115
47.032	..	..	..	70	115	115
49.534	..	..	..	95	115	115
49.671	Minto					
52.634	Leumeah					
53.052	..	..	..	95	105	105
53.712	75	115	115	..	..	..
54.015	..	..	..	60	105	105
54.476	75	85	85	..	..	..
54.714	Campbelltown					
55.251	..	..	..	60	100	100
55.367	95	100	105	..	..	..
56.280	..	..	..	70	100	100
56.356	41 Pts Up sign .X35.					
on turnback road						
56.733	Macarthur					
56.776	..	..	..	70	100	100
57.800	95	95	105	..	..	..
57.965	95	..	105	100	100	100
57.965	RailCorp Boundary					

**Section 5b
Granville –
Cabramatta**

KILO-MET-RAGE	DOWN			UP		
	General	Medium	High	General	Medium	High
21.224	Granville					
21.600	X15	U	..	750A Pts		
21.655	X15	..	..	751A Pts		
21.655	750B Pts			X15	U	..
21.725	751B Pts			X15	..	..
On Loop						
22.038	75	75	75	..	..	..
22.447	..	..	..	60	80	80
22.690	..	..	..	50	50	50
U U U						
22.705	X70	..	..	756 Pts		
22.825	756 Pts			X50	U..	..
22.875	757 Pts			X50	X70MU..	
22.935	758B Pts			X50	..	..
23.081	75	75	75	..	..	..
23.221	..	..	..	50	70	70
23.472	Merrylands					
24.632	75	90	95	..	..	..
24.887	..	..	..	60	75	75
25.490	..	..	..	60	75	80
25.723	Guildford					
26.335	70	100	100	..	..	..

	DOWN			UP		
	80	100	100	..	..	..
26.722	80	100	100	..	..	..
27.103	90	100	100	..	..	..
27.438	Yennora					
28.142	40	U..	..	..	..	..
28.355	..	..	..	40	U..	..
28.997	Fairfield					
29.208	..	..	..	80	100	100
30.695	75	90	90	..	..	..
30.979	Canley Vale					
31.399	..	..	..	80	90	90
31.506	80	80	80	..	..	..
31.626	X80	..	..	121 Pts		
31.820	122 Pts			X70* X80MU*..		
31.991	Cabramatta					

* Applies to trains to Canley Vale
 U Down sign on Up Old South
 U Up sign on Down Old South
 U Level crossing sign NGE 216 Level crossings

**Section 5d
Turnback Rd
Glenfield**

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
41.261	46 Pts		X75	..
41.359	60	..	..	..
41.359	52 Pts		X60	..
41.800	..	..	60	..
41.925	Glenfield			

**Section 6a
Central – Hornsby
(Shore)**

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	Up signs	Nor-mal	Dwn signs
0.000	Central			
0.270	..	..	40	..
0.440	30	..	..	..
0.590	..	..	30	..
0.785	40	..	..	..
1.176	Town Hall			
2.047	Wynyard			
2.173	60	..	..	..
2.982	..	..	40	..
3.340	55	..	..	..
4.435	Milsons Point			
4.880	30	..	50	..
5.134	North Sydney			
5.200	..	..	30	..
5.215	10	..	..	..
No 2 & 3 Road Tunnel				
5.300	60	..	..	..
5.676	..	..	10	..
No 2 & 3 Road Tunnel				
5.895	50	..	..	..
6.110	Waverton			
6.225	..	..	50	..
6.480	50	..	..	..
7.175	Wollstonecraft			
7.505	..	..	50	..
7.645	50	..	..	..

	DOWN	UP
8.100	80	..
8.410	St Leonards	..
8.628	..	50
10.160	50	..
10.295	Artarmon	..
10.560	80	..
11.287	80	80
11.287	X80	84 Pts
11.595	..	80
11.682	Chatswood	..
11.770	..	40
11.920	..	40
11.930	93A Pts	X40
11.930	X40	92A Pts
12.168	96D Pts	X40
12.860	..	80
13.273	Roseville	..
13.320	..	75
14.290	50	80
14.540	..	45
14.604	Lindfield	..
14.725	80	..
15.889	Killara	..
16.880	X40	50 Pts
16.900	50	..
17.035	51 Pts	X40
<i>On Platform Road</i>		
17.100	70	..
17.118	Gordon	..
17.250	X25	52 Pts
<i>Dwn Sign on Up Shore</i>		
17.300	..	80
17.345	..	X40
18.710	..	70
18.896	Pymble	..
19.070	80	..
20.760	50	..
20.818	Turrumurra	..
20.920	80	..
21.810	70	80
21.886	Warawee	..
22.090	..	75
22.774	Wahroonga	..
23.010	80	..
24.100	50	..
24.208	Waitara	..
24.740	..	80
24.840	40	..
25.090	..	40
25.150	X8	X8
25.255	Hornsby	..

**Section 6b
Chatswood – Epping**

KILO-MET-RAGE	DOWN		UP	
	Nor-mal ↓	Up signs ↑	Nor-mal ↑	Dwn signs ↓
11.350	Trn Back Rd	20	40	
11.420	86B Pts		X75	
11.433	87A Pts			X40
11.540	..	X40		87B Pts
11.682	Chatswood			
11.770	80	..	..	80
11.792	X40	..	91A Pts	
11.860	91D Pts		X40	..
11.996	93D Pts		X40	..

	DOWN	UP
11.996	..	X40
12.015	94A Pts	..
12.082	..	X40
12.100	X40	94D Pts
12.256	..	80
12.490	..	75
16.000	X40	301A Pts
16.240	301B Pts	X40
17.970	..	80
17.980	..	80
18.030	60	..
18.098	..	60
18.220	North Ryde	..
18.370	75	60
18.430	..	60
18.554	80	75
18.553	..	75
19.453	60	80
19.500	..	80
19.625	Macquarie Park	..
19.731	302A Pts	X40
19.800	80	60
19.815	..	60
19.920	..	X40
20.760	60	80
20.770	..	80
20.910	Macquarie University	..
21.060	80	60
21.073	..	60
24.425	X40	303A Pts
24.660	303B Pts	X40
24.660	..	80
24.672	60	..
24.742	..	80
24.825	Epping	..
24.916	..	65
24.921	65	..
24.960	..	60
25.475	55	..
25.484	..	65
25.545	X55	112 Pts
*25.638	..	X25
*25.638	111 Pts	X55

* 24.090 Via Strathfield

**Section 6c
Waverton – North
Sydney Car Sidings**

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
6.110	Waverton	..	..	..
6.410	40	..	..	..
7.670	..	..	40	..
7.845	North Sydney CS	..	..	..

**Section 7a
Strathfield – Hornsby**

KILO-MET-RAGE	DOWN			UP		
	General	Medium	High	General	Medium	High
11.806	Strathfield					
12.162	60	60	60	..	..	..
12.333	80	80	80	..	..	..

	DOWN	UP
12.333	..	60
12.600	..	X25
12.760	X25	..
12.837	..	70
12.840	X25	..
13.382	North Strathfield	..
13.559	80	115
14.455	..	X25
14.544	Concord West	..
15.110	..	X80
16.576	Rhodes	..
16.718	..	80
16.817	80	115
18.183	Meadowbank	..
18.761	60	100
18.761	..	60
18.910	..	X25
19.196	West Ryde	..
19.295	60	90
19.295	X50	..
20.069	60	100
20.155	Denistone	..
20.678	..	60
21.392	Eastwood	..
22.642	60	90
23.004	..	60
23.030	X25	104A Pts
23.115	103B Pts	X35
23.135	50	60
23.230	X15	105B Pts
Up sign on Down Main		
23.233	25	25
Up sign on Down Main		
23.391	Epping	..
23.475	X25	107A Pts
23.570	107B Pts	X25
23.570	108 Pts	X15
Down sign on Up Main		
23.595	..	60
Down sign on Up Main		
23.880	..	60
23.880	X60	109 Pts
24.089	60	60
24.089	..	60
Down sign on Up Main		
24.090	X25	112 Pts
Up sign on Down Main		
24.090	111 Pts	X55
24.460	70	90
24.563	113A Pts	X60
Down sign on Up Main		
24.565	25	25
Up sign on Down Main		
24.601	..	60
24.695	X25	113B Pts
Up sign on Down Main		
25.376	Cheltenham	..
26.255	70	75
26.257	..	60
26.904	Beecroft	..
27.938	..	60
27.948	80	85
28.266	80	115
28.579	Pennant Hills	..
29.431	Thornleigh	..
29.947	..	60
30.489	80	85
30.764	80	90

	DOWN			UP		
31.562	..	..	80	95	95	
31.720	Normanhurst					
31.811	80	80	80	..	..	..
32.818	X75	..	..	500A Pts		
32.967	75	80	80	Dwn Relief		
33.375	60	80	80	Dwn Relief		
33.495	..	..	..	80	80	80
33.539	X75	..	..	501B Pts		
Up sign on Down Main						
33.539	X25	..	..	502A Pts		
33.864	Hornsby					

**Section 7b
North Strathfield –
Rhodes
Down Relief Lines**

KILO-MET-RAGE	DOWN			UP		
	General	Medium	High	General	Medium	High
12.528	55	55	60	..	..	..
12.750	..	..	..	X50	..	..
13.382	North Strathfield					
13.619	80	85	90	..	..	..
13.619	..	..	..	55	55	55
14.544	Concord West					
14.726	..	..	..	80	80	80
14.785	X80	..	..	..	..	..
16.503	70	70	75	..	..	..
16.576	Rhodes					
16.680	X70	..	..	..	..	..

**Section 7c
West Ryde – Epping
Suburban Lines**

KILO-MET-RAGE	DOWN			UP		
	General	Medium	High	General	Medium	High
19.196	West Ryde					
19.204	..	..	..	60	80	90
19.401	60	75	80	..	..	..
20.127	60	85	90	..	..	..
20.155	Denistone					
21.314	60	65	70	..	..	..
21.392	Eastwood					
21.668	60	90	95	..	..	..
23.004	..	..	..	60	90	90
23.117	105A Pts			X15	..	..
Down sign on Up Suburban						
23.206	50	60	60	..	..	..
23.391	Epping					

**Section 8a
Central – Hurstville
Illawarra Line**

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
1.100	35	..	..	..
1.299	Redfern			

KILO-	DOWN		UP	
1.390	X25	..	..	..
1.510	..	..	35	..
2.213	Illawarra Junction			
2.300	..	..	50	..
2.360	..	..	X25	..
2.390	50	..	..	..
2.808	Erskineville Junction			
2.820	..	..	X25	..
2.881	Erskineville			
2.970	65	..	..	..
3.020	..	..	65	..
3.809	St Peters			
3.950	..	..	70	..
4.930	X25	..	..	..
5.040	..	..	80	..
5.308	Sydenham			
5.470	..	..	75	..
5.730	90	..	50	..
6.410	65	..	..	..
6.450	..	..	70	..
6.451	Meeks Road Sth Jun			
6.760	..	..	50	..
6.842	Tempe			
7.080	70	..	..	..
7.279	Wolli Creek Jun			
7.310	Wolli Creek			
7.310	100	..	..	..
7.460	X40	..	..	..
8.350	70	..	..	..
8.420	Arncliffe			
8.584	..	..	70	..
8.700	100	..	..	..
9.500	80	..	..	..
9.604	Banksia			
9.800	..	..	90	..
10.200	60	..	..	..
10.406	Rockdale			
10.660	100	..	..	..
11.607	Kogarah			
11.770	80	..	100	..
12.741	Carlton			
13.360	75	..	..	..
13.692	Allawah			
14.260	X50	..	..	..
14.370	..	..	80	..
14.680	80	..	..	..
<i>Dwn Sign on Up Main</i>				
14.837	Hurstville			

**Section 8b
Central – Hurstville
Illawarra Local Line**

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
0.000	Central			
0.814	60	..	..	..
1.299	Redfern			
2.213	Illawarra Jun			
2.808	Erskineville Jun			
2.881	Erskineville			
3.240	70	..	..	..
3.809	St Peters			
4.700	..	..	65	..
5.050	734 Pts		X25	..
5.100	50	..	..	..

KILO-	DOWN		UP	
5.100	X20	..	737 Pts	
5.200	..	..	50	..
5.308	Sydenham			
5.410	65	..	..	..
5.670	..	..	65	..
5.770	75	..	..	..
6.410	65	..	..	..
6.451	Meeks Rd South Jun			
6.460	..	..	X15	..
6.570	X15	..	..	..
6.660	..	..	65	..
6.842	Tempe			
6.980	..	..	80	..
7.100	75	..	..	..
7.200	80	..	..	..
7.210	..	..	75	..
7.260	X35	X40	..	..
7.279	Wolli Ck Jun			
7.660	..	..	X40	..
8.100	..	..	80	..
8.420	Arncliffe			
8.490	..	..	60	..
8.530	80	..	..	..
9.604	Banksia			
10.230	..	..	80	..
10.470	..	..	75	..
10.406	Rockdale			
11.607	Kogarah			
12.741	Carlton			
13.340	70	..	..	..
13.380	..	..	80	..
13.692	Allawah			
14.260	X50	..	..	..
14.550	..	..	80	..
14.600	50	..	..	..
<i>Down Sign Up Local</i>				
14.710	50	..	45	..
14.710	..	..	X25	..
<i>Up Sign on Down Local</i>				
14.837	Hurstville			
14.890	..	..	50	..
<i>Up Sign on Dn Local</i>				
14.950	X50	..	..	..
15.270	..	..	X35	..
15.550	..	..	50	..
15.550	X50	..	..	..
<i>Down Sign on Up Local</i>				

**Section 8c
Hurstville – Waterfall**

KILO-MET-RAGE	DOWN		UP	
	Nor-mal ↓	Up signs ↑	Nor-mal ↑	Dwn signs ↓
14.837	Hurstville			
14.950	..	..	..	65
15.060	..	..	X50	..
15.060	..	..	..	X50
15.090	..	..	..	X35
15.190	80	X50	..	..
15.200	..	..	65	..
15.430	..	..	..	85
15.580	..	..	80	..

DOWN UP

KILO-MET-RAGE	DOWN			UP		
	General	Medium	High	General	Medium	High
15.661	..	..	..	60	70	75
15.665	991B Pts			X50	..	..
16.125	Penshurst					
16.760	X25	..	..	1080A Pts		
16.835	1080B Pts			X25	..	..
16.903	..	..	..	80	85	90
17.059	Mortdale					
17.060	55	55	65	..	..	..
17.110	X25	..	..	1082A Pts		
17.208	55	55	65	..	..	..
17.210	X35	..	..	1084A Pts		
17.300	..	..	..	80	80	80
18.063	65	65	65	..	..	..
18.081	..	..	..	75	75	85
18.105	1096B Pts			X25	..	..
18.282	Oatley					
18.536	80	80	85	70	70	75
19.438	80	100	110	75	80	85
20.643	80	85	90	..	..	..
20.711	..	..	..	80	100	100..
21.080	..	..	..	65	85	85
21.103	80	80	90	..	..	..
21.237	Como					
21.371	70	70	75	..	..	..
21.916	80	90	90	65	70	75
22.546	..	..	..	65	95	100
22.723	Jannali					
23.319	70	70	70	..	..	..
24.388	X40	..	..	151A Pts		
24.641	Sutherland					
24.726	80	90	90	..	..	..
25.800	167B Pts			X25	..	..
26.288	Loftus					
26.368	85	85	95	65	100	100
27.327	100	115	115	65	85	95
28.392	..	..	..	70	85	95
30.753	Engadine					
31.990	85	100	110	..	..	..
32.306	100	100	110	80	115	115
33.020	100	115	115	80	100	110
33.153	Heathcote					
36.302	70	95	95	..	..	..
36.700	X50	..	..	47A Pts		
36.850	50	50	50	Down Refuge		
37.574	70	80	80	..	..	..
37.725	..	..	..	⓪	..	..
				X50	..	..
37.800	Up Refuge			X50	..	..
37.820	Down sign on UP Refuge			X50	..	..
37.895	Up Refuge			X50	..	..
37.895	Down sign on UP Refuge			50	50	50
38.207	..	..	..	80	115	115
38.652	40	55	60	..	..	..
38.725	Up Refuge			50	50	50
38.725	Down sign on UP Refuge			X50	..	..
38.741	Waterfall					

⓪ Down sign on UP Main

**Section 8d
Hurstville –
Sutherland Bi-**

**directional – Illawarra
Line**

KILO-MET-RAGE	DOWN MAIN UP Direction			UP MAIN Down Direction		
	General	Medium	High	General	Medium	High
15.660	60	70	75	..	..	..
15.665	992A Pts			X50	..	..
15.830	X50	..	..	992B Pts		
16.125	Penshurst					
16.860	1081A Pts			X15	..	..
16.900	70	70	75	..	..	..
16.950	X15	..	..	1081B Pts		
16.970	..	..	..	55	55	65
17.059	Mortdale					
17.125	1083A Pts			X40	..	..
17.203	..	..	..	55	55	65
17.210	X40	..	..	1083B Pts		
17.383	55	55	65	..	..	..
18.065	75	75	80	..	..	..
18.081	..	..	..	70	70	75
18.081	1098A Pts			X15	..	..
18.170	X15	..	..	1098B Pts		
18.282	Oatley					
18.535	65	65	65	80	80	85
19.438	75	80	85	80	100	110
20.643	..	..	..	80	85	90
20.711	80	100	100	..	..	..
21.080	65	85	85	70	70	75
21.237	Como					
21.916	65	70	75	80	90	90
22.546	65	95	100	..	..	..
22.723	Jannali					
23.318	..	..	..	70	70	70
24.270	150A Pts			X40	..	..
24.388	60	85	95	..	..	..
24.388	X40	..	..	150B Pts		
24.410	152A Pts			X40	..	..
24.500	X40	..	..	152B Pts		
24.641	Sutherland					
24.726	60	85	85	..	..	..

**Section 8e
Eveleigh Yard**

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
*2.197	⊗ 8	..	..	..
*2.233	..	..	⊗ 8	..
*2.353	⊗ 8	..	..	..
*2.394	..	..	⊗ 8	..

* Overhead wiring mast number
⊗ Level crossing sign NGE 216 Level crossings

**Section 9
Sutherland - Cronulla**

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	Up Signs	Nor-mal	Down Signs
24.462	X40		151B Pts	
	On Back Platform Road			
24.641	Sutherland			

KILO-MET-RAGE	DOWN		UP	
	General	Medium	General	Medium
24.723	X25	..	155A Pts	
24.896	35	..	..	..
24.997	159A Pts		X35	..
25.000	55	..	..	..
25.522	..	..	55	..
25.535	80	..	..	..
26.284	..	..	75	..
26.449	65	..	..	..
26.604	..	..	65	..
26.694	Kirrawee			
26.768	80	..	..	..
27.944	Gymea			
29.509	Miranda			
31.509	Caringbah			
31.864	100	..	80	..
33.407	65	..	..	..
33.444	..	..	100	..
33.601	Woolooware			
34.165	45	..	..	..
34.165	X45	..	51A Pts	
34.346	..	..	65	45
34.361	..	X45	52B Pts	
34.445	15	..	..	..
34.679	..	..	45	..
34.689	..	..	..	25
34.724	..	..	..	8
	Yard Speed sign for 1,2,3 Sdgs			
34.793	..	..	35	..
	Yard Speed sign for 1,2,3 Sdgs			
34.808	Cronulla			

**Section 10
Erskineville Junction
– Bondi Junction**

KILO-MET-RAGE	UP ILLA RELIEF		DOWN ILLA RELIEF	
	Nor-mal	XPT	Nor-mal	XPT
3.108+	Erskineville Jun			
2.970+	..	..	X25	..
2.870+	..	..	45	..
2.760+	60	..	..	..
1.299+	Redfern			
	DOWN ESR		UP ESR	
0.100	Central			
0.770	..	..	60	..
0.920	50	..	..	..
1.176	Town Hall			
1.390	..	..	50	..
1.560	60	..	..	..
2.102	Martin Place			
3.410	Kings Cross			
4.530	60	..	..	..
4.823	Edgecliff			
5.000	50	..	60	..
6.000	60	..	50	..
6.340	..	..	60	..
6.444	X35	..	908 Pts	
6.640	..	..	60	..
6.665	X25	..	911 Pts	
	Up Sign on Down ESR			
6.757	Bondi Junction			

+ Kilometrage via ESR from Central

Section 11

Sydenham – Regents Park

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
5.170	738 Points			
5.308	Sydenham			
5.510	40	..	..	..
6.040	70	..	40	..
6.575	Marrickville			
7.540	..	..	70	..
7.750	60	..	..	..
7.872	Dulwich Hill			
8.797	Hurlstone Park			
10.020	..	..	60	..
10.163	Canterbury			
10.360	65	..	..	..
11.340	X50	..	262 Points	
11.420	261 Points		X50	..
11.697	Campsie			
12.130	X25	..	263 Points	
Down sign on Up Bnkstwn line				
12.270	X50	..	264 Points	
Down sign on Up Bnkstwn line				
13.000	..	..	65	..
13.140	40	..	..	..
13.250	Belmore			
13.400	..	..	40	..
13.580	80	..	..	..
14.200	..	..	80	..
14.340	60	..	..	..
14.481	Lakemba			
14.640	..	..	50	..
14.800	80	..	..	..
15.346	Wiley Park			
16.290	65	..	80	..
16.447	Punchbowl			
16.880	..	..	65	..
17.020	80	..	..	..
18.600	..	..	80	..
18.715	Bankstown			
18.750	..	..	60	..
18.813	40	..	..	..
18.860	..	..	60	..
19.140	55	..	..	..
19.546	65	..	..	..
20.060	..	..	60	..
20.556	Yagoona			
22.106	Birrong			
22.130	..	..	65	..
22.290	40	..	..	..
22.670	X25	..	201 Pts	
22.750	X10	X20MU	203 Pts	
22.765	Sefton Pk EastJun			
22.765	202 Pts		X35	..
22.825	..	..	X25	..
23.305	X25	..	..	..
23.392	+Sefton Pk North Jun			
20.062	+ Via Lidcombe			

Section 12

Central – Wollie Creek (Airport Line)

KILO-MET-RAGE	DOWN			UP		
	Nor-mal	XPT	Nor-mal	XPT	Nor-mal	XPT
0.100	Central					
0.183	45	..	..	..	..	..
Airport Turnback						
0.270	X55	..	636 Points			
0.271	..	..	25	..	..	..
Up Sign on Airport Turnback						
0.271	X45	..	..	..	..	..
Airport Turnback						
0.353	635B Pts		X40	..	..	..
0.390	..	..	X45	..	..	..
Up Sign on Dwn Airport						
0.420	..	..	45	..	..	..
0.432	80	..	..	..	..	..
0.896	..	..	80	..	..	..
Up Sign on Down Airport						
1.052	850B Pts		X75	..	..	..
2.070	..	..	80	..	..	..
2.240	60	..	..	..	..	..
2.714	Green Square					
2.998	..	..	60	..	..	..
3.172	80	..	..	..	..	..
4.935	..	..	80	..	..	..
5.105	60	..	..	..	..	..
5.191	Mascot					
5.275	..	..	60	..	..	..
5.445	80	..	..	..	..	..
6.480	..	..	80	..	..	..
6.655	60	..	..	..	..	..
6.743	Domestic					
6.825	..	..	60	..	..	..
7.000	80	..	..	..	..	..
7.935	..	..	80	..	..	..
8.110	60	..	..	..	..	..
8.271	International					
8.280	..	..	60	..	..	..
8.460	80	..	..	..	..	..
9.024	..	..	80	..	..	..
9.200	60	..	..	..	..	..
9.489	Wollie Creek					
9.680	..	..	60	..	..	..
9.855	80	..	..	..	..	..

Section 13

Wollie Creek Junction - Glenfield

KILO-MET-RAGE	DOWN			UP		
	General	Medium	High	General	Medium	High
7.279	Wollie Creek Jct					
7.361	754 Pts		X50	..	..	..
7.450	..	..	..	50	50	55
7.528	50	50	55	..	..	..
7.829	80	80	85	..	..	..
8.213	X70	..	..	501A Pts		
8.220	..	..	..	80	80	85
8.343	80	80	85	..	..	..
8.618	504B Pts		X70	..	..	..

KILO-MET-RAGE	DOWN			UP		
	General	Medium	High	General	Medium	High
8.633	# Turrella					
9.276	60	80	85	80	80	90
9.867	80	80	85	..	..	..
9.902	..	..	..	60	80	90
10.095	# Bardwell Park					
11.368	# Bexley North					
11.679	..	..	..	80	80	90
11.745	80	100	115	..	..	..
12.624	# Kingsgrove					
13.160	60	100	115	..	..	..
13.902	..	..	..	80	100	115
13.964	X60	..	..	511A Pts		
14.589	..	..	..	60	100	115
14.646	# Beverly Hills					
14.733	60	100	110	..	..	..
15.302	..	..	..	60	95	105
15.533	60	100	100	..	..	..
15.785	# Narwee					
16.153	..	..	..	60	100	105
16.339	60	115	115	..	..	..
17.497	# Riverwood					
17.752	60	105	110	..	..	..
18.131	..	..	..	60	100	110
18.138	60	115	125	..	..	..
18.805	..	..	..	60	115	125
19.340	# Padstow					
20.230	80	115	125	..	..	..
20.306	..	..	..	80	115	125
20.430	51B Pts		X60	..	..	..
20.964	Revesby					
21.392	80	105	115	60	115	115
21.663	55B Pts		X60	..	..	..
21.700	80	105	115	..	..	..
21.992	..	..	..	70	115	115
22.554	Panania					
23.560	..	..	..	80	115	115
23.647	X25	..	..	31A Pts		
23.880	80	115	115	..	..	..
23.882	..	..	..	X25		
On Up Terminal Road						
24.028	East Hills					
26.755	Holsworthy					
31.303	80	105	115	..	..	..
31.360	..	..	..	80	115	115
%41.082	60	100	100	..	..	..
%41.095	X60	..	..	50A Pts		
%41.359	..	..	..	80	80	80
%41.359	52B Pts		X60	..	..	..
%41.560	60	100	100	..	..	..
%41.813	..	..	..	60	80	80
%41.925	Glenfield					
%42.017	X60	..	..	62A Pts		
%42.020	..	..	..	60	60	80
%42.100	61A Pts		X60	..	..	..
%42.112	60	75	75	..	..	..
%42.240	..	..	..	60	60	60
%42.540	..	..	..	60	75	75
%42.592	X75	..	..	57 Pts		
%42.670	Glenfield South Jct					

No platforms on Main lines
% Kilometrage via Main South

Section 13a Turrella – Revesby Local Line

KILO-MET-RAGE	DOWN			UP		
	General	Medium	High	General	Medium	High

KILO-MET-RAGE	DOWN			UP		
	General	Medium	High	General	Medium	High
8.380	502B Pts			X70	..	..
8.388	X70	..	..	503A Pts		
8.544	60	80	85	..	..	..
8.633	Turrella					
9.900	..	..	..	60	80	85
10.095	Bardwell Park					
11.368	Bexley North					
12.624	Kingsgrove					
12.793	X25	..	..	508A Pts		
12.800	..	..	..	80	80	85
13.160	70	100	115	..	..	..
13.902	..	..	..	80	100	115
14.194	512B Pts			X75	..	..
14.646	Beverly Hills					
14.733	70	80	85	..	..	..
15.785	Narwee					
15.880	..	..	..	60	85	90
16.153	..	..	..	60	95	100
16.339	60	90	100	..	..	..
17.497	Riverwood					
17.900	..	..	..	60	100	110
18.547	70	110	115	..	..	..
19.340	Padstow					
20.008	..	..	..	20	100	110
20.133	60	60	60	..	..	..
20.335	X60	..	..	52A Pts		
20.574	X45	ⓘ	..	53A Pts		
20.700	53B Pts			X45	ⓘ	..
20.835	54B Pts			X45	..	..
20.964	Revesby					
21.392	..	..	..	60	80	80
21.414	X60	..	..	56B Pts		

ⓘ Down sign on Up Local
ⓘ Up sign on Down Local

Section 14a Metropolitan Freight Lines

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
Meeks Road Junction - Enfield - Flemington West Junction				
6.460	Meeks Rd/Tempe Jun			
5.865	..	..	X25	..
6.390	X15	..	..	..
<i>N.B. Down and Up tracks are reversed at Meeks Road West Junction</i>				
6.064	Meeks Rd West Jun			
6.080	..	..	X25	..
6.125	25	..	..	..
6.220	..	..	25	..
6.555	X35	..	..	..
6.634	Marrickville Junction			
6.650	35	..	..	..
6.670	..	..	X35	..
6.710	..	..	35	..
7.000	40	..	..	..
7.835	X25	..	..	..
#7.872	Dulwich Hill			
8.315	..	..	X25	..
8.570	..	..	40	..
#8.797	Hurlstone Park			
8.870	50	..	..	..

KILO-	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
9.980	..	..	50	..
#10.163	Canterbury			
10.280	60	..	..	..
#11.697	Campsie			
Meeks Road Junction - Enfield - Flemington West Junction				
11.860	50	..	60	..
12.600	..	..	50	..
12.900	60	..	..	..
13.700	..	..	60	..
# On the Up and Down Bankstown lines				
13.735	Enfield South			
13.780	..	..	X25	..
16.500	..	..	60	..
16.940	70	..	..	..
17.040	..	..	X15	..
17.060	X25	..	..	..
17.083	Chullora South Jun			
17.700	..	..	X25	..
19.000	..	..	70	..
19.160	50	..	..	..
19.440	..	..	50	..
19.785	..	..	X40	..
<i>Up Sign Dwn Gds</i>				
19.790	X35			
19.813	Flemington South Jun			
19.870	..	..	X35	..
20.334	Flemington West Jun			

Section 14b Metropolitan Freight Lines

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	Up Sign	Nor-mal	Dwn Sign
Botany - Marrickville				
9.270	Botany			
9.900	Gelco			
10.000	Banksia Street			
10.100	30	..	..	..
10.410	R'Corp/ARTC Boundary			
14.050	Sheas Creek			
14.710	..	..	30	..
14.760	Cooks River Goods Yd			
14.760	783 Points		..	X35
14.830	..	X35	783 Points	
14.855	50	..	35	..
14.855	X35	..	782 Points	
14.912	..	..	..	50
14.912	782 Points		X35	..
16.016	777 Points		..	X35
16.128	..	X35	777 Points	
16.289	X35	..	778 Points	
16.289	35	50	..	35
16.375	778 Points		X35	..
16.375	..	..	50	..
16.442	M'ville Jct Via Up Btny			
16.608	M'ville Jct Via Up Gds			

Section 14d Metropolitan Freight Lines

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT

KILO-	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
Chullora Junction - Sefton Park Junction				
17.596	Chullora Nth Jn			
17.640	X25	..	..	..
17.900	..	..	X25	..
17.958	Chullora West Jun			
17.083	Chullora South Jun			
17.160	25	..	X25	..
17.350	..	..	25	..
17.440	X25	..	..	..
17.467	Chullora West Jn			
17.470	..	..	X25	..
17.990	80	..	..	..
19.659	60	..	..	..
20.292	..	..	60	..
21.100	25	..	..	..
21.330	..	..	80	..
21.585	X35	..	..	..
21.635	..	..	25	..
21.658	Sefton Park East Jn			
21.780	..	..	X35	..
22.245	X50	..	..	..
22.270	Sefton Pk South Jn			

Section 14e Metropolitan Freight Lines

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
Flemington Goods Junction - Flemington South Junction				
Down Goods				
14.630	40	..	35	..
14.670	X20	..	..	..
14.750	..	..	X20	..
15.100	X35	..	40	..
15.190	40	..	..	..
Flemington Middle Jun				
<19.850	..	..	X35	..
<i>NOTE: At Middle Junction the Down Flemington Goods becomes Up Enfield East Fork</i>				
Up Enfield East Fork				
<19.810	Flemington Sth Jun			
Flemington Car Sheds Transfer Road				
14.800	..	..	X20	..
640 crossover				
Up Goods				
14.615	X20	..	..	..
14.630	40	..	20	..
15.170	X35	..	..	..
15.190	35	..	..	..
15.205	..	..	X35	..
15.235	..	..	X35	..
15.290	..	..	35	..
15.330	X35	..	35	..
Flem Middle Jun				
15.465	..	..	X35	..
<i>NOTE: At Middle Junction the Up Flemington Goods becomes Down Enfield East Fork</i>				
< Km from Enfield				

Section 14f

Metropolitan Freight Lines

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
North Strathfield Junction – Flemington Markets Junction				
#12.744	North Strathfield Jun			
#12.765	..	..	X50	..
#12.690	X50	..	..	..
#12.190	50	..	..	..
*13.735	35	..	50	..
Up Goods 625 crossover				
*13.810	20	..	..	..
*14.770	Flemington Mkts Jun			
<i>For speed signs Markets Junction to East Junction see Section 14g</i>				
<i>For speed signs East Junction to South Junction see Section 14e</i>				

* Main Suburban kilometrage

Main North kilometrage

Section 14g

Metropolitan Freight Lines

KILO-MET-RAGE	DOWN		UP	
	Nor-mal	XPT	Nor-mal	XPT
Flemington Goods Junction - Olympic Park				
^14.567	Flemington Gds Jun			
(1)14.595	..	..	X35	..
(1)14.650	35	..	..	..
(1)14.910	40	..	..	..
(1)15.390	..	..	40	..
(1)15.610	50	..	..	..
15.840	Flemington Nth Jun			
(2)15.850	X30	..	..	..
(2)15.880	..	..	X50	..
(2)16.040	50	..	..	..
(2)16.920	X50	..	..	..
(3)17.230	40	..	..	..
(4)17.230	40	..	..	..
17.330	Olympic Park			
(3)17.640	50	..	..	..
(4)17.640	50	..	..	..
(4)17.640	X50	..	..	..
15.840	# Flemington Nth Jun			
(5)15.785#	..	..	X50	..
(6)15.780#	50	..	..	..
(5)15.530#	..	..	X40	..
(5)14.870#	..	..	50	..
(6)15.050%	40	..	..	..
(5)15.070%	35	..	..	..
(5)15.145%	..	..	X40	..
(7)15.285%	X35	..	35	..
(5)15.330%	..	..	40	..
(6)15.350%	X35	..	X35	..
(8)15.390	..	..	X35	..
(8)15.490	50	..	..	..
(8)15.815	X45	..	50	..
(9)15.905	..	..	50	..
(9)15.925	X20	..	X40	..
(8)15.960	X35	X40MU	..	..
16.030	Flem West Jun			
(9)16.050	..	..	X35	X40MU

KILO-	DOWN		UP	
	X35	X40MU	..	..
(8)16.090	..	..	..	..
Lidcombe Shuttle Road				
15.995	..	..	X35	..
16.020	20	..	..	..
16.330	..	..	20	..

#Km via H'bush Bay East Fork

%Km via H'bush Bay Line

- (1) Homebush Bay East Fork
- (2) Homebush Bay Loop
- (3) Inner Platform Road
- (4) Outer Platform Road
- (5) Up Homebush Bay West Fork
- (6) Down Homebush Bay West Fork
- (7) Homebush Bay connection
- (8) Down Homebush Bay Line
- (9) Up Homebush Bay Line

Section 15

Glenfield - Leppington

KILO-MET-RAGE	DOWN		UP	
	Nor-mal ↓	Up signs ↑	Nor-mal ↑	Down signs ↓
41.925	Glenfield			
42.017	X45	..	60A Pts	..
			#	
42.017	X60	..	62A Pts	..
			%	
42.200	75	63B Pts	X60	..
42.910	115	..	75	..
45.040	95	..	115	..
45.390	Edmondson Park			
45.620	115	..	..	..
50.293	60	..	..	..
50.293	X60	200A Pts	..	..
50.430	..	..	115	60
50.740	201B Pts	X60	..	..
51.057	Leppington			
51.390	60	60	..	..
51.511	204 Pts	X60	X60	205 Pts
52.290	X40	210A Pts	209A Pts	X40
52.539	209B Pts	X40	X40	210B Pts
52.705	13	..	..	13
52.705	X13	211A Pts	212A Pts	X13
52.710	..	60	60	..
53.000	All Sidings	25	25	All Sidings

Down Main South

% Down East Hills

Section 15a

Glenfield – Leppington (Loop Lines)

KILO-MET-RAGE	DOWN		UP	
	Nor-mal ↓	Up signs ↑	Nor-mal ↑	Down signs ↓

KILO-	DOWN		UP	
	X60	200A Pts	..	..
50.293	..	..	..	..
50.740	203 Pts	X60	X60	202 Pts
51.057	Leppington			
51.390	X60	204 Pts	205 Pts	X60
51.511	..	..	X60	205 Pts

Superseded by TS TOC 2 v3.0

Section 17
Passenger Train Operating
Conditions

17. Passenger train operating conditions

December 2014

Introduction

This section of the Train Operating Conditions Manual contains specific operating conditions for passenger trains which include Sydney Trains, NSW Trainlink, privately owned diesel railcars, heritage trains and locomotive hauled trains.

Sydney Trains and NSW Trainlink

As Sydney Trains and NSW Trainlink operate similar types of rolling stock, the following sections refer to both Sydney Trains and NSW Trainlink.

Designation of rolling stock

All rolling stock have been classified as **Narrow, Medium, Extended Medium or Wide gauge** rolling stock as outlined TOC Manual, General Instructions, Section 10 Locomotive and Rolling Stock Data.

In Table 3 and Table 4 - Maximum speed of Sydney Trains and NSW Trainlink rolling stock (pp 82-83) the various sections of track have designated **Narrow, Medium, Extended Medium or Wide gauge**.

Table 2 – Profile Track Gauge Groups and Speeds

PROFILE	# GROUP	MAX SPEED	DESIGN SPEED	AREA OF OPERATION
Narrow gauge rolling stock	1 & 6	115	115	may run on Narrow, Medium, Extended medium or Wide gauge track areas
Medium width gauge rolling stock	2	115	115	may run on Medium, Extended medium or Wide gauge track areas
Medium width gauge rolling stock	3	115	130	may run on Medium, Extended medium or Wide gauge track areas
Extended Medium stock gauge rolling stock	4	115	115	may only run on Extended medium or Wide gauge track areas or where authorised herein or other authority i.e. TOC Waiver
Wide gauge rolling stock	5	80	80	may only run on Wide gauge track areas with a further restriction of 20km/hr through ALL PLATFORMS (unless otherwise specified in TOC Waiver authority)

For group categories, refer to General Instructions, Section 10 Locomotive and Rolling Stock Data.

For trains requiring to run in areas outside their rolling stock boundaries (e.g. rolling stock transfers, special working etc.), permission shall be obtained from Lead Engineer Rolling Stock, Asset Standards Authority and all special requirements necessary for the movement are to be included on a Special Train Notice or 'Tables' telegram. The following table includes certain authorised working for special movements (e.g. movement of nominated Extended Medium gauge rolling stock Sydney - Broadmeadow)

Speed signs - maximum kilometres per hour

Speed signs indicate the maximum speed permitted between a speed sign and the next in advance. Drivers shall make sure that the front of the train passes a sign at or below the speed given by the sign.

If speed signs allow an increase in speed, Drivers shall not increase speed until the rear of the train has passed the speed sign. (Sydney Trains Network Rule *NSG 604 Indicators and signs.*)

The maximum speed through the curved portion of the turnout is **25 km/h** unless otherwise shown. An 'X' speed sign applies to crossovers and turnouts, e.g. X30.

A white background speed sign with the letters "MU" alongside the numerals, by itself or under a yellow background speed sign, applies to XPT, Xplorer, Endeavour, Hunter trains and Multiple Unit trains (Sydney Trains Network Rule *NSG 604 Indicators and signs.*)

Speed signs - Endeavour / Hunter / Xplorer Trains

Endeavour / Hunter / Xplorer trains are to run to normal speed signs (black numbers on a yellow background). Where XPT or High speed signs are provided (black numbers on a white background), Endeavour / Hunter trains will run to these speed signs up to a maximum speed of 145 km/h.

Maximum speed of Sydney Trains and NSW Trainlink rolling stock

Table 3 and Table 4 - Maximum speed of Sydney Trains and NSW Trainlink rolling stock (pp 82-83) show the maximum speed of Sydney Trains and NSW Trainlink rolling stock over the various sections of lines. These speeds are subject to permanent speed signs and temporary speeds that may be in force.

The approval applies to Down and Up directions unless specified.

Where speeds are shown in the following table, these are to be taken as authority for these trains to operate on the designated section of line.

Where the letters N/A are shown, trains are not permitted to travel over that section of line under normal conditions. When the letters N/A are shown and a train is required to travel over that section of line, permission shall be obtained from Lead Engineer Rolling Stock, Asset Standards Authority before the movement commences

Table 3 Maximum speed of Sydney Trains and NSW Trainlink rolling stock

AREA / SECTION	TRACK WIDTH CLASS	ELEC-TRIFIED	SPEED-SIGNS Y/N	INTER-CITY		SUBURBAN			DIESEL RAILCARS			NOTES Locality working
				Double Deck	Double Deck	Double Deck	Double Deck	Single Deck	Endeavour / Xplorer	Hunter	XPT	
Train Type ⇨				Double Deck	Double Deck	Double Deck	Double Deck	Single Deck	Endeavour / Xplorer	Hunter	XPT	
Train Width ⇨				Narrow	Medium	Medium	Extended Medium	+ Wide	Narrow	Narrow	Narrow	
++Group				1	2	3	4	5	6	6		
City Circle												
CENTRAL - CIRCULAR QUAY - CENTRAL - City Inner and Outer	Wide	Yes	Yes	40	40	40	40	40	40	N/A	N/A	1a
Sydney to Lithgow												
SYDNEY <> GRANVILLE - Main	Wide	Yes	Yes	100	100	100	100	80	100	100	100	
GRANVILLE <> ST MARYS - West Sub/Sub	Wide	Yes	Yes	115	115	115	115	80	115	115	115	
CENTRAL <> GRANVILLE - Suburban	Wide	Yes	Yes	100	100	100	100	80	100	100	100	
GRANVILLE <> ST MARYS - West Main/Main	Wide	Yes	Yes	115	115	115	115	80	115	115	115	
CENTRAL <> HOMEBUSH - Local	Wide	Yes	Yes	75	75	75	75	75	75	75	75	
ST MARYS <> EMU PLAINS	Wide	Yes	Yes	115	115	115	115	80	115	115	115	
EMU PLAINS <> SPRINGWOOD	Medium	Yes	Yes	85	85	85	N/A	N/A	85	85	85	
SPRINGWOOD <> LITHGOW	Narrow	Yes	Yes	115	N/A	N/A	N/A	N/A	115	115	115	
Power House Museum Siding	Narrow	No	No	N/A	N/A	N/A	N/A	N/A	10	10	N/A	
Regent Street- Mortuary Platform	Wide	Yes	No	10	10	10	10	10	10	10	N/A	
Eveleigh > Redfern - Up Engine Dive	Wide	Yes	Yes	15	15	15	15	15	15	15	15	
Redfern - Illawarra Dives	Wide	Yes	Yes	30	30	30	30	30	30	30	30	
Clyde to Carlingford/Sandown												
CLYDE <> CARLINGFORD	Wide	Yes	Yes	60	60	60 \$	60	60	60	N/A	60	3a
ROSEHILL <> SANDOWN	Wide	^Yes	No	10	10	10	10	10	10	N/A	10	
Blacktown to Richmond												
BLACKTOWN <> RICHMOND	Wide	Yes	Yes	115	115	115	115	80	115	N/A	115	
SEVEN HILLS > BLACKTOWN >- Down Branch	Wide	Yes	Yes	70	70	70	70	70	70	N/A	70	
Lidcombe/Granville to Macarthur												
GRANVILLE <> CABRAMATTA	Wide	Yes	Yes	100	100	100	100	80	100	100	100	
LIDCOMBE <> MACARTHUR (Via Regents Prk)	Wide	Yes	Yes	115	115	115	115	80	115	115	115	
Lidcombe <> Loop Line	Wide	Yes	Yes	40	40	40	40	40	40	40	40	
Granville <> Y Link	Wide	Yes	Yes	70	70	70	70	70	70	70	70	
Central to Hornsby (Via North Shore)												
CENTRAL <> NORTH SYDNEY	Wide	Yes	Yes	60	60	60	60	60	60	N/A	60	1a
NORTH SYDNEY <> HORNSBY	Wide	Yes	Yes	80	80	80	80	80	80	80	80	
Waverton <> North Sydney Car Sidings	Wide	Yes	Yes	40	40	40	40	40	40	40	N/A	
Chatswood to Epping												
CHATSWOOD <> EPPING	Ext Med	Yes	Yes	80#	80#@\$	80*@	80#@	N/A	N/A	N/A	N/A	6b
Strathfield to Newcastle												
STRATHFIELD <> COWAN (Main)	Wide	Yes	Yes	115	115	115	115	80	115	115	115	
COWAN <> NEWCASTLE	Medium	Yes	Yes	115	115(7a)	115(7a)	115(7b)	N/A	145	145	145	7a, 7b
Strathfield <> Nth Strathfield - Flyover	Wide	Yes	No	40	40	40	40	40	40	40	40	
North Strathfield <> Rhodes - Down Relief	Wide	Yes	Yes	80	80	80	80	80	90	90	90	
West Ryde > Epping - Down Suburban	Wide	Yes	Yes	90	90	90	90	80	90	90	90	
Epping > West Ryde - Up Suburban	Wide	Yes	Yes	90	90	90	90	80	90	90	90	
Pennant Hills > Thornleigh - Down Relief	Wide	Yes	No	25	25	25	25	25	25	25	25	
Thornleigh > Pennant Hills - Up Relief	Wide	Yes	No	50	50	50	50	50	50	50	50	
Berowra > Down Relief	Wide	Yes	Yes	50	50	50	50	50	50	50	50	

\$ Waratah sets (A) not permitted between Clyde and Carlingford (Signal and Electrical restrictions)

+ See Sydney Metropolitan area - operation of wide gauge rolling stock (page 84) re operation of Wide Gauge rolling stock in the Metropolitan area.

++ Refer to Section General Instructions, Section 10 Locomotive and Rolling Stock Data for group categories

^ Electrified between Rosehill and Electric Train Stop sign located at location CC22+736 (Overhead wiring structure)

For all operational requirements outside the RailCorp network refer to the CRN and ARTC Train Operating Conditions Manuals.

Superseded by TS TOC 2 v3.0

Table 4 - Maximum speed of Sydney Trains and NSW Trainlink rolling stock

AREA / SECTION	TRACK WIDTH CLASS	ELEC-TRIFIED	SPEED-SIGNS Y/N	INTER-CITY		SUBURBAN			DIESEL RAILCARS			NOTES Locality working
				Double Deck	Double Deck	Double Deck	Double Deck	Single Deck	Endea-vour / Xplorer	Hunter	XPT	
Train Type →												
Train Width →				Narrow	Medium	Medium	Extended Medium	+ Wide	Narrow	Narrow	Narrow	
++Group				1	2	3	4	5	6	6		
Sydney to Port Kembla/Bomaderry												
CENTRAL <> HURSTVILLE - Illawarra Line	Wide	Yes	Yes	100	100	100	100	80	100	100	100	
CENTRAL <> HURSTVILLE - Illawarra Local	Wide	Yes	Yes	80	80	80	80	80	80	80	80	
HURSTVILLE <> HELENSBURGH	Wide	Yes	Yes	115	115	115	115	80	115	115	115	
HELENSBURGH <> PORT KEMBLA	Medium	Yes	Yes	115	115	115	N/A	N/A	115	115	115	
CONISTON <> KIAMA	Medium	Yes	Yes	115	115	115	N/A	N/A	140	140%	140	
KIAMA <> BOMADERRY	Narrow	No	Yes	N/A	N/A	N/A	N/A	N/A	140	N/A	140	
Redfern <> Down and Up Illawarra Dive	Wide	Yes	Yes	30	30	30	30	30	30	30	30	
Meeks Road - XPT Depot	Narrow	No	No	N/A	N/A	N/A	N/A	N/A	15	15	15	
Allans Creek - Unanderra North Junction	Narrow	No	Yes	N/A	N/A	N/A	N/A	N/A	60	60	60	
Sutherland to Cronulla												
SUTHERLAND <> CRONULLA	Wide	Yes	Yes	100	100	100	100	80	100	N/A	100	
Erskineville Junction to Bondi Junction												
ERSKINEVILLE JUNCTION <> BONDI JUNCTION	Wide	Yes	Yes	60	60	60	60	60	N/A	N/A	15	10a
Sydenham to Regents Park												
SYDENHAM <> REGENTS PARK	Wide	Yes	Yes	80	80	80	80	80	80	80	80	
Central to Wollli Creek (Airport Line)												
CENTRAL <> WOLLI CREEK	Wide	Yes	Yes	80	80	80	80	80	80	80	80	12a
Wollli Creek to Glenfield												
WOLLI CREEK JCT <> TURRELLA	Wide	Yes	Yes	80	80	80	80	80	85	85	85	
TURRELLA<>REVESBY - Main Line	Wide	Yes	Yes	115	115	115	115	80	125	125	125	
TURRELLA<>REVESBY - Local Line	Wide	Yes	Yes	110	110	110	110	80	110	110	110	
REVESBY <> GLENFIELD	Wide	Yes	Yes	115	115	115	115	80	115	115	115	
Glenfield to Leppington												
GLENFIELD <> LEPPINGTON - Main Line	Wide	Yes	Yes	115	115	115	115	N/A	115	115	115	
GLENFIELD <> LEPPINGTON - Loop Line	Wide	Yes	Yes	115	115	115	115	N/A	115	115	115	
Metropolitan Freight Lines												
NORTH STRATH JCT <> FLEM MARKETS JCT	Wide	Yes	Yes	50	50	50	50	50	50	50	50	
FLEMINGTON GOODS JCT <> FLEM STH JCT	Wide	Yes	Yes	40	40	40	40	40	40	40	40	
FLEMINGTON STH JCT <> LIDCOMBE GDS JCT	Wide	Yes	Yes	40	40	40	40	40	40	40	40	
FLEMINGTON MIDDLE JCT <> FLEM WEST JCT	Wide	Yes	Yes	50	50	50	50	50	50	50	50	
FLEM EAST JCT/ FLEM MIDDLE JCT <> HOMEBUSH BAY LOOP Olympic Park	Ext Med	Yes	Yes	50	50	50	50	N/A	50	50	50	
FLEMINGTON STH JCT <> CHULLORA STH JCT	Wide	* Yes	Yes	70	70	70	70	70	70	70	70	
CHULLORA STH JCT <> SEFTON PK EAST JCT	Wide	* Yes	Yes	80	80	80	80	80	80	80	80	
SEFTON PARK EST JCT <> SEFTON PK STH JCT	Wide	* Yes	Yes	35	35	35	35	35	35	35	35	
CHULLORA NTH JCT <> CHULLORA WEST JCT	Wide	* Yes	Yes	25	25	25	25	25	25	25	25	
CHULLORA WEST JCT <> PAC. NAT. DEPOT	Wide	No	No	N/A	N/A	N/A	N/A	N/A	50	50	50	
CHULLORA TRACKFAST JCT <> INDUST SDGS	Narrow	No	No	N/A	N/A	N/A	N/A	N/A	30	30	30	
CHULLORA SOUTH JCT <> ENFIELD STH MAIN	Wide	* Yes	Yes	70	70	70	70	70	70	70	70	
ENFIELD SOUTH <> CAMPSIE	Wide	* Yes	Yes	60	60	60	60	60	60	60	60	
CAMPSIE <> WARDELL ROAD WEST JCT	Narrow	* Yes	Yes	60	N/A	N/A	N/A	N/A	60	60	60	
W'DELL RD WEST JCT <> MEEKS RD WEST JCT	Narrow	No	Yes	40	N/A	N/A	N/A	N/A	40	40	40	
MEEKS RD WEST JCT > MEEKS RD/ SYDENHAM UP LINE Up North Fork	Narrow	* Yes	Yes	25	N/A	N/A	N/A	N/A	25	25	25	
SYDENHAM/MEEKS RD DOWN LINE Dwn North Fork <> MEEKS RD WEST JCT	Narrow	No	Yes	N/A	N/A	N/A	N/A	N/A	25	25	25	
MEEKS RD STH JN <> MEEKS RD NORTH JCT	Narrow	No	No	N/A	N/A	N/A	N/A	N/A	25	25	25	
MEEKS ROAD WEST JCT <> TEMPE JCT	Narrow	* Yes	Yes	25	N/A	N/A	N/A	N/A	25	25	25	14a
MARRICKVILLE JCT <> COOKS RIVER	Narrow	No	Yes	N/A	N/A	N/A	N/A	N/A	50	50	50	
COOKS RIVER <> BOTANY (10.410km)	Narrow	No	Yes	N/A	N/A	N/A	N/A	N/A	30	30	30	

+ See Sydney Metropolitan area - operation of wide gauge rolling stock (page 84) re operation of Wide Gauge rolling stock in the Metropolitan area.
 ++ Refer to General Instructions, Section General Instructions, Section 10 Locomotive and Rolling Stock Data for group categories
 % Hunter cars not permitted beyond Dunmore.
 * This section of track may be 'Unavailable for electric traction'. Refer to the 1500 volt sectioning diagrams for the current status.

Superseded by TS TOC 2 v3.0

For all operational requirements outside the RailCorp network refer to the CRN and ARTC Train Operating Conditions Manuals.

Local area working - special instructions

When a number appears in the *Notes* column of the Table 3, or Table 4 (pp 82-83), the pages referring to the specific locality should be examined for any special instructions or conditions that may be in force for the relevant section of line.

Sydney Metropolitan area - operation of wide gauge rolling stock

Due to a reduction of platform clearances, all trains containing **WIDE WIDTH (Group 5)** rolling stock as designated in *General Instructions, Section 10 Locomotive and Rolling Stock Data* shall reduce speed to **20 km/h through all platforms** and not accelerate until the last car has left the platform.

Specific localities

1 - City Circle

1a - Non stopping trains at City Circle stations.

Non stopping trains are to reduce to a speed not exceeding 10 km/h in the tunnel before the platform and then proceed through the platform at a speed not exceeding 15 km/hr. Station staff are to announce that passengers are to stand clear as the next train will not stop at that station.

3 - Clyde to Carlingford

3a - Maximum length of stopping trains.

Due to short platforms between Clyde and Carlingford only four car or less suburban trains may operate on stopping services.

Rosehill Racecourse platform can accommodate eight car trains.

6 - Chatswood to Epping

6b – Operational restrictions for Sydney Trains rolling stock – Chatswood to Epping line.

All through services, which do not reverse at Epping or Chatswood, may operate with up to 25% of traction motors cut out.

^{*} **H** sets that, after entering ECRL, require up to 50% of traction motors to be cut out are allowed, upon reaching this condition, to make only one (1) station stop within ECRL then are only allowed to continue with passengers non-stop to any station no more than 10 km before such trains shall be removed from service (refer OMET 351).

^{\$} **T** Sets that have arrived at either Epping or Chatswood after just travelling through the ECRL tunnel are not to be turned back unless passengers are removed from the train for the return trip through the tunnel. **T** sets may be turned back and carry passengers providing the layover time at Chatswood or Epping is not less than 35 minutes.

[#] **A, C, K, S, T, V** set cars are not to be used for Epping – Chatswood shuttle services. These sets may operate unrestricted on through services, with passengers on-board, and stopping at any stations, whether diverted or timetabled.

@ Extended shuttle runs between Hornsby – Epping – Chatswood and return are only allowed to be operated by **A, H, K, M S or T** sets.

The following operating restrictions apply to this working:

- All traction motors shall be operative on **A, K and S** sets before entering the tunnel. If one of these types of trains requires no more than 25 % of its motors to be cut-out while in the ECRL tunnel then it may complete its journey through the tunnel but not re-enter for further shuttle service.
- T sets operating on the Hornsby – Epping – Chatswood shuttle shall have a minimum layover time (time between arriving and departing) at Chatswood of 35 minutes.

7 - Strathfield to Newcastle

7a - Operation of Medium Width rolling stock between Sydney and the Newcastle area.

(The following conditions apply to Up and Down directions)

Medium width rolling stock may operate under normal conditions between Sydney and Newcastle (both directions) except as shown below:

1. The instructions contained in the Sydney Trains Network Local Appendices *NLA 312 Gosford* regarding the operation of Medium Width rolling stock in Gosford interlocking will apply.
2. The cars may pass upgrading operations and associated ballast trains at speeds not exceeding 10km/hr provided that the train is safely piloted past ballast trains and machines in the non-operable position and stationary, and all staff are standing well clear.
3. In the event the cars will have to be locomotive hauled and a 48/80/81/86 class locomotive is used, the locomotive can be directly coupled to the leading car. (Tangara trains use special transition couplers)
Prior to coupling locomotive, the brake pipe pressure on the locomotive shall be reduced to 425Kpa (60psi) and automatic brake applied and released on the locomotive a number of times.
4. If the cars are being locomotive hauled, the crew shall be made aware of the above mentioned conditions.
5. The Train Controller shall inform the signaller at Gosford when additional trains consisting of medium width electric suburban rolling stock are required to operate or out-of-course running occurs in order to enable the signaller at Gosford to take the necessary precautions to prevent trains consisting of medium width electric suburban rolling stock passing or being passed on an adjacent line between 81.027km and 82.174 km by a similar train.

7b - Transfer of Extended Medium Width rolling stock between Sydney and the Newcastle area destinations.

(The following conditions apply to Up and Down directions)

Approval for the restricted movement of limited *extended medium width* suburban rolling stock outside the Wide Electric area from Cowan to Broadmeadow is given subject to the following conditions:

1. Approval applies to rolling stock with a maximum width of *3077mm ONLY* as listed in Table 3, or Table 4 (pp 82-83).
2. Approval applies to the area Cowan to Broadmeadow and Goninans Workshops only.
3. Approval applies for the purpose of transferring double deck suburban cars for the purpose of refurbishment or major repair only.

4. Normal track speed is permitted on all track, platforms and tunnels with the exception that a reduced speed of **30 km/h** is required through the following platforms in both the Down and Up directions:
Gosford, Wyong, Fassifern, Cardiff, and Broadmeadow.
5. All restrictions applying to the movement of Medium Width rolling stock in the area of Gosford Yard (as outlined in the Sydney Trains Network Local Appendices *NLA 312 Gosford* shall apply to these movements.
6. The Extended Medium width Electric rolling stock as nominated in Table 3, or Table 4 (pp 82-83) below may pass or be passed by other passenger trains, freight trains, locomotives or other rolling stock to a maximum width of 3077mm wide travelling in the same or opposite directions, except as nominated in clause 5.
7. If the movement consists of extended medium and medium width cars, the above instructions will apply.
8. The extended medium width double deck suburban cars may pass upgrading operations and associated ballast trains at speeds not exceeding 10km/hr provided that the train is safely piloted past ballast trains and machines in the non-operable position and stationary, and all staff are standing well clear.
9. Authority is given for the nominated rolling stock to pass the notice board 'WIDE GAUGE ROLLING STOCK MUST NOT PASS THIS POINT' located at Signal C19DM or C21UM at Cowan (Kilometrage 48.969km)
10. A portable headlight shall be fitted to the leading car in accordance with *NTR 406 Using train lights*.

Table 1:

For the complete list of 3077mm wide Suburban electric rolling stock approved to operate between Cowan and Goninans Broadmeadow under the conditions outlined above, refer to the *General Instructions, Section 10 Locomotive and Rolling Stock Data Group 4 Extended Medium Width Cars*.

NOTE: The above approval **does not apply** to **Tulloch type trailers**.

10 - Erskineville to Bondi Junction

10a – Bondi Junction – Block working of trains less than 4 cars in length.

Whenever a train or vehicle has to traverse the diamond crossing at Bondi Junction through 908/912 or 911/907 points in the reverse position and if the train or vehicle is less than 4 cars in length, it shall be block worked in accordance with Sydney Trains Network Rule *NSY 512 Manual block working* between SY767 and SY783 signals or SY770 and ES6.48 signals respectively.

Trains or vehicles shorter than 4 cars in length may not reliably operate the track circuits.

12 - Central to Wollie Creek (Airport Line)

12a – Restriction of locomotive hauled services and non electric powered vehicles.

Under normal working conditions, diesel passenger services and non – electric powered vehicles are not permitted to operate on the Airport line.

Notice boards inscribed: *Drivers of locomotive hauled services and non-electric powered vehicles proceeding to the Airport line must not pass this point until authorised by the signaller.*

Refer to Sydney Trains Network Local Appendix *NLA 108 Central - Sydenham (via Green Square)* for further information.

14 - Metropolitan freight lines

14a - Restrictions for Medium, Extended Medium and Wide gauge trains at Meeks Road junction.

At Meeks Road junction trains of Medium, Extended Medium or Wide rolling stock outline may occupy either the Up Goods between 747 points and 774 points (West junction) or Down Goods between 746 catch points and 773 points (West junction). Only trains of Narrow rolling stock outline are allowed on the adjacent track.

Signaller at Sydenham Signal Control Centre is to ensure the above instructions are carried out.

Passenger Train Running Times

Version 3.0 August 2009

Western locomotive hauled running times

COLUMN	AREA		COMPOSITION	
Column 1 Down/Up	Sydney – Lithgow - Sydney		1 x NR 850 tonnes	
Column 2 Down/Up	Sydney – Lithgow - Sydney		2 x NR 1280 tonnes	

	Down		Up	
Sydney	1	2	Lithgow	1 2
Illawarra Jun	4	4	Lithgow CS Box	2 2
Ashfield	5	5	Newnes Jun	13 13
Strathfield	3	3	Mt Victoria	14 14
Homebush	1	1	Katoomba	18a 18a
Flem CS Jun	2	2	Wentworth Falls	9 9
Lidcombe	1	1	Lawson	6 6
Auburn	1	1	Springwood	17 17
Clyde	2	2	Valley Heights	2 2
Granville	1	1	Glenbrook	10 10
Parramatta	2	1	Emu Plains	10 10
Westmead	1	1	Penrith	2 2
Seven Hills	4	4	St Marys	5 5
Blacktown	2	2	Blacktown	7 7
St Marys	7	7	Seven Hills	2 2
Penrith	5	5	Westmead	4 4
Emu Plains	2	2	Parramatta	2 2
Glenbrook	11	10	Granville	2 2
Valley Heights	13	10	Clyde	1 1
Springwood	4	3	Auburn	1 1
Lawson	26	22	Lidcombe	1 1
Wentworth Falls	11	9	Flem Cs Jun	2 2
Katoomba	12	10	Homebush	2 2
Mt Victoria	18	18	Strathfield	1 1
Newnes Junction	14	14	Ashfield	3 3
Lithgow CS Box	13a	13a	Illawarra Jun	5 5
Lithgow	2	2a	Sydney	4a 4a

a = To arrive. All other times are passing.

Superseded by TS TOC 2 v3.0

Superseded by TS TOC 2 v3.0

Section 18

Coal Train Working

18. Coal Train Working

Version 12.0 August 2012

North coal train loads and running times

DOWN	LOADED					EMPTY			UP	LOADED					EMPTY		
Sect Run Times	2	4	6	8	8G	1	3	5	Sect Run Times	2	4	6	8	1	3	5	
Enfield	☞	☞				☞			Woodville Jct	☞	☞	☞	☞	☞	☞	☞	
Chullora Jct	5	5				5			Broadmeadow	4	4	4	4	4	4	4	
Flemington South Jct	8	8				8			Adamstown	3	3	3	3	3	3	3	
Middle Jct	1	1				1			Sulphide Jct	10	11	15	15	9	11	11	
Flemington Markets	5	5				5			(1) Teralba Coll Jct	☞	3	3	3	3	4	3	
Nth Strathfield Jct	5	5				5			(2) (3) Newstan Coll Jct	☞	7	9	9	11	7	6	
Concord West	3	3				3			Fassifern	1	1	1	1	1			
Rhodes	3	3				3			Awaba	5	6	5	6	4			
West Ryde	2	2				2			(4) Eraring Jct	☞	5	7	8	8	4		
Epping	9	11				7			Morrisset	10	13	14	14	10			
Thornleigh	13	16				12			(5) Vales Point Jct	☞	4	5	4	5	3		
Hornsby	5	6				5			Wyee	4	5			4			
Mt Kuring-gai x/over	7	10				6			Wyong	12	16			12			
Berowra	5	6				4			Gosford	16	20			16			
Cowan	4	4				4			Woy Woy	9	9			8			
Boronia x/over	3	3				3			Wondabyne x/over	7	9			7			
Hawkesbury River	7	6				6			Hawkesbury River	8	9			8			
Wondabyne x/over	7	8				7			Boronia x/over	17	21			16			
Woy Woy	8	12				9			Cowan	8\$	9\$			7\$			
Gosford	7	7				7			Berowra	7	9			6			
Wyong	17	20				16			Mt Kuring-gai x/over	5	5			4			
Wyee	12	15				12			Hornsby	6	6			5			
(1) Vales Point Jct	4	5				4	☞	☞	Thornleigh	4	5			4			
Morrisset	4	5				4	7	7	Epping	7	7			7			
(2) Eraring Jct	☞	11	14			11	8	11	West Ryde	5*	5*			4*			
Awaba	5	6				5	4	4	Rhodes	3	3			3			
Fassifern	5	5				4	6	4	Concord West	2	3			3			
(3) (4) Newstan Coll Jct	1	1	☞			1	1	1	Nth Strathfield Jct	3	3			3			
(5) Teralba Coll Jct	6	8	12	☞	☞	6	8	6	Flemington Markets	5	5			5			
Sulphide Junction	4	5	3	6	7	3	4	3	MiddleJct	5	5			5			
Adamstown	10	13	11	17	19	10	10	10	Flemington South Jct	1	1			1			
Broadmeadow	3	3	3	3	5	3	3	3	Chullora Jct	8	8			8			
Woodville Jct	4	4	4	4	4	4	4	4	Enfield	5	5			5			

Notes:

- (1) 5 minutes from Vales Point
- (2) 5 minutes from Eraring
- (3) 6 minutes to/from Newstan Colliery (Empty Arriving)
- (4) 10 minutes to/from Newstan Colliery (Loaded Departing)
- (5) 10 minutes from Teralba Colliery

Notes:

- (1) 12 minutes to Teralba Colliery (To clear Down Main)
- (2) 6 minutes to Newstan Colliery (Empty Arriving)
- (3) 10 minutes to Newstan Colliery (Loaded Departing)
- (4) 4 minutes to Eraring
- (5) 5 minutes to Vales Point
- \$ See footnote Northern Section, UP - sectional running times and full sectional loads (page 20).
- * Additional one minute to traverse Epping – West Ryde on Up Main.

Loaded - DOWN

	Section	Loco type	Single	Double	Triple	Quad	Vehicle Class	Sect Run Times
1	Enfield – Woodville Jct	L3/L4	--	--	--	4500	C	2
2	Enfield – Woodville Jct	L3/L4	--	--	--	4500	F	4
3	Enfield – Woodville Jct	AC6	--	--	4600	--	C	2
4	Enfield – Woodville Jct	AC6	--	--	4600	--	F	4
5	Newstan - Woodville Jct	L1	1650	3300	--	--	C/G	6
6	Newstan - Woodville Jct	L1+L3	--	2700	--	--	F	6
7	Newstan - Woodville Jct	L1+L3+L3	--	--	3700	--	F	6
8	Newstan - Woodville Jct	L3/L4	--	2100	--	4200	F/G	6
9	Teralba – Woodville Jct	L1	3150	5925 (1)	--	--	C	8
10	Teralba – Woodville Jct	L3/4	2100	4200	5925 (1)	--	F	8
11	Teralba – Woodville Jct	AC6	2623	5246	7369 (2)	--	C	8
12	Teralba – Woodville Jct	AC6	2623	5246	7369 (2)	--	G	8G
13	Teralba – Woodville Jct	L1	--	--	7369 (2)	--	G	8G
14	Teralba – Woodville Jct	L1+L1+L3/4	--	--	7369 (2)	--	G	8G
15	Teralba – Woodville Jct	L1	--	6521 (3)	--	--	G	8G
16	Teralba – Woodville Jct	L3/4	--	--	6521 (3)	--	G	8G

(1) To allow for greater flexibility, train of 72 vehicles can run into Teralba, however due to length restraints under the loader, only the first 55 vehicles are to be loaded. In this instance the total load will be 5925 tonnes.

(2) To allow for greater flexibility, train of up to 80 vehicles can run into Teralba, however due to length restraints under the loader, only the first 57 vehicles are to be loaded. In this instance the total load will be 7369 tonnes.

(3) To allow for greater flexibility, train of up to 60 vehicles can run into Teralba, however due to length restraints under the loader, only the first 53 vehicles are to be loaded. In this instance the total load will be 6521 tonnes.

Empty - DOWN

	Section	Loco type	Single	Double	Triple	Quad	Vehicle Class	Sect Run Times
1	Enfield - Woodville Jct	L3/L4	--	1300	--	--	C	1
2	Enfield - Woodville Jct	AC6	--	1300	--	--	C	1
3	Vales Point - Newstan	L6 + L12	--	900	--	--	C	3
4	Vales Point – Woodville Jct	L3/L4	--	1300	--	--	C	3
5	Vales Point – Woodville Jct	L1	--	1400	--	--	G	5
6	Vales Point – Woodville Jct	AC6	--	1300	--	--	C	3
7	Vales Point – Woodville Jct	AC6	--	1400	--	--	G	5
8	Eraring – Woodville Jct	L3/L4	--	1300	--	--	C	5

Loaded - UP

	Section	Loco type	Single	Double	Triple	Quad	Vehicle Class	Sect Run Times
1	Woodville Jct – Enfield	L3/L4	--	--	--	4200	C	2
2	Woodville Jct – Enfield	L3/L4	--	--	--	4200	F	4
3	Woodville Jct – Enfield	AC6	--	--	4600	--	C	2
4	Woodville Jct – Enfield	AC6	--	--	4600	--	F	4
5	Woodville Jct – Vales Pt	L3/L4	--	4200	--	--	C	6
6	Woodville Jct – Vales Pt	L3/L4	--	4200	--	--	F	8
7	Woodville Jct – Vales Pt	AC6	2623	5246	7869	--	C	6
8	Woodville Jct – Vales Pt	AC6	2623	5246	7869	--	F/G	8
9	Woodville Jct – Eraring	L1	3150	6300	--	--	C	6
10	Woodville Jct – Eraring/Vales Point	L1	3150	6300	--	--	F/G	8
11	Woodville Jct – Eraring	L1+L3	--	4800	--	--	C	6
12	Woodville Jct – Eraring	L1+L3	--	4800	--	--	F	8
13	Woodville Jct – Eraring	L3/L4	2100	4200	--	--	C	6
14	Woodville Jct – Eraring/Vales Point	L3/L4	2100	4200	--	--	F/G	8
15	Woodville Jct – Eraring	L1+L3+L3	--	--	6600	--	C	6
16	Woodville Jct – Eraring	L1+L3+L3	--	--	6600	--	F	8
17	Newstan – Vales Point	L6 + L12	--	2888	--	--	C	8

Empty - UP

	Section	Loco type	Single	Double	Triple	Quad	Vehicle Class	Sect Run Times
1	Woodville Jct - Enfield	L3/L4	--	1300	--	--	C	1
2	Woodville Jct - Enfield	AC6	--	1300	--	--	C	1
3	Woodville Jct - Teralba	L3/L4	--	1800	--	--	C	3
4	Woodville Jct - Teralba	L1	--	1800	--	--	C	3
5	Woodville Jct - Teralba	AC6	--	1800	--	--	C	3
6	Woodville Jct - Newstan	L1	--	1300	--	--	C	5
7	Woodville Jct - Newstan	L3/L4	--	1300	--	--	C	5

Western coal train loads and running times

DOWN	EMPTY	UP	LOADED
COLUMN	1	COLUMN	%2 #4
Enfield	↔	Lithgow Yard	↔
Chullora Junction	5	Zig Zag	-- --
Flemington South Jct	8	Newnes Junction	21 21
Lidcombe	3	Mt Victoria	19 19
Auburn	3	Katoomba	19 19
Clyde	3	Wentworth Falls	17 11
Granville	2	Lawson	10 11
Parramatta	2	Springwood	31 25
Westmead	2	Valley Heights	3 4
Seven Hills	5	Glenbrook	10 10
Blacktown	2	Emu Plains	12 12
St Marys	10	Penrith	4 4
Penrith	6*	St Marys	7 7
Emu Plains	2	Blacktown	12* 12*
Glenbrook	10	Seven Hills	3 3
Valley Heights	11	Westmead	6 6
Springwood	3	Parramatta	3 3
Lawson	23	Granville	3 3
Wentworth Falls	9	Clyde	1 1
Katoomba	10	Auburn	3 3
Mt Victoria	18	Lidcombe	3 3
Newnes Junction	14	Flemington South Jct	3 3
Zig Zag	9	Chullora Junction	8 8
Lithgow Yard	5/6a	Enfield	5 5

% Air brake or # Dynamic brake for planning purposes only between Katoomba and Valley Heights

* Additional one minute to be added when traversing the Down/Up West Main between Blacktown and St. Marys.

Empty - DOWN

Section	Loco type	Single	Double	Triple	Quad	Vehicle Class	Column
1 Enfield – Newnes Jct/Lithgow	L3/L4 (3)	--	--	--	1125	C	1
2 Enfield – Newnes Jct/Lithgow	(1)	--	--	--	1125	C	1
3 Enfield – Newnes Jct/Lithgow	L3/L4 (4)	--	--	784	--	C	1
4 Enfield – Newnes Jct/Lithgow	L3/L4	--	--	--	908	C	1
5 Enfield – Newnes Jct/Lithgow	(2)	--	--	--	908	C	1
6 Enfield – Newnes Jct/Lithgow	AC6	--	1300	--	--	C	1

(1) 2xL3/L4+2xDL or 3xL3/L4 + 1xDL

(2) 1xL3/L4+3xDL

(3) 1x L3/L4 locomotive may be placed off line.

(4) 2xL3/L4 + 1xDL

Loaded - UP

Section	Loco type	Single	Double	Triple	Quad	Vehicle Class	Column
1 Lithgow/Newnes Jct – Enfield	L3/L4	--	--	--	4500	C/F	%2/#4
2 Lithgow/Newnes Jct – Enfield	(1)	--	--	--	4500	C/F	%2/#4
3 Lithgow/Newnes Jct – Enfield	L3/L4 (3)	--	--	3344	--	C/F	%2/#4
4 Lithgow/Newnes Jct – Enfield	L3/L4	--	--	--	3876	C/F	%2/#4
5 Lithgow/Newnes Jct – Enfield	(2)	--	--	--	3876	C/F	%2/#4
6 Lithgow/Newnes Jct – Enfield	AC6	--	--	4600	--	C/F	%2/#4

(1) 2x L3/L4+2xDL or 3x L3/L4 + 1xDL

(2) 1x L3/L4+3xDL

(3) 2x L3/L4 + 1xDL

% Air brake or # Dynamic brake for planning purposes only between Katoomba and Valley Heights

Illawarra coal train loads and running times

DOWN		LOADED		EMPTY		UP		LOADED		EMPTY	
Sect Run Times		2	4	1	2	Sect Run Times		2	4	1	
Enfield	↔					Inner Harbour					↔
Campsie	5					Coniston					7
Wardell Road Jct	5					Wollongong					2
Marrickville Jct	5					Corrimal					5
Meeks Road Junction	3					Thirroul					6
Wolli Creek Junction	2					Scarborough					8
Hurstville	12					Coal Cliff					4
Mortdale	3					Otford					9
Sutherland	13					(1) Metrop Coll Jct					4
Waterfall	22					Helensburgh					4
Helensburgh	10					Waterfall					9
(1) Metrop Coll Jct	4	↔				Sutherland					12
Otford	4	6				Mortdale					7
#Coal Cliff	9	14				Hurstville					3
Scarborough	5	10				Wolli Creek Junction					7
Thirroul	8	8				Meeks Road Junction					2
Corrimal	6	7				Marrickville Jct					3
Wollongong	5	6				Wardell Road Jct					5
Coniston	2	2				Campsie					5
Inner Harbour	5a	5a				Enfield					5
Inner Harbour			↔			Wongawilli Junction			↔		
Unanderra North Jct			7			Unanderra	↔		10		
Unanderra			3	↔		Unanderra North Jct	3				
Wongawilli Junction				10		Inner Harbour	8a				

Notes:

(1) 5 minutes to/from Metrop Colliery

Notes:

(1) 5 minutes from/to Metrop Colliery

DOWN		LOADED	
Sect Run Times		4	
Coniston	↔		
Unanderra North Jct	2		
Unanderra	5		
++89.200km	4		
++91.000km	4		

Loaded - DOWN

Section	Loco type	Single	Double	Triple	Quad	Vehicle Class	Sect Run Times
1 Enfield – Inner Harbour	L3/L4	--	--	--	4500	C/F	2
2 Enfield – Inner Harbour	(1)	--	--	--	4500	C/F	2
3 Enfield – Inner Harbour	L3/L4 (3)	--	--	3344	--	C/F	2
4 Enfield – Inner Harbour	L3/L4	--	--	--	3876	C/F	2
Enfield – Inner Harbour	(2)	--	--	--	3876	C/F	2
5 Enfield – Inner Harbour	AC6	--	--	4600	--	C/F	2
6 Metrop Colliery - Inner Harbour	L3/L4	--	4500	--	--	C/F	4
6 Metrop Colliery - Inner Harbour	AC6	--	5200	--	--	C/F	4

(1) 2xL3/L4+2xDL or 3xL3/L4 + 1xDL

(2) 1 x L3/L4+3 x DL

(3) 2 x L3/L4 + 1xDL

Empty - DOWN

Section	Loco type	Single	Double	Triple	Quad	Vehicle Class	Sect Run Times
1 Inner Harbour- Unanderra	L3/L4	--	825	--	--	C/F	1
2 Inner Harbour- Unanderra	L3/L4	--	1050	--	--	C/F	1
3 Inner Harbour- Unanderra	L3/L4	--	1125	--	--	C/F	1
4 Unanderra – Wongawilli Junction	L4	1600	--	--	--	C/F	2

Loaded – UP

Section	Loco type	Single	Double	Triple	Quad	Vehicle Class	Sect Run Times
1 Unanderra – Inner Harbour	L3/L4	--	3300	--	--	C/F	2
2 Unanderra – Inner Harbour	L4	--	4200	--	--	C/F	2
3 Unanderra – Inner Harbour	L3/L4	--	4500	--	--	C/F	2
4 Wongawilli Junction – Unanderra	L4	1600	--	--	--	C/F	4

Empty - UP

Section	Loco type	Single	Double	Triple	Quad	Vehicle Class	Sect Run Times
1 Inner Harbour – Enfield	L3/L4	--	--	--	1125 (3)	C	1
2 Inner Harbour – Enfield	(1)	--	--	--	1125	C	1
3 Inner Harbour – Enfield	L3/L4 (4)	--	--	784	--	C	1
4 Inner Harbour – Enfield	L3/L4	--	--	--	908	C	1
5 Inner Harbour – Enfield	(2)	--	--	--	908	C	1
5 Inner Harbour – Enfield	AC6	--	--	1300 (5)	--	C	1
6 Inner Harbour – Metrop Colliery	L3/L4	--	1125 (4)	--	--	C	1
6 Inner Harbour – Metrop Colliery	AC6	--	1300	--	--	C	1

(1) 2xL3/L4+2xDL or 3xL3/L4 + 1xDL

(2) 1 x L3/L4+3 x DL

(3) 1 x L3/L4 locomotive may be placed off line.

(4) 2 x L3/L4 + 1xDL

(5) 1 x AC6 off line.