Australian Government

Australian Transport Safety Bureau

RAIL SAFETY STATISTICS

Final

Australian Rail Safety Occurrence Data
January 2001 to December 2007

May 2008

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AUSTRALIAN RAIL SAFETY OCCURRENCE DATA
JANUARY 2001 TO DECEMBER 2007

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CONTENTS

DEFINITIONS

Jurisdiction – This means Australian state or territory.

NA – Not applicable or not available.

TABLES

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Abstract

This report tables rail safety occurrence data by state and territory between January 2001 and December 2007. Data is adjusted annually to reflect new information that comes to light during the reporting period. There is a lag period of approximately 3 to 4 months between the end of the reporting period and publication of these data. Previous versions of this publication should be discarded. These data are presented as counts and normalised using kilometres travelled and number of track kilometres. Data presented in this report conforms to Standard No. ON-S1: Occurrence Categories and Definitions. This report excludes tram and light rail or monorail operations.

INTRODUCTION

The responsibility for rail safety in Australia is shared by government and industry. To assist in maintaining and continuously improving rail safety, each state and territory government has implemented rail safety legislation and established a rail safety regulator. The regulators are responsible for establishing standards in rail safety management and monitoring the industry's compliance with the standards in order to meet community expectations and maintain public confidence.

Industry is responsible for addressing risks to safety by identifying and implementing the most effective and efficient solutions via their safety management systems. Industry is accountable for achieving required safety outcomes.

As part of this process of shared responsibility, industry reports rail safety occurrences to the regulators. The regulators and operators use this data to assist with their safety analyses and programs.

The present count data is designed to assist rail safety professionals and researchers in understanding and mitigating risk. In addition, it can be used for international comparative research, while informing the public about emerging issues in rail safety. The present data set contains frequency counts of the following safety-critical event types:

- derailment
- collision
- level crossing occurrence
- signal passed at danger (SPAD)
- loading irregularity
- track and civil infrastructure irregularity.

As the data is collected and published on a jurisdictional basis, frequency counts for each of the above occurrences are normalised according to the size of the industry. The normalising data used is:

- train kilometres
- freight train kilometres
- passenger train kilometres
- total track kilometres.

In addition, frequency counts are provided for:

- fatalities
- serious injuries.

The definitions for data provided in each of the categories are taken from Standard No. ON – S1: Occurrence Categories and Definitions. These definitions have been developed by rail safety regulators in collaboration with industry. The data comprises railway safety occurrences in Australia from 1 January 2001 to 31 December 2007. The first table of each set contains occurrence frequency counts by state, and the second contains counts normalised by appropriate activity data, where

available. Rail regulators have provided the data to the Australian Transport Safety Bureau (ATSB) for national publication.

Disclaimer

These data are supplied to the ATSB by State and Territory rail safety regulators. The ATSB accepts no liability for any loss or damage suffered by any person or corporation resulting from the use of these data.

DATA

Fatal and Serious injuries

Fatalities

Table 1: Biannual count of Australian rail fatalities by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	2	0	4	0	2	0	20	28
	Jul-Dec	3	0	1	2	8	0	14	28
2002	Jan-Jun	2	0	1	1	4	0	21	29
	Jul-Dec	1	1	5	1	10	0	11	29
2003	Jan-Jun	2	0	2	2	4	0	15	25
	Jul-Dec	2	0	3	0	6	0	11	22
2004	Jan-Jun	0	0	0	1	7	0	12	20
	Jul-Dec	2	1	4	0	5	0	12	24
2005	Jan-Jun	1	0	2	0	5	0	5	13
	Jul-Dec	6	0	3	0	9	0	6	24
2006	Jan-Jun	5	0	2	2	7	0	5	21
	Jul-Dec	4	0	2	2	7	1	4	20
2007	Jan-Jun	0	0	3	3	15	0	5	26
	Jul-Dec	3	0	0	0	4	0	4	11
Total		33	2	32	14	93	1	145	320

Serious injuries

Table 2: Biannual count of Australian rail serious injuries by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	18	0	3	8	15	0	NA	44
	Jul-Dec	9	0	4	10	16	0		39
2002	Jan-Jun	8	0	5	5	15	0		33
	Jul-Dec	6	0	34	13	11	0		64
2003	Jan-Jun	6	0	0	4	13	0		23
	Jul-Dec	5	1	1	2	17	1		27
2004	Jan-Jun	4	0	2	4	7	0		17
	Jul-Dec	37	0	7	11	2	0		57
2005	Jan-Jun	4	1	8	0	12	0		25
	Jul-Dec	3	0	2	0	40	0		45
2006	Jan-Jun	3	0	1	2	35	0		41
	Jul-Dec	3	4	0	7	77	0		91
2007	Jan-Jun	4	0	1	2	88	0		95
	Jul-Dec	8	0	2	2	70	0		82
Total		118	6	70	70	418	1		683

Running line derailments

Table 3: Biannual count of Australian running line derailments by jurisdiction and year, 2001 to 2007

		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	25	1	19	7	12	7	41	112
	Jul-Dec	26	0	13	9	6	3	33	90
2002	Jan-Jun	29	0	18	16	9	8	50	130
	Jul-Dec	27	0	15	20	13	7	43	125
2003	Jan-Jun	26	3	12	11	8	4	29	93
	Jul-Dec	14	2	9	12	8	3	21	69
2004	Jan-Jun	17	2	12	8	14	6	32	91
	Jul-Dec	20	2	8	10	9	3	39	91
2005	Jan-Jun	15	0	11	8	15	2	24	75
	Jul-Dec	11	0	10	8	8	3	29	69
2006	Jan-Jun	14	0	7	6	7	3	14	51
	Jul-Dec	12	2	5	11	14	3	20	67
2007	Jan-Jun	14	0	11	6	7	6	22	66
	Jul-Dec	22	0	9	9	13	5	22	80
Total		272	12	159	141	143	63	419	1209

Table 4: Normalised biannual rate of Australian running line derailments per million km travelled by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	1.30	12.99	2.42	0.90	0.65	15.22	1.26	1.30
	Jul-Dec	1.29	0.00	1.52	1.03	0.33	6.52	1.02	1.01
2002	Jan-Jun	1.50	0.00	2.15	1.60	0.48	17.39	1.56	1.46
	Jul-Dec	1.36	0.00	1.68	2.11	0.68	15.22	1.30	1.37
2003	Jan-Jun	1.38	33.71	1.48	1.13	0.43	8.33	0.91	1.06
	Jul-Dec	0.71	21.28	1.12	1.13	0.42	6.00	0.65	0.76
2004	Jan-Jun	0.89	3.05	1.43	0.74	0.74	10.91	0.98	1.00
	Jul-Dec	0.99	3.77	0.92	0.84	0.47	5.45	1.22	0.98
2005	Jan-Jun	0.78	0.00	1.25	0.69	0.79	3.42	0.77	0.82
	Jul-Dec	0.54	0.00	1.15	0.64	0.42	5.22	0.97	0.75
2006	Jan-Jun	0.76	0.00	0.79	0.51	0.37	5.28	0.48	0.58
	Jul-Dec	0.59	2.90	0.58	0.86	0.73	6.55	0.67	0.73
2007	Jan-Jun	0.73	0.00	1.32	0.48	0.37	13.33	0.76	0.74
	Jul-Dec	1.06	0.00	1.03	0.68	0.71	10.64	0.72	0.86
Total		0.99	2.15	1.34	0.92	0.54	8.97	0.95	0.96

Running line collisions

Collisions with trains

Table 5: Running line collisions with train, biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	0	0	0	1	2	0	3	6
	Jul-Dec	1	0	1	0	0	0	4	6
2002	Jan-Jun	3	0	1	1	1	0	3	9
	Jul-Dec	3	0	0	0	0	0	4	7
2003	Jan-Jun	3	0	1	1	4	0	1	10
	Jul-Dec	4	0	0	0	2	0	2	8
2004	Jan-Jun	0	0	0	0	1	1	3	5
	Jul-Dec	1	0	0	0	0	0	0	1
2005	Jan-Jun	4	0	1	3	1	1	2	12
	Jul-Dec	2	0	0	1	2	0	2	7
2006	Jan-Jun	0	0	0	0	2	0	2	4
	Jul-Dec	1	3	3	3	0	3	4	17
2007	Jan-Jun	0	0	0	2	1	0	3	6
	Jul-Dec	0	0	0	2	4	0	4	10
Total		22	3	7	14	20	5	37	108

Table 6: Normalised running line collisions with train, biannual rate per million train km travelled by jurisdiction and year, 2001 to 2007

		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	0.00	0.00	0.00	0.13	0.11	0.00	0.09	0.07
	Jul-Dec	0.05	0.00	0.12	0.00	0.00	0.00	0.12	0.07
2002	Jan-Jun	0.16	0.00	0.12	0.10	0.05	0.00	0.09	0.10
	Jul-Dec	0.15	0.00	0.00	0.00	0.00	0.00	0.12	0.08
2003	Jan-Jun	0.16	0.00	0.12	0.10	0.21	0.00	0.03	0.11
	Jul-Dec	0.20	0.00	0.00	0.00	0.10	0.00	0.06	0.09
2004	Jan-Jun	0.00	0.00	0.00	0.00	0.05	1.82	0.09	0.05
	Jul-Dec	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.01
2005	Jan-Jun	0.21	0.00	0.11	0.26	0.05	1.71	0.06	0.13
	Jul-Dec	0.10	0.00	0.00	0.08	0.10	0.00	0.07	0.08
2006	Jan-Jun	0.00	0.00	0.00	0.00	0.10	0.00	0.07	0.05
	Jul-Dec	0.05	4.36	0.35	0.23	0.00	6.55	0.13	0.18
2007	Jan-Jun	0.00	0.00	0.00	0.16	0.05	0.00	0.10	0.07
	Jul-Dec	0.00	0.00	0.00	0.15	0.22	0.00	0.13	0.11
Total		0.08	0.54	0.06	0.09	0.08	0.71	0.08	0.09

Collisions with rolling stock

Table 7: Running line collisions with rolling stock, biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	1	0	0	0	0	0	0	1
	Jul-Dec	5	1	0	0	1	0	0	7
2002	Jan-Jun	1	0	0	0	0	0	1	2
	Jul-Dec	1	0	0	1	2	0	1	5
2003	Jan-Jun	0	0	0	0	0	0	0	0
	Jul-Dec	1	0	0	0	2	0	0	3
2004	Jan-Jun	1	0	0	0	3	0	0	4
	Jul-Dec	2	0	0	1	4	1	0	8
2005	Jan-Jun	2	1	0	1	2	0	0	6
	Jul-Dec	1	0	1	0	5	0	0	7
2006	Jan-Jun	0	0	0	1	9	0	0	10
	Jul-Dec	1	0	0	0	2	0	1	4
2007	Jan-Jun	0	0	1	0	1	0	0	2
	Jul-Dec	1	0	0	2	1	0	0	4
Total		17	2	2	6	32	1	3	63

Table 8: Normalised running line collisions with rolling stock, biannual rate per million train km travelled by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	Jul-Dec	0.25	12.50	0.00	0.00	0.05	0.00	0.00	0.08
2002	Jan-Jun	0.05	0.00	0.00	0.00	0.00	0.00	0.03	0.02
	Jul-Dec	0.05	0.00	0.00	0.11	0.10	0.00	0.03	0.05
2003	Jan-Jun	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Jul-Dec	0.05	0.00	0.00	0.00	0.10	0.00	0.00	0.03
2004	Jan-Jun	0.05	0.00	0.00	0.00	0.16	0.00	0.00	0.04
	Jul-Dec	0.10	0.00	0.00	0.08	0.21	1.82	0.00	0.09
2005	Jan-Jun	0.10	1.80	0.00	0.09	0.10	0.00	0.00	0.07
	Jul-Dec	0.05	0.00	0.11	0.00	0.26	0.00	0.00	0.08
2006	Jan-Jun	0.00	0.00	0.00	0.08	0.47	0.00	0.00	0.11
	Jul-Dec	0.05	0.00	0.00	0.00	0.10	0.00	0.03	0.04
2007	Jan-Jun	0.00	0.00	0.12	0.00	0.05	0.00	0.00	0.02
	Jul-Dec	0.05	0.00	0.00	0.15	0.05	0.00	0.00	0.04
Total		0.06	0.36	0.02	0.04	0.12	0.14	0.01	0.05

Collisions with person

Table 9: Running line collisions with person, biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	4	0	0	1	2	0	17	24
	Jul-Dec	3	0	2	3	9	0	22	39
2002	Jan-Jun	5	0	2	0	5	0	25	37
	Jul-Dec	5	0	1	2	8	0	16	32
2003	Jan-Jun	3	0	0	0	6	0	12	21
	Jul-Dec	6	1	1	0	7	0	16	31
2004	Jan-Jun	3	0	1	1	3	0	15	23
	Jul-Dec	5	1	0	2	6	0	17	31
2005	Jan-Jun	0	1	2	0	10	0	10	23
	Jul-Dec	5	0	3	0	8	0	10	26
2006	Jan-Jun	6	0	1	1	8	0	8	24
	Jul-Dec	1	0	2	2	7	0	9	21
2007	Jan-Jun	1	0	2	1	11	0	6	21
	Jul-Dec	4	0	1	0	12	0	3	20
Total		51	3	18	13	102	0	186	373

Table 10: Normalised running line collisions with person, biannual rate per million train km travelled by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	0.21	0.00	0.00	0.13	0.11	0.00	0.52	0.28
	Jul-Dec	0.15	0.00	0.23	0.34	0.49	0.00	0.68	0.44
2002	Jan-Jun	0.26	0.00	0.24	0.00	0.27	0.00	0.78	0.42
	Jul-Dec	0.25	0.00	0.11	0.21	0.42	0.00	0.48	0.35
2003	Jan-Jun	0.16	0.00	0.00	0.00	0.32	0.00	0.38	0.24
	Jul-Dec	0.30	10.64	0.12	0.00	0.37	0.00	0.49	0.34
2004	Jan-Jun	0.16	0.00	0.12	0.09	0.16	0.00	0.46	0.25
	Jul-Dec	0.25	1.88	0.00	0.17	0.32	0.00	0.53	0.33
2005	Jan-Jun	0.00	1.80	0.23	0.00	0.52	0.00	0.32	0.25
	Jul-Dec	0.24	0.00	0.34	0.00	0.42	0.00	0.34	0.28
2006	Jan-Jun	0.33	0.00	0.11	0.08	0.42	0.00	0.27	0.27
	Jul-Dec	0.05	0.00	0.23	0.16	0.37	0.00	0.30	0.23
2007	Jan-Jun	0.05	0.00	0.24	0.08	0.58	0.00	0.21	0.24
	Jul-Dec	0.19	0.00	0.11	0.00	0.65	0.00	0.10	0.21
Total		0.19	0.54	0.15	0.08	0.39	0.00	0.42	0.30

Collisions with infrastructure

Table 11: Running line collisions with infrastructure, biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	3	0	1	2	1	0	12	19
	Jul-Dec	10	0	3	2	2	0	10	27
2002	Jan-Jun	6	0	3	1	0	0	10	20
	Jul-Dec	8	0	1	1	0	1	13	24
2003	Jan-Jun	4	0	0	0	9	0	21	34
	Jul-Dec	7	0	0	0	15	0	16	38
2004	Jan-Jun	3	0	3	9	11	0	10	36
	Jul-Dec	10	0	0	8	14	1	18	51
2005	Jan-Jun	3	0	1	1	12	0	22	39
	Jul-Dec	3	0	3	2	28	0	28	64
2006	Jan-Jun	2	0	2	3	15	0	23	45
	Jul-Dec	3	0	1	5	21	0	31	61
2007	Jan-Jun	12	0	1	1	20	0	17	51
	Jul-Dec	15	0	2	2	21	0	10	50
Total		89	0	21	37	169	2	241	559

Table 12: Normalised running line collisions with infrastructure, biannual rate per million train km travelled by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	0.16	0.00	0.13	0.26	0.05	0.00	0.37	0.22
	Jul-Dec	0.50	0.00	0.35	0.23	0.11	0.00	0.31	0.30
2002	Jan-Jun	0.31	0.00	0.36	0.10	0.00	0.00	0.31	0.23
	Jul-Dec	0.40	0.00	0.11	0.11	0.00	2.17	0.39	0.26
2003	Jan-Jun	0.21	0.00	0.00	0.00	0.48	0.00	0.66	0.39
	Jul-Dec	0.35	0.00	0.00	0.00	0.79	0.00	0.49	0.42
2004	Jan-Jun	0.16	0.00	0.36	0.83	0.58	0.00	0.31	0.40
	Jul-Dec	0.49	0.00	0.00	0.67	0.74	1.82	0.56	0.55
2005	Jan-Jun	0.16	0.00	0.11	0.09	0.63	0.00	0.70	0.43
	Jul-Dec	0.15	0.00	0.34	0.16	1.47	0.00	0.94	0.70
2006	Jan-Jun	0.11	0.00	0.22	0.25	0.79	0.00	0.79	0.51
	Jul-Dec	0.15	0.00	0.12	0.39	1.10	0.00	1.03	0.66
2007	Jan-Jun	0.63	0.00	0.12	0.08	1.05	0.00	0.58	0.57
	Jul-Dec	0.72	0.00	0.23	0.15	1.14	0.00	0.33	0.54
Total		0.32	0.00	0.18	0.24	0.64	0.28	0.55	0.44

Collisions with road vehicle

Table 13: Running line collisions with road vehicle, biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA[1]	WA	VIC	TAS	NSW	
2001	Jan-Jun	1	1	2	2	2	0	0	19
	Jul-Dec	4	0	0	0	1	0	0	17
2002	Jan-Jun	0	0	0	1	0	0	1	9
	Jul-Dec	0	0	2	3	3	0	2	22
2003	Jan-Jun	0	0	0	0	0	0	1	6
	Jul-Dec	1	0	0	4	1	0	1	14
2004	Jan-Jun	3	2	0	2	3	0	2	17
	Jul-Dec	3	0	0	1	4	3	0	14
2005	Jan-Jun	1	0	2	2	4	0	0	9
	Jul-Dec	4	0	0	0	2	0	1	7
2006	Jan-Jun	1	0	2	0	0	0	0	3
	Jul-Dec	0	0	4	1	3	0	3	11
2007	Jan-Jun	2	0	1	1	0	0	1	5
	Jul-Dec	2	0	3	0	1	0	0	6
Total		22	3	16	17	24	3	12	159

Table 14: Normalised running line collisions with road vehicle, biannual rate per million train km travelled by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	0.05	12.99	1.66	0.26	0.11	0.00	0.00	0.22
	Jul-Dec	0.20	0.00	1.40	0.00	0.05	0.00	0.00	0.19
2002	Jan-Jun	0.00	0.00	0.84	0.10	0.00	0.00	0.03	0.10
	Jul-Dec	0.00	0.00	1.57	0.32	0.16	0.00	0.06	0.24
2003	Jan-Jun	0.00	0.00	0.62	0.00	0.00	0.00	0.03	0.07
	Jul-Dec	0.05	0.00	0.87	0.38	0.05	0.00	0.03	0.15
2004	Jan-Jun	0.16	3.05	0.60	0.18	0.16	0.00	0.06	0.19
	Jul-Dec	0.15	0.00	0.34	0.08	0.21	5.45	0.00	0.15
2005	Jan-Jun	0.05	0.00	0.23	0.17	0.21	0.00	0.00	0.10
	Jul-Dec	0.20	0.00	0.00	0.00	0.10	0.00	0.03	0.08
2006	Jan-Jun	0.05	0.00	0.22	0.00	0.00	0.00	0.00	0.03
	Jul-Dec	0.00	0.00	0.46	0.08	0.16	0.00	0.10	0.12
2007	Jan-Jun	0.10	0.00	0.12	0.08	0.00	0.00	0.03	0.06
	Jul-Dec	0.10	0.00	0.34	0.00	0.05	0.00	0.00	0.06
Total		0.08	0.54	0.66	0.11	0.09	0.43	0.03	0.13

1 On 2 June 2008, the ATSB was notified by the South Australian Department for Transport, Energy and Infrastructure that the data originally published in May 2008 for South Australian *running line collision with road vehicle incidents* prior to 2005 included collisions with trams while running on roadways. These incidents have been removed from Table 13 in this amended version of the report.

Level crossing occurrences

Road vehicle collisions

Table 15: Road vehicle collision at level crossing biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	8	0	8	1	27	1	9	54
	Jul-Dec	14	0	9	0	9	0	6	38
2002	Jan-Jun	9	0	5	5	18	1	11	49
	Jul-Dec	12	1	6	0	16	2	7	44
2003	Jan-Jun	11	0	4	2	8	2	3	30
	Jul-Dec	9	0	7	1	27	1	9	54
2004	Jan-Jun	2	1	6	1	22	1	5	38
	Jul-Dec	11	0	5	1	8	2	8	35
2005	Jan-Jun	13	0	3	2	11	3	4	36
	Jul-Dec	7	0	5	4	15	2	2	35
2006	Jan-Jun	9	0	3	1	13	3	8	37
	Jul-Dec	14	2	7	3	14	2	2	44
2007	Jan-Jun	7	0	3	3	11	1	6	31
	Jul-Dec	8	0	3	2	8	1	4	26
Total		134	4	74	26	207	22	84	551

Table 16: Normalised road vehicle collision at level crossing, biannual rate per million train km travelled by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	0.42	0.00	1.02	0.13	1.46	2.17	0.28	0.63
	Jul-Dec	0.69	0.00	1.05	0.00	0.49	0.00	0.18	0.43
2002	Jan-Jun	0.47	0.00	0.60	0.50	0.96	2.17	0.34	0.55
	Jul-Dec	0.61	10.87	0.67	0.00	0.83	4.35	0.21	0.48
2003	Jan-Jun	0.59	0.00	0.49	0.21	0.43	4.17	0.09	0.34
	Jul-Dec	0.45	0.00	0.87	0.09	1.42	2.00	0.28	0.60
2004	Jan-Jun	0.10	1.52	0.71	0.09	1.17	1.82	0.15	0.42
	Jul-Dec	0.54	0.00	0.57	0.08	0.42	3.64	0.25	0.38
2005	Jan-Jun	0.67	0.00	0.34	0.17	0.58	5.14	0.13	0.39
	Jul-Dec	0.34	0.00	0.57	0.32	0.79	3.48	0.07	0.38
2006	Jan-Jun	0.49	0.00	0.34	0.08	0.68	5.28	0.27	0.42
	Jul-Dec	0.69	2.90	0.81	0.23	0.73	4.37	0.07	0.48
2007	Jan-Jun	0.37	0.00	0.36	0.24	0.58	2.22	0.21	0.35
	Jul-Dec	0.38	0.00	0.34	0.15	0.43	2.13	0.13	0.28
Total		0.49	0.72	0.62	0.17	0.78	3.13	0.19	0.44

Level crossing collision with person

Table 17: Level crossing collision with person, biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	1	0	3	0	2	0	0	6
	Jul-Dec	2	0	0	1	5	0	0	8
2002	Jan-Jun	0	0	2	0	2	0	1	5
	Jul-Dec	1	0	1	2	4	0	0	8
2003	Jan-Jun	1	0	1	0	1	0	0	3
	Jul-Dec	1	0	3	0	3	1	2	10
2004	Jan-Jun	0	0	1	0	2	0	1	4
	Jul-Dec	2	0	1	0	1	0	0	4
2005	Jan-Jun	0	0	2	0	2	0	0	4
	Jul-Dec	0	0	0	0	2	0	0	2
2006	Jan-Jun	0	0	1	0	4	0	0	5
	Jul-Dec	2	0	1	0	1	0	0	4
2007	Jan-Jun	0	0	1	2	2	0	0	5
	Jul-Dec	0	0	0	0	2	0	0	2
Total		10	0	17	5	33	1	4	70

Table 18: Normalised level crossing collision with person, rate per million train km travelled by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	0.05	0.00	0.38	0.00	0.11	0.00	0.00	0.07
	Jul-Dec	0.10	0.00	0.00	0.11	0.27	0.00	0.00	0.09
2002	Jan-Jun	0.00	0.00	0.24	0.00	0.11	0.00	0.03	0.06
	Jul-Dec	0.05	0.00	0.11	0.21	0.21	0.00	0.00	0.09
2003	Jan-Jun	0.05	0.00	0.12	0.00	0.05	0.00	0.00	0.03
	Jul-Dec	0.05	0.00	0.37	0.00	0.16	2.00	0.06	0.11
2004	Jan-Jun	0.00	0.00	0.12	0.00	0.11	0.00	0.03	0.04
	Jul-Dec	0.10	0.00	0.11	0.00	0.05	0.00	0.00	0.04
2005	Jan-Jun	0.00	0.00	0.23	0.00	0.10	0.00	0.00	0.04
	Jul-Dec	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.02
2006	Jan-Jun	0.00	0.00	0.11	0.00	0.21	0.00	0.00	0.06
	Jul-Dec	0.10	0.00	0.12	0.00	0.05	0.00	0.00	0.04
2007	Jan-Jun	0.00	0.00	0.12	0.16	0.10	0.00	0.00	0.06
	Jul-Dec	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.02
Total		0.04	0.00	0.14	0.03	0.12	0.14	0.01	0.06

Signals passed at danger

Driver misjudged, completely missed and starting against signal (human error)

Table 19: Driver misjudged, completely missed and starting against signal, biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	85	NA	11	12	9	NA	48	165
	Jul-Dec	96		15	8	22		80	221
2002	Jan-Jun	62		12	7	23		46	150
	Jul-Dec	64		9	10	19		53	155
2003	Jan-Jun	52		7	9	17		47	132
	Jul-Dec	57		20	11	16		88	192
2004	Jan-Jun	63		9	21	16		128	237
	Jul-Dec	63		12	30	19		107	231
2005	Jan-Jun	48		9	18	19		105	199
	Jul-Dec	62		14	25	28		111	240
2006	Jan-Jun	61		12	23	24		96	216
	Jul-Dec	53		10	15	24		100	202
2007	Jan-Jun	54		9	15	27		120	225
	Jul-Dec	64		20	28	38		126	276
Total		884		169	232	301		1255	2841

Signal restored as train approaches

Table 20: Signal restored as train approaches, biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	126	NA	15	33	51	NA	5	230
	Jul-Dec	131		13	32	81		9	266
2002	Jan-Jun	147		18	28	61		10	264
	Jul-Dec	137		18	21	75		12	263
2003	Jan-Jun	126		11	64	69		17	287
	Jul-Dec	134		17	43	97		57	348
2004	Jan-Jun	156		21	41	77		119	414
	Jul-Dec	161		20	34	56		111	382
2005	Jan-Jun	120		21	56	55		103	355
	Jul-Dec	153		19	35	48		111	366
2006	Jan-Jun	151		18	41	55		107	372
	Jul-Dec	142		13	47	52		63	317
2007	Jan-Jun	138		10	31	66		91	336
	Jul-Dec	149		18	53	86		102	408
Total		1971		232	559	929		917	4608

Loading irregularity

Table 21: Loading irregularity, biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	99	0	7	10	5	0	31	152
	Jul-Dec	105	0	5	17	1	0	19	147
2002	Jan-Jun	110	1	11	8	5	1	37	173
	Jul-Dec	116	0	11	10	1	0	64	202
2003	Jan-Jun	88	1	9	9	4	0	58	169
	Jul-Dec	74	0	20	6	3	0	104	207
2004	Jan-Jun	86	0	29	13	5	0	93	226
	Jul-Dec	82	0	19	25	8	0	90	224
2005	Jan-Jun	84	2	28	17	18	3	79	231
	Jul-Dec	72	7	35	37	15	5	97	268
2006	Jan-Jun	48	6	38	53	18	3	61	227
	Jul-Dec	81	6	43	40	22	2	90	284
2007	Jan-Jun	80	4	33	47	16	0	88	268
	Jul-Dec	58	2	28	22	13	2	86	211
Total		1183	29	316	314	134	16	997	2989

Table 22: Loading irregularity, biannual rate per 1 million freight km travelled by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	7.89	0.00	2.05	2.23	1.54	0.00	3.17	4.47
	Jul-Dec	8.06	0.00	1.36	3.62	0.34	0.00	1.99	4.27
2002	Jan-Jun	8.88	16.13	3.33	1.31	1.70	2.22	3.97	5.00
	Jul-Dec	9.16	0.00	3.11	1.58	0.35	0.00	6.39	5.63
2003	Jan-Jun	7.47	15.87	3.03	1.49	1.57	0.00	6.40	5.13
	Jul-Dec	5.85	0.00	6.70	0.89	1.13	0.00	10.87	5.89
2004	Jan-Jun	7.11	0.00	8.46	1.83	1.89	0.00	9.55	6.27
	Jul-Dec	6.18	0.00	4.91	3.29	3.14	0.00	8.61	5.79
2005	Jan-Jun	6.67	4.68	6.97	2.30	6.51	5.63	7.69	6.08
	Jul-Dec	5.32	15.76	9.09	4.65	5.42	9.47	10.44	6.99
2006	Jan-Jun	4.12	13.93	8.95	7.47	6.51	5.77	6.43	6.27
	Jul-Dec	6.08	11.53	11.03	5.09	7.96	4.65	9.42	7.40
2007	Jan-Jun	6.50	7.17	8.32	6.22	5.78	0.00	10.14	7.39
	Jul-Dec	4.18	3.13	7.00	2.70	5.42	4.44	9.48	5.47
Total		6.66	6.62	6.18	3.30	3.47	2.43	7.45	5.89

Track and civil infrastructure irregularity

Table 23: Track and civil infrastructure irregularity, biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	108	0	73	23	12	0	171	387
	Jul-Dec	181	0	76	57	5	0	125	444
2002	Jan-Jun	176	1	111	60	55	0	218	621
	Jul-Dec	242	5	128	118	66	0	280	839
2003	Jan-Jun	158	0	155	116	65	0	246	740
	Jul-Dec	150	2	132	178	72	0	228	762
2004	Jan-Jun	165	4	208	182	69	0	246	874
	Jul-Dec	227	7	161	119	65	0	173	752
2005	Jan-Jun	144	5	70	122	36	0	167	544
	Jul-Dec	159	6	72	86	26	6	195	550
2006	Jan-Jun	81	5	95	110	50	7	200	548
	Jul-Dec	99	12	102	68	43	12	184	520
2007	Jan-Jun	89	9	82	135	51	22	204	592
	Jul-Dec	90	9	53	90	58	8	196	504
Total		2069	65	1518	1464	673	55	2833	8677

Table 24: Track and civil infrastructure irregularity, biannual rate per 1,000 km of track by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	11.26	0.00	14.90	3.19	2.18	0.00	17.45	10.14
	Jul-Dec	18.87	0.00	15.51	7.90	0.91	0.00	12.76	11.63
2002	Jan-Jun	18.34	3.58	22.65	7.14	10.00	0.00	22.24	15.78
	Jul-Dec	25.17	17.92	26.12	14.05	12.00	0.00	28.57	21.31
2003	Jan-Jun	16.19	0.00	31.66	15.16	11.82	0.00	25.10	18.91
	Jul-Dec	15.39	3.13	26.96	23.26	13.10	0.00	23.27	19.48
2004	Jan-Jun	16.31	2.31	42.66	23.79	12.55	0.00	25.10	21.55
	Jul-Dec	22.40	4.04	33.02	15.56	11.82	0.00	17.65	18.54
2005	Jan-Jun	14.20	2.87	14.60	15.86	5.42	0.00	17.04	13.07
	Jul-Dec	15.87	3.45	15.07	11.18	3.91	7.44	19.90	13.26
2006	Jan-Jun	7.47	2.87	19.90	14.01	7.52	10.29	20.41	12.95
	Jul-Dec	9.12	6.89	21.38	8.66	6.47	17.65	18.78	12.28
2007	Jan-Jun	8.19	5.20	17.19	17.25	7.67	32.35	20.82	13.99
	Jul-Dec	8.28	5.19	11.11	11.37	8.72	11.76	20.00	11.88
Total		14.60	3.99	22.39	13.47	8.02	4.84	20.65	15.31

Rail industry activity

Total train km

Table 25: Number of million total train km travelled, biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	19.200	0.077	7.849	7.801	18.509	0.460	32.420	86.316
	Jul-Dec	20.190	0.080	8.572	8.698	18.322	0.460	32.470	88.792
2002	Jan-Jun	19.310	0.088	8.373	9.985	18.661	0.460	32.000	88.877
	Jul-Dec	19.790	0.092	8.905	9.489	19.243	0.460	33.090	91.069
2003	Jan-Jun	18.800	0.089	8.120	9.707	18.711	0.480	31.890	87.797
	Jul-Dec	19.820	0.094	8.002	10.635	19.078	0.500	32.490	90.619
2004	Jan-Jun	19.090	0.656	8.396	10.881	18.813	0.550	32.620	91.006
	Jul-Dec	20.250	0.531	8.740	11.917	18.977	0.550	32.090	93.055
2005	Jan-Jun	19.300	0.557	8.786	11.650	19.087	0.584	31.213	91.176
	Jul-Dec	20.480	0.560	8.714	12.570	19.087	0.575	29.778	91.764
2006	Jan-Jun	18.360	0.573	8.889	11.798	19.087	0.570	29.127	88.402
	Jul-Dec	20.260	0.689	8.630	12.830	19.087	0.460	29.990	91.943
2007	Jan-Jun	19.093	0.692	8.304	12.427	19.087	0.458	29.080	89.133
	Jul-Dec	20.834	0.811	8.750	13.250	18.424	0.470	30.580	93.119
Total		274.777	5.589	119.030	153.638	264.169	7.025	438.838	1263.067

Passenger train km

Table 26: Passenger train km, biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	6.650	0.026	4.441	3.308	15.259	0.010	22.650	52.344
	Jul-Dec	7.160	0.026	4.892	4.002	15.337	0.010	22.920	54.347
2002	Jan-Jun	6.920	0.026	5.074	3.876	15.728	0.010	22.670	54.304
	Jul-Dec	7.130	0.027	5.363	3.153	16.409	0.010	23.080	55.172
2003	Jan-Jun	7.020	0.026	5.153	3.657	16.160	0.030	22.830	54.876
	Jul-Dec	7.170	0.025	5.017	3.884	16.426	0.040	22.920	55.482
2004	Jan-Jun	7.000	0.089	4.970	3.785	16.160	0.050	22.880	54.934
	Jul-Dec	6.990	0.100	4.867	4.311	16.426	0.050	21.640	54.384
2005	Jan-Jun	6.700	0.129	4.767	4.260	16.321	0.051	20.940	53.168
	Jul-Dec	6.950	0.116	4.865	4.620	16.321	0.047	20.490	53.409
2006	Jan-Jun	6.710	0.142	4.645	4.704	16.321	0.050	19.640	52.212
	Jul-Dec	6.930	0.168	4.730	4.970	16.321	0.030	20.440	53.589
2007	Jan-Jun	6.779	0.134	4.338	4.866	16.321	0.030	20.400	52.868
	Jul-Dec	6.974	0.172	4.748	5.104	16.025	0.020	21.510	54.553
Total		97.083	1.207	67.869	58.500	225.535	0.438	305.010	755.642

Freight train km

Table 27: Number of million freight train km travelled, biannual count by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	12.550	0.051	3.408	4.493	3.250	0.450	9.770	33.972
	Jul-Dec	13.030	0.054	3.680	4.696	2.985	0.450	9.550	34.445
2002	Jan-Jun	12.390	0.062	3.299	6.109	2.933	0.450	9.330	34.573
	Jul-Dec	12.660	0.065	3.542	6.336	2.834	0.450	10.010	35.897
2003	Jan-Jun	11.780	0.063	2.967	6.050	2.550	0.450	9.060	32.920
	Jul-Dec	12.650	0.069	2.985	6.751	2.652	0.460	9.570	35.137
2004	Jan-Jun	12.090	0.567	3.426	7.096	2.652	0.500	9.740	36.071
	Jul-Dec	13.260	0.431	3.873	7.606	2.550	0.500	10.450	38.670
2005	Jan-Jun	12.600	0.428	4.019	7.390	2.766	0.533	10.273	38.008
	Jul-Dec	13.530	0.444	3.849	7.950	2.766	0.528	9.288	38.355
2006	Jan-Jun	11.650	0.431	4.245	7.094	2.766	0.520	9.487	36.192
	Jul-Dec	13.330	0.521	3.900	7.860	2.766	0.430	9.550	38.356
2007	Jan-Jun	12.313	0.558	3.966	7.561	2.766	0.420	8.680	36.264
	Jul-Dec	13.860	0.639	4.002	8.146	2.399	0.450	9.070	38.566
Total		177.693	4.382	51.161	95.138	38.634	6.591	133.828	507.427

Total track km

Table 28: Number of track km by jurisdiction and year, 2001 to 2007

Year		Jurisdiction							Total
		QLD	NT	SA	WA	VIC	TAS	NSW	
2001	Jan-Jun	9,593	279	4,899	7,218	5,498	880	9,800	38,167
	Jul-Dec	9,593	279	4,899	7,218	5,498	880	9,800	38,167
2002	Jan-Jun	9,598	279	4,900	8,398	5,498	880	9,800	39,353
	Jul-Dec	9,614	279	4,900	8,398	5,498	880	9,800	39,369
2003	Jan-Jun	9,757	640	4,896	7,654	5,498	880	9,800	39,125
	Jul-Dec	9,746	640	4,896	7,654	5,498	880	9,800	39,114
2004	Jan-Jun	10,115	1,732	4,876	7,650	5,498	880	9,800	40,551
	Jul-Dec	10,134	1,732	4,876	7,650	5,498	880	9,800	40,570
2005	Jan-Jun	10,139	1,741	4,796	7,691	6,648	807	9,800	41,622
	Jul-Dec	10,017	1,741	4,777	7,691	6,648	807	9,800	41,481
2006	Jan-Jun	10,838	1,741	4,773	7,849	6,648	680	9,800	42,329
	Jul-Dec	10,851	1,742	4,770	7,855	6,648	680	9,800	42,346
2007	Jan-Jun	10,866	1,732	4,770	7,824	6,648	680	9,800	42,320
	Jul-Dec	10,868	1,734	4,770	7,916	6,648	680	9,800	42,416
Total		10,868	1,734	4,770	7,916	6,648	680	9,800	42,416

NOTES

National

Supported by a contribution from the ATSB, the Rail Safety Regulators' Panel completed a national data quality review in December 2006. This aimed to identify any differences in the process used to categorise rail safety occurrence data. The draft findings from the data audit show marked differences in the methods of safety occurrence reporting and data capture between regulators and accredited rail organisations. Differences in particular safety occurrence categories between some jurisdictions may be the result of different reporting practices, even where the data is normalised. These data *exclude* tram and monorail data.

Serious Injury

Regulators and industry are experiencing difficulty collecting supporting information necessary to grade injury severity according to the definition in ON-S1. They are working to resolve this issue; in the interim, most jurisdictions are attempting to adhere to the definition of serious injury as in ON-S1.

Victoria

The following explanatory notes apply to Victoria:

- Victoria has a broader definition of serious injury than other jurisdictions. Note that Victoria has new legislation that took effect from 1 August 2006 which also will have an impact on its future serious injury figures.
- Department of Infrastructure require ARO's to report all incidents from 28 January 2003+.
- Subsequently, the number of incidents increased from Feb 2003 to date.
- Normalising Data between 2005 and June 2007 is based on 2004 figures. From July 2007, Total Passenger Train Kms, (millions) are based on scheduled services.
- Of Victoria's total 15 fatalities for Jan-Jun 2007, 11 resulted from the Kerang incident.

Queensland

The following explanatory notes apply to Queensland:

- maintenance issues detected and corrected as part of a normal maintenance program have not been included in track or civil infrastructure irregularity as per the current ON-S1 definition.

Northern Territory

The following explanatory notes apply to Northern Territory:

- NT data includes events that occurred during the construction period of the Alice Springs Darwin railway.

New South Wales

The following explanatory notes apply to New South Wales:

- Pre-2005 data were collected under a different rail safety incident classification system and have been recoded to align with ON-S1 (Revision 1 August 2004). Data prior to mid 2002 is incomplete for some operator and incident types;
- All data based on current version of ON-S1 (Revision 1 August 2004) except as follows:
- *Serious Injury*: Data are currently reported under a broader definition of serious injury than ON-S1 and are not comparable with other jurisdictions;
- *Track and Civil Irregularity:* includes notifications of suspected track defects (for example, as reported by train drivers) and is not limited to the current ON-S1 definition which restricts track defect reports to those where it was confirmed a train accident was likely;
- *Running Line Collision: is* not a formal category under ON–S1. Data are based on a draft revised ON-S1 definition;
- Signal *Passed at Danger (SPAD)*: Rise in SPADS from 2004 due to change in major operator's detection and reporting processes;
- *Total Track Kilometres* are based on 2007 estimate (may not include all sidings and loops).