Crime on the NSW rail system

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Aim: To provide an overview of the incidence of offences against the person on the NSW rail system.

Method: Analysis of data from the NSW Police Force's Computerised Operational Policing System (COPS).

Results: Recorded rates of personal crime on the NSW rail system are generally very low. On a typical weekday across NSW the rate of personal crimes on trains is 0.3 incidents per 100,000 passenger journeys. Similarly, the rate of personal crimes on railway stations is 0.04 per 100,000 passenger interchanges. Not all stations carry the same risk. On stations where personal offences had occured, the risk varied from 0.02 per 100,000 interchanges at North Sydney station to 3.2 per 100,000 interchanges at Waratah station. Non-domestic assault is the most commonly recorded personal offence (49.5% of incidents), followed by steal from person (30.2% of incidents), robbery (12.2% of incidents), other sexual offences (7.5% of incidents) and sexual assault (0.6% of incidents). The overall risk of victimisation on weekdays is highest during the afternoon commuter period (3:00pm to 6:30pm) and lowest during the early morning travel period (2:00am to 6:00am). Risk of victimisation on weekends is highest in evening (6:30pm to 2:00am) and early morning (2:00am to 6:00am) periods.

Conclusion: Crime on the rail system is not evenly distributed across time and space. It is hoped that the current findings are a useful source of information for public transport users and for policy makers who are tasked with making decisions about crime control on the NSW rail system.

Keywords: Personal crime, public transport, rail, train, NSW

Introduction

The rail transport system is an integral part of the State's urban infrastructure. Residents in the Sydney Statistical Division make approximately one million train trips on an average weekday. While this only accounts for five per cent of trips (most are made by car), it accounts for 13 per cent of the distance travelled and nearly 10 per cent of the time travelled on a typical weekday (Transport Data Centre, 2010). Most train journeys occur without experiencing any form of crime. However, a number of passengers report concerns over personal security on one or more of their passenger journeys (ITSRR, 2009). For example, in 2008, 26 per cent of train users reported feeling threatened by the actions of other people on a train or at a station, 19 per cent reported witnessing or being a victim of criminal activity or violent behaviour, and 23 per cent of train users reported witnessing or being a victim of harassment or verbal abuse.

While surveys such as these provide important information about the extent of victimisation on the rail system, surveys do not allow for detailed analysis of crime in particular locations or at particular times. Crime information recorded by the NSW Police Force allows for these sorts of comparisons. In 1994, the Bureau published a report detailing the spatial and temporal characteristics of recorded crime on the NSW rail system (Jochelson, 1994). The report attracted widespread public interest. The data reported in Jochelson's report covered the early part of the 1990s and are now very out of date. The aim of the current report is to update Jochelson's study to give a broad profile of recorded crime on the NSW rail system between the years 2001 and 2010.

The report is structured as follows. We first describe the methods employed to extract and analyse crime data on the rail system. We then present the results of our analysis. The discussion section then summarises the findings and briefly discusses their implications for rail crime prevention.

Method

Data and analyses

The crime data reported here were derived from the NSW Police Force's Computerised Operational Policing System (COPS). By definition, we therefore only report on crimes that are reported to, or detected by, police. It is important to bear in mind that trends in these offences can be affected not only by the frequency with which the crimes occur, but also by the propensity of victims to report crimes to police and the frequency with which police detect these offences. While this is a limitation, it only affects the spatial and temporal comparisons reported in this study if rates of reporting or detection vary by area or by time of day. There is no a priori reason to expect that this is the case.

While a range of different offences can and do occur on the rail system, this study focuses on the five major offences of non-domestic violence related assault (referred to as non-DV assault from here on), steal from person, robbery, sexual assault and other sexual offences. We focus on these offences as they are the most frequent offences recorded on rail premises, because the Bureau often receives requests for information about these offences, and because they are less susceptible to changes in reporting or enforcement than other offence categories (e.g. transport regulatory offences). The category of 'other sexual offences' comprises indecent assault, acts of indecency and any other non-penetrative sexual offence. For many of the analyses reported here, sexual assault is grouped with other sexual offences because the counts of sexual assault are too low to provide meaningful breakdowns by location or time.

When we refer to incidents of crime on the rail system, we are referring to a crime that was recorded by police as occurring on railway buildings, stations, terminals, sidings or trains. As the counts recorded on railway buildings and terminals were quite low, these premises types were grouped with railway stations in this report. Offences recorded as occurring on trains are categorised as those that took place in a carriage of either a moving or a stationary train. Incidents occurring on a train stationary at a railway station were counted as occurring on the train. As will be seen in Table 2, very few incidents within the offence categories under investigation occurred on railway sidings. These incidents are therefore not included in most of the analyses in the report.

Victim and alleged offender (referred to as person of interest, or POI) profiles were derived from data entered into COPS. Persons of interest are suspected offenders recorded by police in connection with a criminal incident. Only those POIs who were proceeded against to court or by another means (e.g., by official caution or Youth Justice Conference under the *Young Offenders Act 1997*) are included in the analysis.

Regional variation in crime rates were estimated by calculating the number of incidents per 100,000 residents in a Local Government Area. Population data were obtained from the most recent Regional Population Growth report published by the Australian Bureau of Statistics (ABS, 2010).

When considering risk on trains and at particular stations, we use the number of passenger journeys and the number of passenger interchanges, respectively, to account for commuter numbers. These counts were conducted in 2009 and were provided by RailCorp.[1] When estimating risk of victimisation on trains, we calculated the number of criminal incidents recorded per 100,000 passenger journeys. A passenger journey was calculated as a commuter boarding at one station and alighting at another. When estimating risk of victimisation at particular stations, we calculated the number of criminal incidents recorded per 100,000 passenger interchanges at that station. A passenger interchange was defined as a passenger boarding at a station. Thus a passenger journey was defined as consisting of two passenger interchanges.

The analyses in this report are mainly descriptive. Kendall's rank-order correlation tests were used to test whether any trends were statistically significant.

Results

Incidents and trends on rail premises

Table 1 shows the number and per cent of incidents that were recorded on rail premises, relative to other premises types in 2010. Of the offences examined in this report, non-DV assault was the most frequently recorded offence category on rail premises, followed by steal from person, robbery, other sexual offences and sexual assault. Table 1 shows that crime on rail accounts for approximately 3 per cent of incidents of non-DV assault, 9 per cent of steal from person incidents, 6 per cent of incidents of robbery, 0.4 per cent of sexual assaults and 4 per cent of other sexual offences.

Figure 1. Number of criminal incidents on the rail transport system, 2001-2010
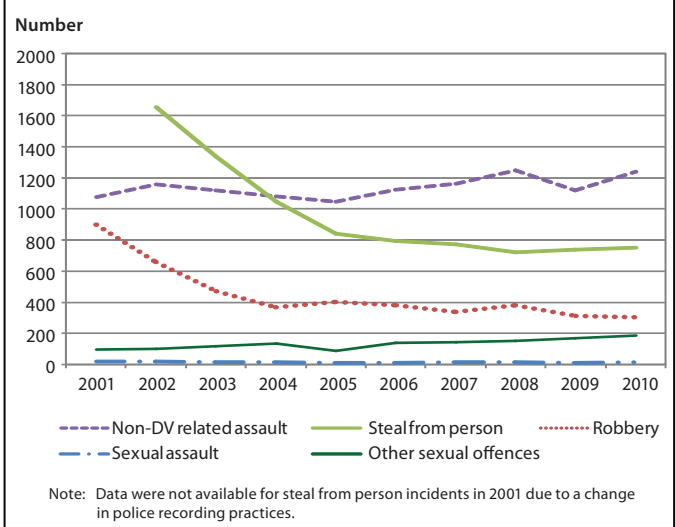
Note: Data were not available for steal from person incidents in 2001 due to a change in police recording practices.

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Table 1. Number and per cent of selected offences by premises type, 2010

Premises type	Non-DV assault		Steal from person		Robbery		Sexual assault		Other sexual offences	
	N	per cent	N	per cent	N	per cent	N	per cent	N	per cent
Outdoor/public place	13,455	34.1	2,121	24.0	3,132	57.9	429	9.6	977	18.7
Residential	9,574	24.3	371	4.2	407	7.5	3,283	73.1	2,831	54.3
Licensed premises	5,177	13.1	2,130	24.1	264	4.9	55	1.2	105	2.0
Business/commercial	4,086	10.4	2,274	25.8	907	16.8	55	1.2	299	5.7
Railway system	1,239	3.1	754	8.5	304	5.6	16	0.4	187	3.6
Other public transport	539	1.4	325	3.7	69	1.3	6	0.1	73	1.4
Other premises type	5,404	13.7	845	9.6	324	6.0	648	14.4	744	14.3
Total	**39,474**	**100.0**	**8,820**	**100.0**	**5,407**	**100.0**	**4,492**	**100.0**	**5,216**	**100.0**

Table 2. Trend and average annual per cent change for selected offences occurring on the rail system, 2001-2010

Offence type	2001-2010		2006-2010		2009-2010	
	Trend	Average annual per cent change	Trend	Average annual per cent change	Trend	Average annual per cent change
Non-DV assault	Significant	1.6	Stable	-	Stable	-
Steal from person*	Significant	-9.4	Stable	-	Stable	-
Robbery	Significant	-11.4	Significant	-5.4	Stable	-
Sexual assault	nc	nc	nc	nc	nc	nc
Other sexual offences	Significant	7.6	Significant	7.5	Stable	-

* Note: Long term trend tests for incidents of steal from person were performed over 9 years 2002-2010, due to a change in police recording practice.

Table 3. Per cent of recorded offences occurring across the rail system, NSW, 2010

Rail premises	Non-DV assault		Steal from person		Robbery		Sexual assault		Other sexual offences	
	N	per cent	N	per cent	N	per cent	N	per cent	N	per cent
Railway station	959	77.4	344	45.6	180	59.2	12	75.0	73	39.0
Train	268	21.6	409	54.2	122	40.1	3	18.8	114	61.0
Railway siding	12	1.0	1	0.1	2	0.7	1	6.3	0	0.0
Total	**1,239**	**100.0**	**754**	**100.0**	**304**	**100.0**	**16**	**100.0**	**187**	**100.0**

Figure 1 shows the number of recorded incidents of non-DV assault, steal from person, robbery, sexual assault and other sexual offences on the rail system in NSW from 2001 to 2010. The number of recorded incidents of non-DV assault and other sexual offences increased over the 10-year period. Steal from person and robbery incidents declined substantially throughout the first half of the decade before stabilising somewhat in the second part of the decade. The number of sexual assault incidents recorded on rail premises was too low to identify any discernable trend from the graph.

Table 2 summarises the results of long-, medium- and short-term trend tests calculated on the number of incidents recorded over the 10-year period. The number of sexual assault incidents recorded on rail premises was too low to reliably calculate any trend tests. Consistent with the patterns shown in Figure 1, the recorded number of non-DV assault and other sexual offence incidents increased over the 10-year period (by 1.6% and 7.6% per year, respectively), while the number of steal from person and robbery incidents fell over the decade (by 9.4% and 11.4% per year, respectively). These changes were statistically significant. The five-year trends were stable for non-DV assault and stealing from a person, trending upwards for other sexual offences (by 7.5% per year) and trending downwards for robbery (by 5.4% per year). Four of the offence categories had stable trends over the two years to December 2010 and the number of sexual assault incidents was too low to reliably calculate a trend test.

Table 3 shows the specific rail premises on which criminal incidents occurred in 2010. As mentioned earlier the offences that were recorded as occurring at railway stations include those committed on the railway station platforms, buildings, and railway terminals.

In terms of the raw number of incidents recorded at railway stations, non-DV assault was the most commonly recorded offence (n=959 incidents), followed by steal from person offences (n=344), robbery (n=180), other sexual offences (n=73) and sexual assault (n=12). On trains, steal from person was the most frequently recorded offence (n=409 incidents), followed by non-DV assault (n=268), robbery (n=122), other sexual offences (n=114) and sexual assault (n=3). The majority of non-DV assault (77.4%), robbery (59.2%) and sexual assault (75.0%) incidents occurred at railway stations, while the majority of steal from person (54.2%) and other sexual offence incidents (61.0%) took place on trains.

The number of incidents recorded as occurring on railway sidings was generally very low and, for this reason, offences on railway sidings are removed from the remainder of the analyses in this report.

Crime on rail premises by time of day and day of week

Table 4 shows the frequency of the selected offences at stations and on trains in 2010 by the day of the week on which the incident occurred. The peak period clearly varies depending upon both the type of offence and whether the focus is on offences on railway stations or on trains. The far right column in Table 4, however, shows that, when the five offences were combined, a higher proportion tended to occur on a Thursday, Friday or a Saturday than on other days of the week (with the exception of incidents recorded on trains on Fridays).

Figure 2 shows the hourly rate of recorded offences on stations and trains (combined) by the time period in which the incidents

allegedly occurred and whether the incident occurred on a weekend or a weekday. The number of offences per hour has been calculated because the time periods in Figure 3 are of unequal length.[2] On weekdays the rate per hour was lowest during the early morning period between 2:00am to 6:00am (0.1 incidents per hour)[3], rising throughout the day until 3:00pm to 6:30pm (0.5 incidents per hour). For weekends, the highest hourly rate occurred later in the evening and early morning between 6:30pm and 2:00am (0.4 incidents per hour), with the lowest hourly rate between 6:00am and 9:30am (0.1 incidents per hour).

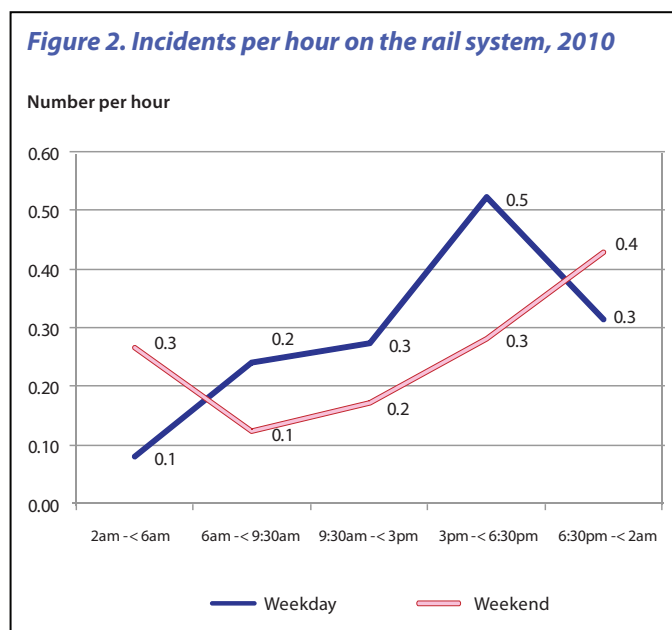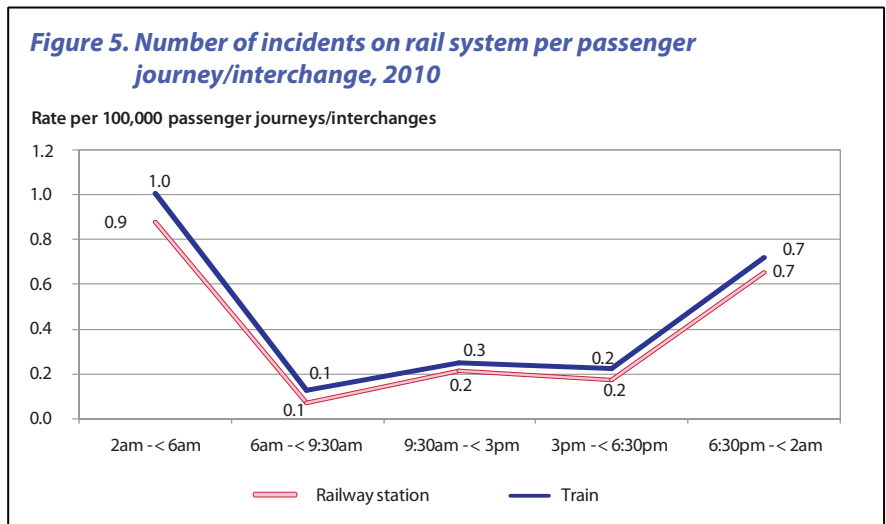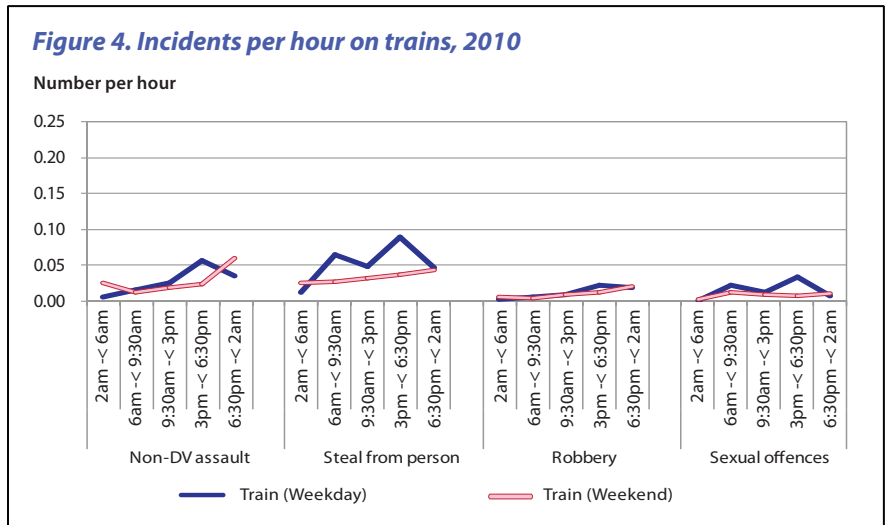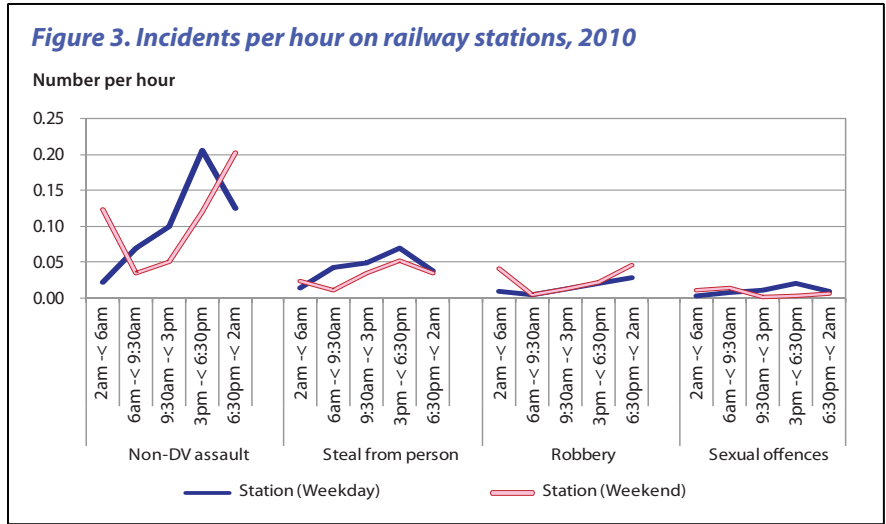*Figure 2. Incidents per hour on the rail system, 2010*

Number per hour

Table 4. Number and percentage of selected offences at railway stations and trains, by day of week and offence type, 2010

Railway premises	Non-DV assault		Steal from person		Robbery		Sexual assault		Other sexual offences		Total	
	N	per cent	N	per cent	N	per cent	N	per cent	N	per cent	N	per cent
Railway station												
Sunday	124	12.9	36	10.5	30	16.7	2	16.7	8	11.0	200	12.8
Monday	94	9.8	63	18.3	24	13.3	0	0.0	10	13.7	191	12.2
Tuesday	103	10.7	44	12.8	24	13.3	3	25.0	6	8.2	180	11.5
Wednesday	106	11.1	53	15.4	20	11.1	2	16.7	12	16.4	193	12.3
Thursday	166	17.3	46	13.4	23	12.8	1	8.3	13	17.8	249	15.9
Friday	188	19.6	53	15.4	21	11.7	2	16.7	18	24.7	282	18.0
Saturday	178	18.6	49	14.2	38	21.1	2	16.7	6	8.2	273	17.4
Total	*959*	*100.0*	*344*	*100.0*	*180*	*100.0*	*12*	*100.0*	*73*	*100.0*	*1,568*	*100.0*
Train												
Sunday	28	10.4	52	12.7	25	20.5	0	0.0	10	8.8	115	12.6
Monday	27	10.1	56	13.7	19	15.6	1	33.3	18	15.8	121	13.2
Tuesday	37	13.8	66	16.1	17	13.9	2	66.7	14	12.3	136	14.8
Wednesday	28	10.4	58	14.2	11	9.0	0	0.0	21	18.4	118	12.9
Thursday	49	18.3	71	17.4	20	16.4	0	0.0	17	14.9	157	17.1
Friday	44	16.4	47	11.5	16	13.1	0	0.0	15	13.2	122	13.3
Saturday	55	20.5	59	14.4	14	11.5	0	0.0	19	16.7	147	16.0
Total	*268*	*100.0*	*409*	*100.0*	*122*	*100.0*	*3*	*100.0*	*114*	*100.0*	*916*	*100.0*

Figure 3 shows the hourly rate of recorded incidents for each offence type at railway stations, by time period, for both weekends and weekdays. Sexual assaults have been grouped with other sexual offences for this analysis because the number of sexual assault incidents was too low to reliably calculate an hourly offence rate. The first thing to note about Figure 3 is that the hourly rate at which these offences occur is very low across each of the time categories.

On weekends, non-DV assault tended to be more frequent during the early morning (2:00am to 6:00am) and late evening (6:30pm to 2:00am) periods. On weekdays, non-DV assault was lowest during the early morning (2:00am to 6:00am) and peak commuter periods (6:00am to 9:30am) when compared with other parts of the day. Robbery on weekends also displayed a peak during the late night and early morning periods. Stealing from a person was higher between 3:30pm to 6:30pm on both weekends and weekdays. The remainder of the offence categories displayed few discernable temporal trends.

Figure 4 shows the hourly rate at which the selected offences occurred on trains, by whether the incident occurred on a weekend or a weekday. Again, the hourly offence rate is very low for most offence categories. The trend in weekend non-DV assault on trains was similar to that for train stations (peaking during the early morning and late evening periods). Weekday non-DV assaults were again lowest during the early morning (2:00am to 6:00am) and higher later in the day (peaking between 3:00pm and 6:30pm). Weekday steal from person and sexual offence incidents tended to be higher during commuter periods. On both weekdays and weekends the number of recorded robberies increased as the day progressed. The remainder of the incidents showed little discernable temporal trend.

Figure 3. Incidents per hour on railway stations, 2010

Figure 4. Incidents per hour on trains, 2010

Figure 5. Number of incidents on rail system per passenger journey/interchange, 2010

Risk of victimisation

The preceding tables and figures give no clear picture of the risk of victimisation because they do not take account of the number of passengers using the rail network at any particular location and time. The following figures and tables adjust for this by expressing the risk of victimisation as a rate per 100,000 passenger journeys for trains and rate per 100,000 passenger interchanges for railway stations.

Figure 5 shows the rate of incidents on trains and at stations on a typical weekday, by the time of day at which the incident occurred. The numerator for these analyses was restricted to criminal incidents occurring on weekdays because information on passenger interchanges and journeys (the denominator) was not available for weekend travel.

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The first point to note about Figure 5 is the low rate of recorded offences against the person. Even at its peak (2.00am to 6.00pm) the rate of recorded personal crime is only slightly above one incident per 100,000 passenger journeys for trains. The second thing to note is that the diurnal pattern is the same for all offences. The peak period between the hours of 2:00am and 6:00am is closely followed by the 6:30pm to 2:00am night-time period. Risk of victimisation is between seven and ten times higher during these times than it is during the lowest risk time (6:00am to 9:30am).

Figure 6 shows the relative risk of experiencing each of the offences at railway stations (using passenger interchanges as the denominator), by time of day. Sexual assault has again been grouped with other sexual offences because the counts were too low to reliably estimate victimisation rates. Recall that the data shown in Figure 6 (and subsequent figures) are restricted to offences occurring on weekdays.

The risk of victimisation at stations was highest for non-DV assault, followed by steal from person, robbery and then sexual offences. As was the case for the rail system in general, the risk of victimisation for each offence at railway stations was highest overnight from 6:30pm to 6:00am. With the

Figure 6. Number of incidents on railway stations per passenger interchange, 2010

Rate per 100,000 passenger interchanges

Non-DV assault — Steal from person — Robbery — Sexual offences
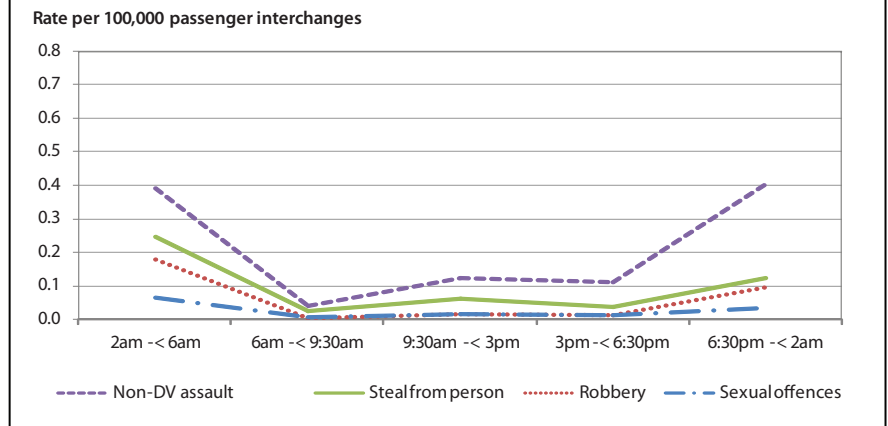
Figure 7. Number of incidents on trains per passenger journey, 2010

Rate per 100,000 passenger journeys

Non-DV assault — Steal from person — Robbery — Sexual offences

exception of non-DV assault, the increased risk was particularly marked during the early morning period between 2:00am to 6:00am. Risk was lowest in the high commuter periods from 6:00am to 9:30am and 3:00pm to 6:30pm.

Figure 7 shows the relative risk of different offences on trains by time of day (using passenger journeys as the denominator). As opposed to risk at railway stations, the overall risk of victimisation on trains was highest for steal from person, followed by non-DV assault, robbery and sexual offences. Generally, the temporal patterns show a similar distribution as risk at railway stations, with risk being highest in the evening and early morning hours and lowest during the commuter and day-time periods.

Crime on individual stations

This section analyses regional variation in frequency and risk of crime at railway stations on the CityRail network. Table 5 shows the 20 stations with (a) the highest total number of recorded incidents in 2010, and (b) the highest rates of recorded incidents after adjusting for the number of interchanges at those stations. The five offence categories have been added together for the purposes of these estimates. Note that stations with large numbers of incidents do not necessarily have the highest risk. Central Station had the greatest number of recorded incidents

in 2010 (n=151), with nearly three times the number recorded at the second and third highest stations (Town Hall n=51 and Blacktown n=48 incidents). Four other stations (Parramatta, Strathfield, Penrith and Redfern) had 30 or more recorded incidents of non-DV assault, steal from person offences, robbery or sexual offences in 2010. Liverpool, Fairfield and Mount Druitt made up the remainder of top 10 stations for the selected offences. The top five stations accounted for 28.1 per cent of the crime occurring at all stations in NSW. The top 10 and top 20 stations accounted for, respectively, 39.4 and 52.3 per cent of non-DV assault, steal from person, robbery, sexual assault and other sexual offences recorded at railway stations in 2010.

The right panel in Table 5 shows the top 20 railway stations with the highest rate of incidents considering passenger interchanges. This panel should be used to gauge relative risk. These rate calculations are restricted to stations on the CityRail network because passenger interchange data were not available for stations outside of this network. The rate calculations are also restricted to stations that had greater than 500 interchanges because a very small number of incidents can give very large rate estimations when the denominator is small. Of the CityRail stations with over 500 passenger interchanges

Table 5. Top 20 CityRail stations ranked by the (a) number of incidents of recorded personal offences, and (b) rate of incidents per 100,000 passenger interchanges, 2010

	(a) Number of incidents					**(b) Rate of incidents**			
Rank	**Station name**	**Number of incidents**	**Per cent of all incidents**	**Line type**	**Rank***	**Station name**	**Interchanges per year (weekdays only)**	**Rate per 100, 000**	**Line type**
1	Central	151	13.6	Suburban	1	Waratah	187,200	3.2	Regional
2	Town Hall	51	4.6	Suburban	2	Warnervale	161,200	2.5	Intercity
3	Blacktown	48	4.3	Suburban	3	Beresfield	176,800	2.3	Regional
4	Parramatta	32	2.9	Suburban	3	Bomaderry	176,800	2.3	Intercity
5	Strathfield	31	2.8	Suburban	5	Fassifern	228,800	1.7	Intercity
6	Penrith	30	2.7	Suburban	5	Maitland	343,200	1.7	Regional
6	Redfern	30	2.7	Suburban	5	Oak Flats	171,600	1.7	Intercity
8	Fairfield	23	2.1	Suburban	8	Newcastle	759,200	1.6	Intercity
8	Liverpool	23	2.1	Suburban	9	Katoomba	634,400	1.6	Intercity
10	Mount Druitt	19	1.7	Suburban	10	Unanderra	260,000	1.5	Intercity
11	Lidcombe	18	1.6	Suburban	11	Wyong	863,200	1.5	Intercity
12	Wollongong	16	1.4	Intercity	12	Lawson	135,200	1.5	Intercity
13	Granville	15	1.3	Suburban	13	Albion Park	140,400	1.4	Intercity
13	Wynyard	15	1.3	Suburban	14	Narwee	223,600	1.3	Suburban
15	Bankstown	14	1.3	Suburban	15	Wollongong	1,206,400	1.3	Intercity
15	Hornsby	14	1.3	Suburban	16	Hamilton	530,400	1.3	Intercity
17	Burwood	13	1.2	Suburban	17	Victoria St	228,800	1.3	Regional
17	Cabramatta	13	1.2	Suburban	18	Birrong	478,400	1.3	Suburban
17	Minto	13	1.2	Suburban	19	Ourimbah	244,400	1.2	Intercity
17	Wyong	13	1.2	Intercity	20	Doonside	1,060,800	1.1	Suburban

* Ranks are determined at the second decimal place

on a typical weekday, Waratah had the highest rate of recorded crime with 3.2 incidents per 100,000 passenger interchanges. Warnervale, Beresfield, Bomaderry and Fassifern stations made up the remainder of the top five CityRail stations with the highest rate of incidents per 100,000 passenger interchanges.

A full list of all NSW train stations where one or more incidents were recorded can be found in the Appendix.

Victim and person of interest profiles

Figure 8 shows the age and gender distribution of victims of non-DV assault, steal from person, robbery and sexual offences, in 2010. The majority of victims of non-DV assault and robbery were males (72% and 82%, respectively). The ratio of male to female victimisation for steal from person incidents was close to one, with 53 per cent of victims being male. Females were much

Figure 8. Age and gender of victims of selected offences recorded by police at railway stations and on trains, NSW, 2010
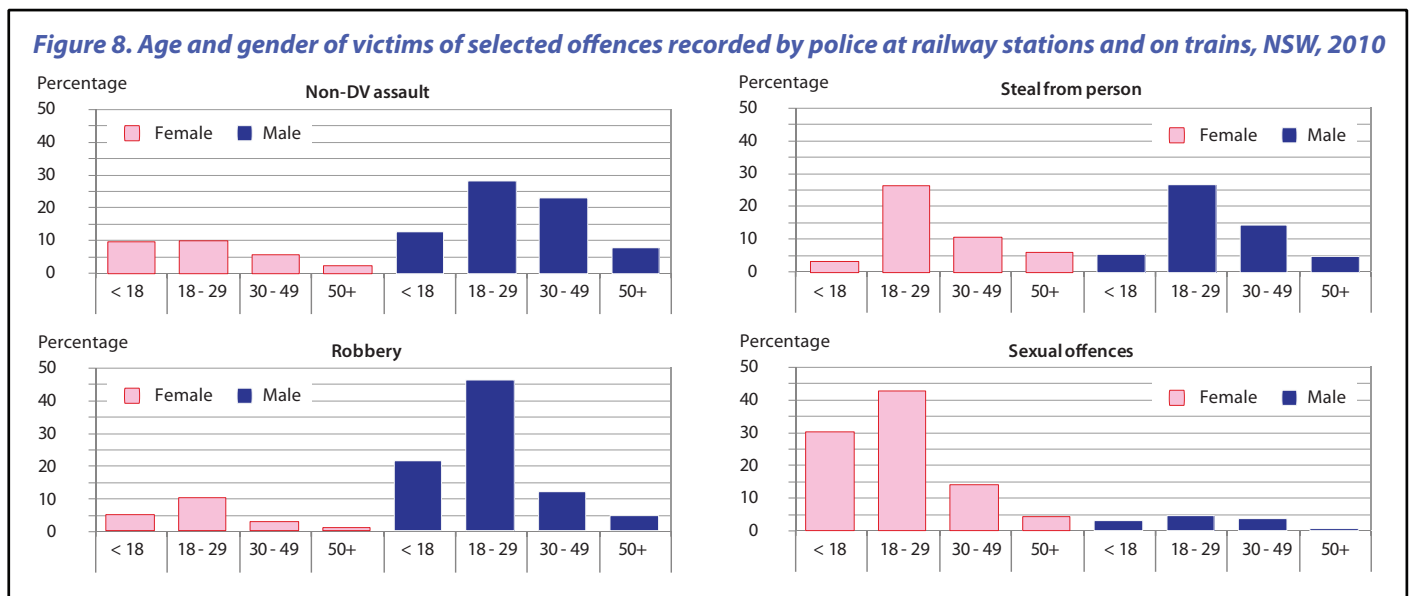
more likely to be the victims of sexual offences on stations or on trains (89% of victims were female). For all offences, the majority of victims were aged between 18 and 29 years (45%). Fewer than 10 per cent of victims across these offence categories were over the age of 50.

Figure 9 shows the age and gender distribution of persons of interest (POIs) proceeded against by police for non-DV assault, steal from person, robbery and sexual offences on trains or at stations in 2010. Figure 9 shows that for each of the selected offences, over 75 per cent of the POIs were male. The majority (35%) of POIs involved in non-DV assault were males aged between 18 and 29 years, followed by males aged 10 to 17 years (23%). For robbery, the majority (45%) of POIs

were males aged between 10 and 17 years, followed by males aged between 18 and 29 years (35%). More than half of the POIs proceeded against for stealing from the person on a train or at a station in 2010 were juvenile males. By contrast, approximately 95 per cent of those proceeded against for sexual offences were adult males.

Table 6 shows the number and per cent of POIs proceeded against for selected offences by method of proceeding and age. Overall, 89 per cent of persons of interest were proceeded against to court. Juvenile offenders were proceeded against to court less frequently than adult offenders (73% and 99% respectively), with a caution under the *Young Offenders Act* being the most common diversion method for juveniles.

Figure 9. Age and gender of persons of interest proceeded against for selected offences recorded by police as occurring at railway stations and on trains, NSW, 2010
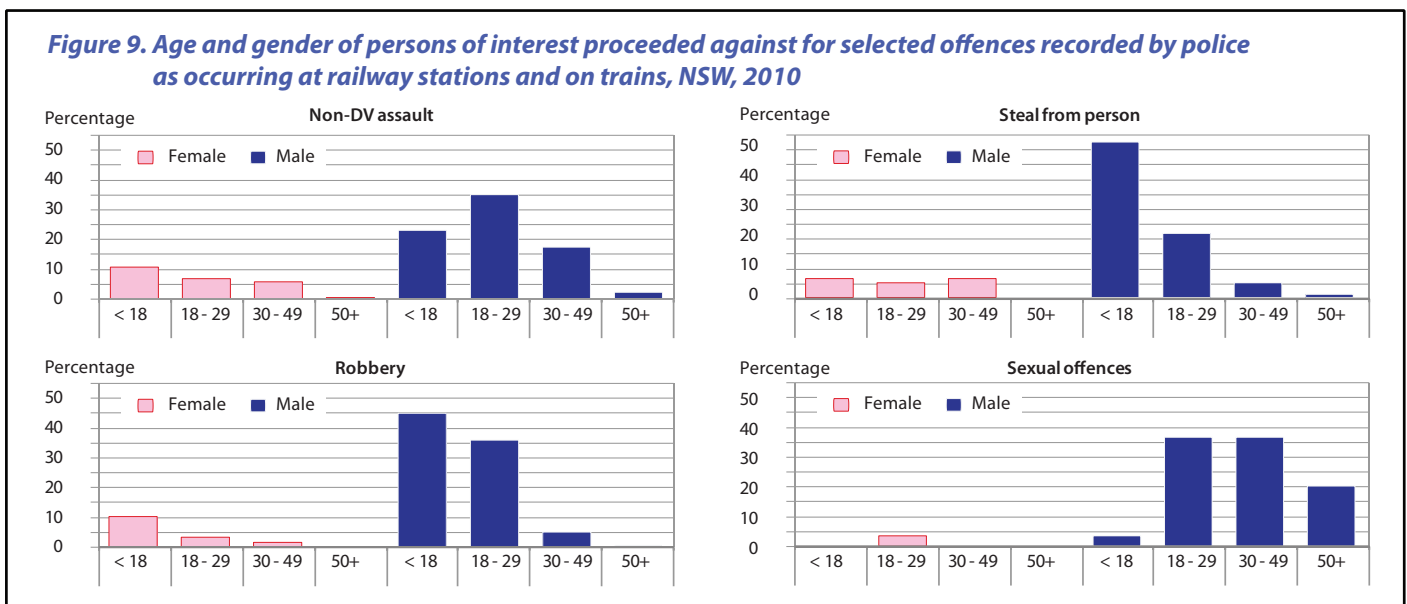
Table 6. Number of persons of interest proceeded against for selected offences by method of proceeding and age of POI, NSW, 2010

| Offence | Age group | Proceeded against to court | Proceeded against other than to court | | | | Total proceeded against other than to court | Total proceeded against | Per cent proceeded against to court |
			Youth conference	Caution (*Young Offenders Act*)	Criminal infringement notice	Infringement notice			
Non-DV assault	10 to 17	96	21	49	-	1	71	*167*	57.5
	18 +	330	-	-	3	1	4	*334*	98.8
	Total	**426**	**21**	**49**	**3**	**2**	**75**	***501***	**85.0**
Steal from person	10 to 17	26	6	14	-	-	20	*46*	56.5
	18 +	30	-	-	1	-	1	*31*	96.8
	Total	**56**	**6**	**14**	**1**	**-**	**21**	***77***	**72.7**
Robbery	10 to 17	120	-	1	-	-	1	*121*	99.2
	18 +	101	-	-	-	-	-	*101*	100.0
	Total	**221**	**-**	**1**	**-**	**-**	**1**	***222***	**99.5**
Sexual offences	10 to 17	2	-	-	-	-	-	*2*	100.0
	18 +	58	-	-	-	-	-	*58*	100.0
	Total	**60**	**-**	**-**	**-**	**-**	**-**	***60***	**100.0**
Total of above offences	10 to 17	244	27	64	0	1	92	*336*	72.6
	18 +	519	-	-	4	1	5	*524*	99.0
	Total	**763**	**27**	**64**	**4**	**2**	**97**	***860***	**88.7**

Discussion

This report explored the temporal and spatial characteristics of five offences against the person (non-DV assault, steal from person, robbery, other sexual offences and sexual assault) on the NSW rail system between 2001 and 2010. During the last two years of this study period, the incidence of these offences has remained stable but over the full period from 2001 to 2010, there were significant increases in non-DV assault (up 1.6 per cent) and other sexual offences (up 7.6 per cent) and significant decreases in steal from the person (down 9.4 per cent) and robbery (down 11.4 per cent).

Overall, the recorded rate of offending on both trains and at stations is very low (0.3 per 100,000 passenger journeys and 0.04 per 100,000 passenger interchanges, respectively). However, the relative risk varies considerably depending upon location, day of week and time of day. Of the five offences considered in this report, non-DV assault was the most commonly recorded offence. This was followed by steal from person, robbery, other sexual offences and, lastly, sexual assault. Non-DV assault and robbery occurred more frequently on railway stations, whereas the majority of steal from person incidents took place on trains. Generally speaking, the offences examined in this report tended to be more common on Thursdays, Fridays and Saturdays. When commuter numbers were taken into account, the risk of victimisation on weekdays was highest during both the early morning (2:00am to 6:00am) and evening early morning periods (6:30pm to 2:00am). The highest ranking stations in terms of incidents per 100,000 passenger interchanges were all either on regional or intercity lines. These were Waratah, Warnervale, Beresfield, Bomaderry and Fassifern. The highest ranking stations in terms of number of incidents were mostly on suburban lines. The top 5 stations were, Central, Town Hall, Blacktown, Parramatta and Strathfield

These results indicate that public money might best be invested in crime prevention initiatives which focus on at-risk times (late night and early morning, Thursday through Saturday), and which prioritise those stations where the greatest number of incidents occur and where there is an over-representation of crime relative to passenger numbers. Of course, each station and each train line will have unique environmental characteristics (either in terms of the physical setting or the characteristics of commuters). Crime prevention policies and programs require detailed environmental scanning and in-depth analysis of the factors that render an area more or less exposed to crime. This report may serve as a useful input into ongoing crime prevention activity on rail premises.

Notes

1. These counts are essentially a census of passenger interchanges on three days of the year. Counts must be made manually because not all stations have electronic ticketing barriers and counting ticket sales would not capture those using multi-use passes such as weekly tickets. The counts were taken either on a Tuesday, Wednesday or Thursday on days other than school holidays. The counts include the three new ECRL (Epping to Chatswood Rail Link) stations, which opened on 23 February 2009. The counts do not include the four private Airport Line stations opened on 21 May 2000.

2. Time intervals of unequal length were used because rail patronage data were readily available in this format. The number of offences per hour in a specific time period was calculated by dividing the number of recorded incidents that occurred in each time period by the number of hours in that period.

3. This may partly be due to less frequent trains during this period.

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Appendix

Table A1. CityRail stations ranked by the (a) number of incidents of recorded personal offences, and (b) rate of incidents per 100,000 passenger interchanges, 2010

(a) Number of incidents				(b) Rate of incidents			
Rank	Station name	Number of incidents	Per cent of all incidents	Rank*	Station name	Interchanges per year (weekdays only)	Rate per 100, 000
1	Central	151	13.6	1	Waratah	187,200	3.2
2	Town Hall	51	4.6	2	Warnervale	161,200	2.5
3	Blacktown	48	4.3	3	Beresfield	176,800	2.3
4	Parramatta	32	2.9	3	Bomaderry	176,800	2.3
5	Strathfield	31	2.8	5	Fassifern	228,800	1.7
6	Penrith	30	2.7	5	Maitland	343,200	1.7
6	Redfern	30	2.7	5	Oak Flats	171,600	1.7
8	Fairfield	23	2.1	8	Newcastle	759,200	1.6
8	Liverpool	23	2.1	9	Katoomba	634,400	1.6
10	Mount Druitt	19	1.7	10	Unanderra	260,000	1.5
11	Lidcombe	18	1.6	11	Wyong	863,200	1.5
12	Wollongong	16	1.4	12	Lawson	135,200	1.5
13	Granville	15	1.3	13	Albion Park	140,400	1.4
13	Wynyard	15	1.3	14	Narwee	223,600	1.3
15	Bankstown	14	1.3	15	Wollongong	1,206,400	1.3
15	Hornsby	14	1.3	16	Hamilton	530,400	1.3
17	Burwood	13	1.2	17	Victoria St	228,800	1.3
17	Cabramatta	13	1.2	18	Birrong	478,400	1.3
17	Minto	13	1.2	19	Ourimbah	244,400	1.2
17	Wyong	13	1.2	20	Doonside	1,060,800	1.1
21	Campbelltown	12	1.1	21	Windsor	447,200	1.1
21	Doonside	12	1.1	22	Villawood	358,800	1.1
21	Newcastle	12	1.1	23	Werrington	556,400	1.1
24	Glenfield	11	1.0	24	Tuggerah	655,200	1.1
24	Hurstville	11	1.0	25	Carramar	301,600	1.0
24	Rockdale	11	1.0	26	Cardiff	317,200	0.9
27	Katoomba	10	0.9	27	Macquarie Fields	582,400	0.9
27	Seven Hills	10	0.9	28	Kiama	239,200	0.8
29	Gosford	9	0.8	29	Springwood	925,600	0.8
29	Merrylands	9	0.8	30	Faulconbridge	140,400	0.7
31	Ashfield	8	0.7	31	Penrith	4,326,400	0.7
31	Kogarah	8	0.7	32	Morisset	436,800	0.7
31	St Marys	8	0.7	33	Minto	1,960,400	0.7
34	Auburn	7	0.6	34	Dapto	306,800	0.7
34	Epping	7	0.6	35	Telopea	161,200	0.6
34	Hamilton	7	0.6	35	Woonona	161,200	0.6
34	Kings Cross	7	0.6	37	Blacktown	8,460,400	0.6
34	Rooty Hill	7	0.6	38	Clyde	369,200	0.5
34	Springwood	7	0.6	39	East Hills	556,400	0.5
34	Tuggerah	7	0.6	40	Arncliffe	769,600	0.5
34	Woy Woy	7	0.6	40	Kirrawee	577,200	0.5
42	Birrong	6	0.5	42	Liverpool	4,456,400	0.5
42	Bondi Junction	6	0.5	43	Fairfield	4,581,200	0.5
42	Leumeah	6	0.5	44	Civic (Newcastle)	410,800	0.5
42	Maitland	6	0.5	45	Carlton	837,200	0.5

Table A1. CityRail stations ranked by the (a) number of incidents of recorded personal offences, and (b) rate of incidents per 100,000 passenger interchanges, 2010 - continued

(a) Number of incidents				(b) Rate of incidents			
Rank	Station name	Number of incidents	Per cent of all incidents	Rank*	Station name	Interchanges per year (weekdays only)	Rate per 100, 000
42	Sutherland	6	0.5	46	East Richmond	213,200	0.5
42	Waratah	6	0.5	46	Helensburgh	426,400	0.5
42	Werrington	6	0.5	48	Mount Druitt	4,056,000	0.5
49	Campsie	5	0.4	49	Blaxland	431,600	0.5
49	Chatswood	5	0.4	50	Rooty Hill	1,523,600	0.5
49	High Street	5	0.4	51	Chester Hill	873,600	0.5
49	Jannali	5	0.4	52	Richmond	468,000	0.4
49	Macquarie Fields	5	0.4	53	Granville	3,614,000	0.4
49	Museum	5	0.4	54	Riverstone	488,800	0.4
49	Stanmore	5	0.4	55	Campbelltown	3,135,600	0.4
49	Windsor	5	0.4	56	Seven Hills	2,714,400	0.4
57	Arncliffe	4	0.4	57	Lidcombe	5,085,600	0.4
57	Beresfield	4	0.4	57	Oatley	847,600	0.4
57	Bomaderry	4	0.4	59	Stanmore	1,430,000	0.3
57	Carlton	4	0.4	59	Warwick Farm	1,144,000	0.3
57	Chester Hill	4	0.4	61	St Marys	2,314,000	0.3
57	Circular Quay	4	0.4	62	Glenfield	3,187,600	0.3
57	Fassifern	4	0.4	63	Central	44,335,200	0.3
57	Guildford	4	0.4	64	Wolli Creek	1,175,200	0.3
57	Ingleburn	4	0.4	65	Gosford	2,662,400	0.3
57	Macarthur	4	0.4	66	Turrella	296,400	0.3
57	Miranda	4	0.4	67	Banksia	608,400	0.3
57	Punchbowl	4	0.4	68	Schofields	306,800	0.3
57	Unanderra	4	0.4	69	Bankstown	4,331,600	0.3
57	Villawood	4	0.4	70	Yagoona	941,200	0.3
57	Warnervale	4	0.4	71	Leumeah	1,908,400	0.3
57	Warwick Farm	4	0.4	72	Jannali	1,596,400	0.3
57	Wolli Creek	4	0.4	73	Canley Vale	977,600	0.3
74	Belmore	3	0.3	73	Emu Plains	977,600	0.3
74	Canley Vale	3	0.3	73	Thornleigh	977,600	0.3
74	Canterbury	3	0.3	76	Macarthur	1,362,400	0.3
74	Cardiff	3	0.3	77	Merrylands	3,161,600	0.3
74	Carramar	3	0.3	78	Strathfield	10,930,400	0.3
74	Casula	3	0.3	79	Woy Woy	2,470,000	0.3
74	East Hills	3	0.3	80	Redfern	10,847,200	0.3
74	Emu Plains	3	0.3	81	Wentworth Falls	374,400	0.3
74	Flemington	3	0.3	82	Normanhurst	769,600	0.3
74	Gordon	3	0.3	83	Guildford	1,570,400	0.3
74	Kirrawee	3	0.3	84	Engadine	806,000	0.2
74	Lakemba	3	0.3	84	Punchbowl	1,612,000	0.2
74	Marrickville	3	0.3	86	Canterbury	1,227,200	0.2
74	Morisset	3	0.3	87	Miranda	1,710,800	0.2
74	Narwee	3	0.3	88	Hornsby	6,219,200	0.2
74	Newtown	3	0.3	89	Cabramatta	5,912,400	0.2
74	North Sydney	3	0.3	90	Thirroul	457,600	0.2
74	Oak Flats	3	0.3	91	Parramatta	14,929,200	0.2
74	Oatley	3	0.3	92	Berala	956,800	0.2
74	Ourimbah	3	0.3	92	Quakers Hill	1,435,200	0.2

Table A1. CityRail stations ranked by the (a) number of incidents of recorded personal offences, and (b) rate of incidents per 100,000 passenger interchanges, 2010 - continued

	(a) Number of incidents				(b) Rate of incidents		
Rank	Station name	Number of incidents	Per cent of all incidents	Rank*	Station name	Interchanges per year (weekdays only)	Rate per 100, 000
74	Petersham	3	0.3	92	Woolooware	478,400	0.2
74	Quakers Hill	3	0.3	95	Burwood	6,385,600	0.2
74	Roseville	3	0.3	96	Belmore	1,476,800	0.2
74	Thornleigh	3	0.3	97	Marayong	494,000	0.2
74	Victoria St	3	0.3	98	Olympic Park	1,008,800	0.2
74	Westmead	3	0.3	98	Sefton	504,400	0.2
74	Yagoona	3	0.3	100	Broadmeadow	514,800	0.2
101	Albion Park	2	0.2	101	Rockdale	5,829,200	0.2
101	Banksia	2	0.2	102	Bardwell Park	530,400	0.2
101	Berala	2	0.2	103	Ingleburn	2,126,800	0.2
101	Blaxland	2	0.2	104	Petersham	1,606,800	0.2
101	Bowral	2	0.2	105	Toongabbie	1,092,000	0.2
101	Civic (Newcastle)	2	0.2	106	Bexley North	556,400	0.2
101	Clyde	2	0.2	107	Flemington	1,731,600	0.2
101	Coledale	2	0.2	108	Sutherland	3,520,400	0.2
101	Cronulla	2	0.2	109	Epping	4,560,400	0.2
101	Dapto	2	0.2	110	Hurlstone Park	670,800	0.1
101	Engadine	2	0.2	111	Regents Park	1,398,800	0.1
101	Helensburgh	2	0.2	112	Lakemba	2,100,800	0.1
101	Holsworthy	2	0.2	113	Marrickville	2,126,800	0.1
101	Kiama	2	0.2	114	North Wollongong	712,400	0.1
101	Lawson	2	0.2	115	Kogarah	5,730,400	0.1
101	Lindfield	2	0.2	116	Holsworthy	1,476,800	0.1
101	Lisarow	2	0.2	117	Cronulla	1,482,000	0.1
101	Mortdale	2	0.2	118	Auburn	5,252,000	0.1
101	Moss Vale	2	0.2	119	Ashfield	6,136,000	0.1
101	Normanhurst	2	0.2	120	St Peters	1,544,400	0.1
101	Olympic Park	2	0.2	121	Town Hall	40,222,000	0.1
101	Pendle Hill	2	0.2	122	Campsie	3,952,000	0.1
101	Regents Park	2	0.2	122	Harris Park	790,400	0.1
101	Richmond	2	0.2	124	Berowra	795,600	0.1
101	Riverstone	2	0.2	125	Hurstville	8,767,200	0.1
101	Riverwood	2	0.2	126	Kings Cross	5,798,000	0.1
101	St Peters	2	0.2	127	Lindfield	1,716,000	0.1
101	Sydenham	2	0.2	127	Pendle Hill	1,716,000	0.1
101	Toongabbie	2	0.2	129	Riverwood	1,825,200	0.1
101	Waitara	2	0.2	130	Waitara	1,830,400	0.1
101	West Ryde	2	0.2	131	Newtown	2,756,000	0.1
101	Wombarra	2	0.2	132	Museum	5,038,800	0.1
133	Adamstown	1	0.1	133	Wiley Park	1,034,800	0.1
133	Bardwell Park	1	0.1	134	Dulwich Hill	1,055,600	0.1
133	Berowra	1	0.1	135	Macquarie Park	1,066,000	0.1
133	Bexley North	1	0.1	136	Mortdale	2,142,400	0.1
133	Broadmeadow	1	0.1	137	Croydon	1,128,400	0.1
133	Bullaburra	1	0.1	138	Homebush	1,190,800	0.1
133	Caringbah	1	0.1	139	West Ryde	2,423,200	0.1
133	Croydon	1	0.1	140	Westmead	3,671,200	0.1
133	Dulwich Hill	1	0.1	141	Gordon	3,827,200	0.1

Table A1. CityRail stations ranked by the (a) number of incidents of recorded personal offences, and (b) rate of incidents per 100,000 passenger interchanges, 2010 - continued

(a) Number of incidents				(b) Rate of incidents			
Rank	Station name	Number of incidents	Per cent of all incidents	Rank*	Station name	Interchanges per year (weekdays only)	Rate per 100, 000
133	Dungog	1	0.1	142	Revesby	1,289,600	0.1
133	East Maitland	1	0.1	143	Wentworthville	1,336,400	0.1
133	East Richmond	1	0.1	144	Sydenham	2,766,400	0.1
133	Eastwood	1	0.1	145	Kingsgrove	1,404,000	0.1
133	Edgecliff	1	0.1	146	Kingswood	1,424,800	0.1
133	Faulconbridge	1	0.1	147	Summer Hill	1,570,400	0.1
133	Gerringong	1	0.1	148	Penshurst	1,612,000	0.1
133	Goulburn	1	0.1	149	Bondi Junction	9,989,200	0.1
133	Harris Park	1	0.1	150	Caringbah	1,669,200	0.1
133	Homebush	1	0.1	151	Wynyard	28,667,600	0.1
133	Hurlstone Park	1	0.1	152	Circular Quay	8,034,000	0.0
133	Kingsgrove	1	0.1	153	Turramurra	2,038,400	0.0
133	Kingswood	1	0.1	154	Chatswood	10,644,400	0.0
133	Linden	1	0.1	155	Rhodes	2,210,000	0.0
133	Macquarie Park	1	0.1	156	Macquarie University	2,854,800	0.0
133	Macquarie University	1	0.1	157	Edgecliff	3,333,200	0.0
133	Marayong	1	0.1	158	Eastwood	3,484,000	0.0
133	Minnamurra	1	0.1	159	St James	3,759,600	0.0
133	North Wollongong	1	0.1	160	North Sydney	12,849,200	0.0
133	Penshurst	1	0.1	NA	Adamstown	NA	NA
133	Revesby	1	0.1	NA	Bowral	NA	NA
133	Rhodes	1	0.1	NA	Bullaburra	NA	NA
133	Schofields	1	0.1	NA	Casula	NA	NA
133	Sefton	1	0.1	NA	Coledale	NA	NA
133	Singleton	1	0.1	NA	Dungog	NA	NA
133	St James	1	0.1	NA	East Maitland	NA	NA
133	Summer Hill	1	0.1	NA	Gerringong	NA	NA
133	Tahmoor	1	0.1	NA	Goulburn	NA	NA
133	Telopea	1	0.1	NA	High Street	NA	NA
133	Teralba	1	0.1	NA	Linden	NA	NA
133	Thirroul	1	0.1	NA	Lisarow	NA	NA
133	Turramurra	1	0.1	NA	Minnamurra	NA	NA
133	Turrella	1	0.1	NA	Moss Vale	NA	NA
133	Warrimoo	1	0.1	NA	Roseville	NA	NA
133	Wentworth Falls	1	0.1	NA	Singleton	NA	NA
133	Wentworthville	1	0.1	NA	Tahmoor	NA	NA
133	Wiley Park	1	0.1	NA	Teralba	NA	NA
133	Woolooware	1	0.1	NA	Warrimoo	NA	NA
133	Woonona	1	0.1	NA	Wombarra	NA	NA

* Ranks are determined at the second decimal place