

## An update of long-term trends in property and violent crime in New South Wales: 1990-2012

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**Aim:** The aim of this paper is to analyse the trends in the rates of annual recorded incidents of ten major categories of property and violent crime for the period 1990 to 2012 in New South Wales (NSW).

**Method:** Offence rates were calculated using criminal incident data from the NSW Police Force Computerised Operational Policing System (COPS) for the period 1995 to 2012, and the NSW Bureau of Crime Statistics and Research's recorded crime statistics report series for the period 1990 to 1994. Kendall's trend test was run on the 23 annual rates for each of the ten major offence categories.

**Results:** Some categories of crime in NSW are now at the lowest recorded levels they have been for over 20 years. Comparing per capita rates of crime in 2012 with per capita rates in 1990, lower rates were found for: murder (51% lower), motor vehicle theft (73% lower), break and enter non-dwelling (65% lower), break and enter dwelling (45% lower), robbery with a weapon not a firearm (29% lower), robbery with a firearm (71% lower), and robbery without a weapon (26% lower). Three of the ten offence types analysed in this report were found to have recorded rates higher in 2012 than in 1990: assault (74% higher), sexual assault (130% higher) and 'other' sexual offences (77% higher). It is not clear whether the increases in these offences are the result of higher rates of offending or greater willingness to report them.

**Conclusion:** In the period since 1990, assault and sexual assault rates recorded significant long term upward trends whilst the other eight offences analysed in this report were trending down or stable. The 2012 recorded sexual assault rate was marginally above the previous highs of 2009 and 2010 and the rate since 2000 has recorded a significant uptrend. Apart from sexual assault, the remaining nine offence types have recorded significant downtrends in recorded rates since 2000. The three robbery and three property crime rates have all recorded falls of more than 55% since 2000.

**Keywords:** trends, crime statistics, property crime, violent crime

### Introduction

This brief is an annual update of the property and violent crime trends first reported in Moffatt and Poynton (2006). The aim of the paper is to examine the trends in the rates of annual recorded incidents of 10 major categories of property and violent crime for the period 1990 to 2012 in NSW.

### Method

#### Data

With the exception of murder, the data presented refer to the number of police recorded criminal incidents per 100,000 population.<sup>1</sup> For murder, rates are calculated on the numbers of murder victims per 100,000 population. Data from the NSW Police Force Computerised Operational Policing System (COPS)

have been used to calculate offence rates for the period 1995 to 2012. Criminal incident data for 1994 and for the years prior to the introduction of COPS have been taken from the NSW Bureau of Crime Statistics and Research's (BOCSAR) report series *NSW Recorded Crime Statistics*.

There have been two small adjustments to the data series since 1995, the first in the 2009 update<sup>2</sup> and another in 2011. Until 2011, revision of NSW Police Force data by BOCSAR only revised incident counts for the immediate past 24 months of data. From 2011, due to improvements in data extraction, we are now able to revise the complete NSW Police Force data set back to 1995 each time we take a new data extract. Hence some series have been adjusted upwards for past years. This has not altered any of the long term trends. The average annual update for the tabulated counts in Table A1 was approximately

1.4 percent (rates per 100,000 population are shown in Table A2). The 2011 revision is expected to be a once only adjustment of that size. Some incidents may only become accepted<sup>3</sup> at much later dates than their report date, for example a suspected murder where remains were only found, say three years after the initial report date. These longer term revisions arise because our crime data is compiled using report dates and some incidents may not be included in a current year if ongoing investigations mean that the incident has not been accepted by the time the extract is downloaded. This is more likely to occur for offences such as murder and sexual offences.

## Results

### Violent crime

Figure 1 shows the number of *murder* victims in NSW per 100,000 population from 1990 to 2012. Figures 2, 3 and 4 show respectively the number of recorded *assault*, *sexual offences* and *robbery* incidents per 100,000 population from 1990 to 2012. The major points to note from these figures are:

- A significant downward trend is apparent in the NSW *murder* rate (down 51% since 1990) (Figure 1). Apart from the 2004 recorded rate of 1.1 murder victims per 100,000 population (which was below the long-term linear trend), the recent annual *murder* rates (1.1 in 2010, 1.2 in 2011 and 1.0 in 2012) have continued on trend showing strong linearity with the  $R^2$  measure of goodness of fit remaining around 0.75.
- Figure 2 for the recorded NSW *assault* rate shows two things: firstly, the significant overall long term upward trend (up 74% since 1990) and secondly, the drop back since the early 2000s. In the early 1990's the recorded assault rate was about 500 incidents per 100,000 population climbing to over 1,000 incidents per 100,000 population by 2001 and remaining

Figure 1. Murder<sup>^</sup> rate for NSW, 1990-2012

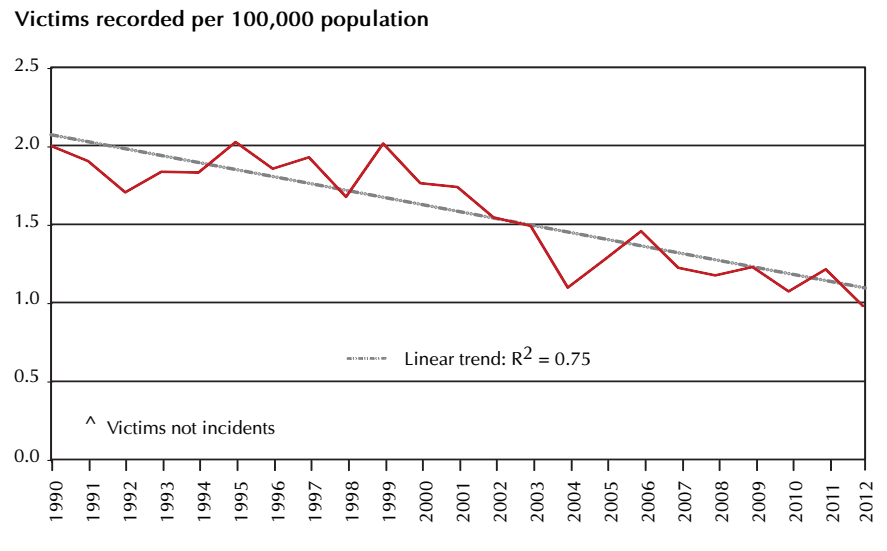


Figure 2. Assault rate for NSW, 1990-2012

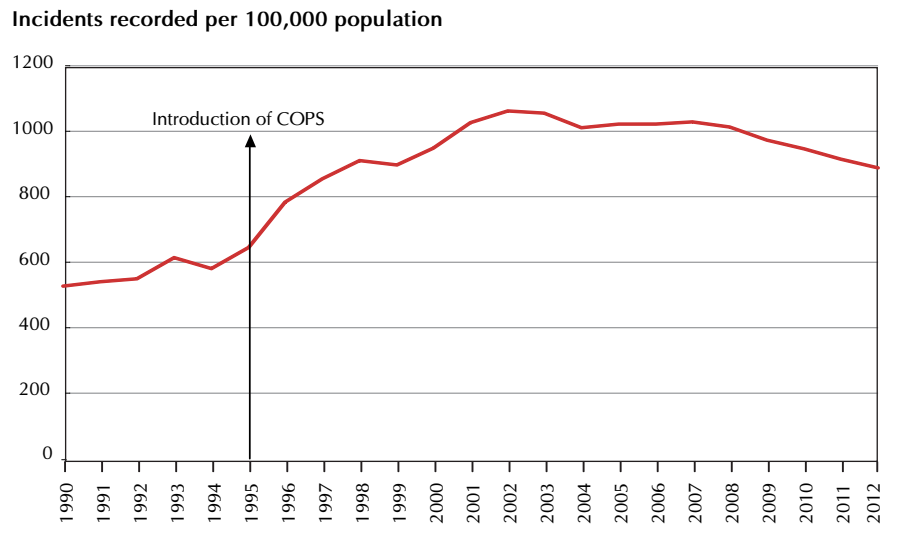


Figure 3. Sexual offences rate for NSW, 1990-2012

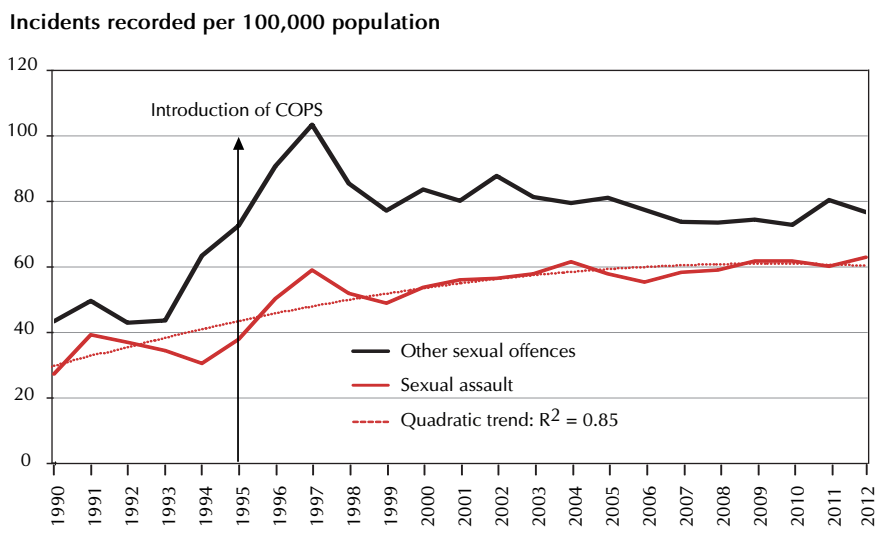


Figure 4. Robbery rate for NSW, 1990-2012

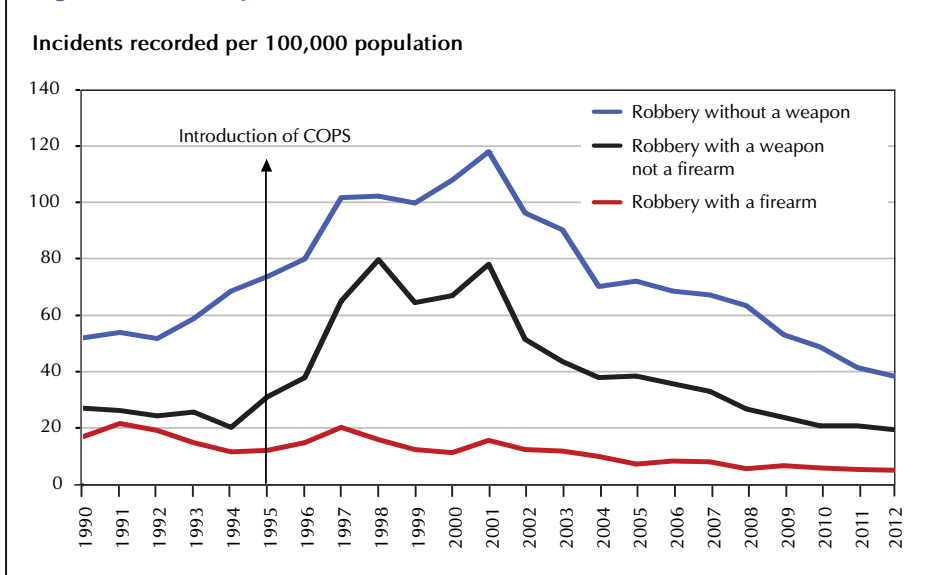


Figure 4a. Robbery with a firearm rate for NSW, 1990-2012

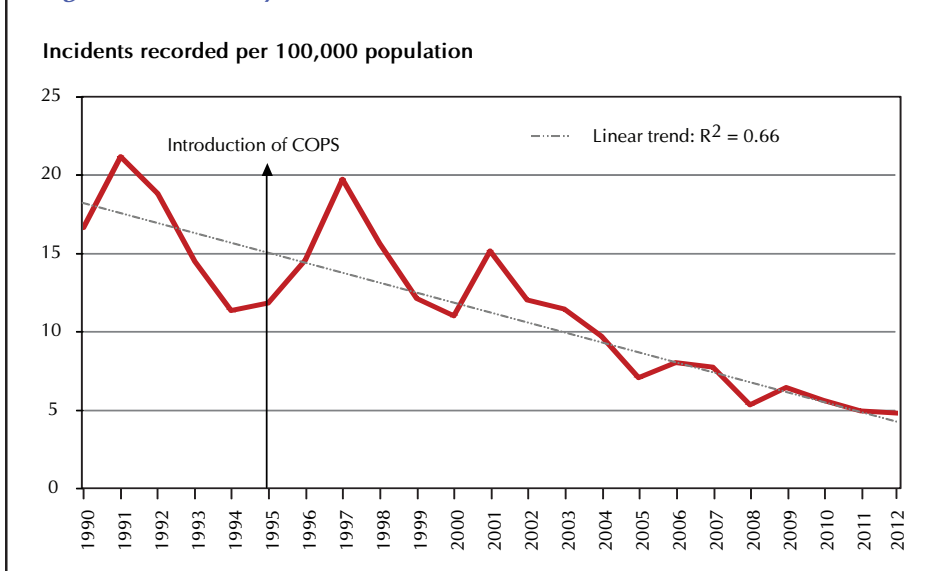
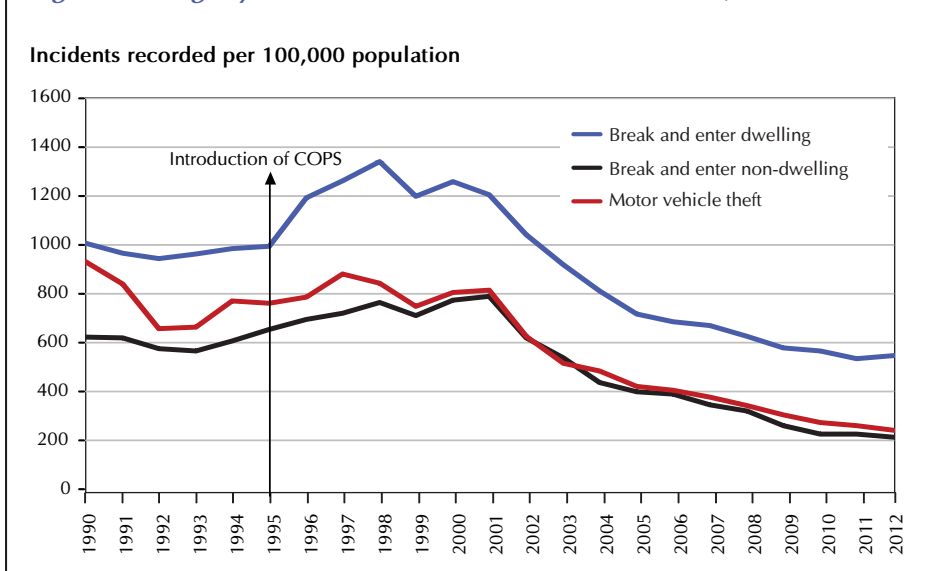


Figure 5. Burglary and motor vehicle theft rate for NSW, 1990-2012



around 1,000 to 2008. The increases in recorded *assault* during the 1990s may in part be due to increased reporting of these offences by victims (Ringland & Baker, 2009). The current rate of recorded *assault* is similar to that of the late 1990s. Kendall's trend test on the series reveals a significant downward trend since 2000, and currently the rate of assault remains 17 percent below the 2002 peak.

- Over the period from 1990 to 2012 NSW recorded increases in the crime rate of both *sexual assault* (up 130%) and *other sexual offences*<sup>4</sup> (up 77%) (Figure 3). The increases in *sexual assault* and *other sexual offences* may be partly due to increased reporting of these offences by victims (O'Brien, Jones & Korabelnikoff, 2008). In both cases, the sharpest rises occurred in the mid to late 1990s and the statistical trend test for *other sexual offences* as reported last year continues to be stable since 1990, despite the large percentage increase. *Other sexual offences* has recorded a significant downward trend since 2000 (see Figure 3). *Sexual assault*, however, has continued the significant upward trend since 2000 and in 2012 recorded the highest rate since 1990, marginally above the peaks of 2004, 2009 and 2010.
- Recorded rates of *robbery without a weapon* and *robbery with a weapon not a firearm* are now below those seen around 1990 and continue to show declines (see Figure 4), even though the long-term trends are still registering as statistically stable. A significant and consistent downward trend continues for the NSW rate of *robbery with a firearm* (down by 71% since 1990). The 2012 rate is below one third of the early 1990s rate, when fitted to a linear trend (see Figure 4a).

### Property Crime

Figure 5 shows recorded rates for three major theft categories with significant downward trends: *break and enter dwelling*, *break and enter non-dwelling*

and *motor vehicle theft*. The major points to note from this figure are:

- The overall shapes of the graphs for these offences show remarkable similarity. The rates of *motor vehicle theft* and *break and enter non-dwelling* continue to track one another closely as has been the case since the late 1990s. In fact the correlations between all the series in Figure 5 are 0.90 or higher since 1990.
- Recorded rates of *motor vehicle theft* continue to decline significantly (down by 73% since 1990). After a fall in this theft category in the early 1990s the incident rate began to increase from 1993 onwards. From about 1997, the rate of *motor vehicle theft* stabilised at around 800 incidents per 100,000 persons and then dropped sharply from 2001 onwards, having registered a 69 percent fall since 2000.
- *Break and enter dwelling* rates recorded sharp rises in the late 1990s, but since 2001 have been on a monotonic decline as have the rates for *break and enter non-dwelling* and *motor vehicle theft*.
- All three series shown in Figure 5 have more than halved since 2001 and are now well below the recorded 1990 levels. With the addition of the 2012 data, the momentum for further declines seems to be more likely for *motor vehicle theft*, rather than the two break and enter series.

## Discussion

Some categories of crime in NSW are now at the lowest recorded levels they have been for over 20 years. Comparing per capita rates of crime in 2012 with per capita rates in 1990, the rate of:

- murder is 51 percent lower
- motor vehicle theft is 73 percent lower
- break and enter non-dwelling is 65 percent lower
- break and enter dwelling is 45 percent lower
- robbery with a weapon not a firearm is 29 percent lower
- robbery with a firearm is 71 percent lower; and
- robbery without a weapon is 26 percent lower.

The falls in these categories of crime are countered by increases in recorded rates of assault, sexual assault and 'other' sexual offences. Compared with 1990 the rate of:

- assault is 74 percent higher
- sexual assault is 130 percent higher; and
- other sexual offences is 77 percent higher.

Given that recorded crime data include only crimes that come to the attention of the police<sup>5</sup>, and not all criminal acts are reported to the authorities, the trends in recorded crime presented here should be interpreted in conjunction with data from crime victim surveys.

A summary of these data is provided in Moffatt and Poynton (2006) and more recently in the 2011-12 Crime Victimization catalogue (Australian Bureau of Statistics (ABS), 2013). This ABS publication now contains four consecutive financial years (2008-9 to 2010-11) of personal and household summary crime data obtained from a national survey, much of which is disaggregated to state level (see Table 5 for NSW). For NSW, the latest report states that physical assault for those aged 15 and over was reported to police 57.4 percent of the time, with a personal victimisation rate of 2.7 percent. For households, NSW break-ins were reported to police 75.0 percent of the time, with a household victimisation rate of 2.8 percent. For NSW the above estimates for 2011-12 victimisation and report rates were not found to be significantly different to the corresponding rates published in the financial years 2008-9 to 2010-11.

## Conclusion

In the period since 1990, *assault* and *sexual assault* rates recorded significant long term upward trends whilst the other eight offences analysed in this report were trending down or stable. The 2012 recorded *sexual assault* rate was marginally above the previous highs of 2009 and 2010 and the rate since 2000 has recorded a significant uptrend. Apart from *sexual assault*, the remaining nine offence types have recorded significant downtrends in recorded rates since 2000. The three robbery and three property crime rates have all recorded drops above 55 percent since 2000.

## Notes

1. For the rate calculations, population data were obtained from the 2012 Australian Bureau of Statistics publication: Regional Population Growth, Australia, 2010-11, Cat. No. 3218.0 (for population estimates 1990 to 2011). As no population estimates were available for 2012 at the time this report was prepared, rates for 2012 were calculated using 2011 population estimates. Another consideration is that Australian Bureau of Statistics (ABS) population estimates have slight revisions over time, which may impact on rates being slightly revised from previous updates of this report.
2. Prior to August 2008, if police suspected a criminal incident reported to them did not occur they could record it as 'doubtful'. In the past BOCSAR's recorded crime statistics have included 'accepted' and 'doubtful' incidents. In August 2008 NSW Police removed the 'doubtful' category from COPS, instead directing police officers to categorise these incidents as 'accepted' unless evidence existed to indicate the crime did not occur, in which case the incident would be categorised as 'rejected'. Thus recorded crime statistics from August 2008 to the present have not contained 'doubtful' incidents. In order to present a continuous series recorded crime statistics have been restricted to only 'accepted' incidents. To do this we removed the 'doubtful' incidents from crime data from January 1995 to August 2008. This

resulted in a slight revision of incident counts (and hence rates) from 1995 to 2008 to those reported in earlier versions of this brief. As we are unable to view which incidents were doubtful in the period 1990 to 1994, the series were not adjusted in these years.

3. For a criminal incident to be counted in the BOCSAR data for publication it must have a status of 'accepted' in the NSW Police Force Computerised Operational Policing System (COPS).
4. The offence category *other sexual offences* includes recorded incidents of indecent assault, acts of indecency, grooming / procuring and other sexual offences (e.g. wilful and obscene exposure, peep or pry).
5. There may sometimes be one off events which can impact on collection of crime data such as the Sydney Olympics or NSW Police industrial action. For example, during November and part of December 2011, NSW Police Force industrial action meant that fewer incidents than expected were recorded for some offences, particularly those involving police enforcement and issuing of infringements. We estimate that due to the industrial action in the last two months of 2011, assault counts may have been around 1.5 percent below expected recorded levels for 2011. The effect of the industrial action on other offences in this brief was expected to be well below 1 percent for 2011. After sensitivity analysis we remain confident that there was negligible impact on statewide recorded trends from the 2011 NSW Police industrial action.

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## Appendix

**Table A1. Number of criminal incidents recorded by NSW Police by year and offence type**

	Murder <sup>^</sup>	Assault	Sexual assault	Other sexual offences	Robbery without a weapon	Robbery with a firearm	Robbery with a weapon not a firearm	Break and enter dwelling	Break and enter non-dwelling	Motor vehicle theft
<b>1990</b>	119	29,776	1,606	2,552	3,022	981	1,568	58,862	36,639	54,488
<b>1991</b>	115	31,014	2,343	2,942	3,173	1,265	1,542	57,155	36,838	49,758
<b>1992</b>	101	31,773	2,220	2,583	3,080	1,132	1,444	56,437	34,754	39,423
<b>1993</b>	110	36,076	2,083	2,646	3,525	877	1,528	58,036	34,379	40,169
<b>1994</b>	83	25,732	1,397	2,908	3,120	522	912	44,850	27,858	35,304
<b>1995</b>	124	38,785	2,343	4,482	4,523	732	1,899	61,004	40,398	47,007
<b>1996</b>	115	48,238	3,140	5,666	4,962	913	2,335	74,014	43,532	49,131
<b>1997</b>	121	53,512	3,726	6,535	6,401	1,252	4,075	79,244	45,465	55,530
<b>1998</b>	106	57,719	3,314	5,463	6,490	1,001	5,055	84,970	48,738	53,724
<b>1999</b>	129	57,504	3,167	4,979	6,413	784	4,127	76,989	45,949	48,300
<b>2000</b>	114	61,561	3,515	5,463	7,016	722	4,344	81,653	50,421	52,512
<b>2001</b>	114	67,809	3,714	5,303	7,779	1,006	5,128	79,345	52,223	53,768
<b>2002</b>	102	70,830	3,767	5,855	6,398	804	3,409	69,250	41,443	41,880
<b>2003</b>	99	70,883	3,886	5,468	6,037	772	2,902	61,506	36,318	34,751
<b>2004</b>	73	68,097	4,158	5,367	4,718	656	2,527	54,749	29,719	32,995
<b>2005</b>	86	69,413	3,944	5,514	4,873	480	2,593	48,893	27,564	28,951
<b>2006</b>	99	70,045	3,804	5,310	4,679	552	2,428	47,034	27,094	28,162
<b>2007</b>	84	71,408	4,062	5,134	4,645	539	2,269	46,655	24,378	26,616
<b>2008</b>	82	71,303	4,173	5,201	4,453	378	1,863	44,336	22,973	24,440
<b>2009</b>	87	69,600	4,432	5,344	3,774	464	1,671	41,612	19,237	22,330
<b>2010</b>	77	68,398	4,490	5,297	3,520	410	1,487	41,247	17,069	20,279
<b>2011</b>	88	66,749	4,427	5,907	3,011	363	1,492	39,518	17,080	19,587
<b>2012</b>	71	64,845	4,629	5,646	2,799	353	1,402	40,487	16,245	18,221

**Table A2. Rate of criminal incidents recorded by NSW Police per 100,000 population by year and offence type**

	Murder <sup>^</sup>	Assault	Sexual assault	Other sexual offences	Robbery without a weapon	Robbery with a firearm	Robbery with a weapon not a firearm	Break and enter dwelling	Break and enter non-dwelling	Motor vehicle theft
<b>1990</b>	2.0	511.0	27.6	43.8	51.9	16.8	26.9	1010.2	628.8	935.1
<b>1991</b>	1.9	525.8	39.7	49.9	53.8	21.4	26.1	968.9	624.5	843.5
<b>1992</b>	1.7	533.2	37.3	43.3	51.7	19.0	24.2	947.1	583.2	661.6
<b>1993</b>	1.8	600.8	34.7	44.1	58.7	14.6	25.4	966.5	572.5	668.9
<b>1994</b>	1.8	566.1	30.7	64.0	68.6	11.5	20.1	986.8	612.9	776.7
<b>1995</b>	2.0	633.0	38.2	73.2	73.8	11.9	31.0	995.7	659.3	767.2
<b>1996</b>	1.9	777.4	50.6	91.3	80.0	14.7	37.6	1192.9	701.6	791.8
<b>1997</b>	1.9	852.5	59.4	104.1	102.0	19.9	64.9	1262.5	724.3	884.7
<b>1998</b>	1.7	910.5	52.3	86.2	102.4	15.8	79.7	1340.4	768.9	847.5
<b>1999</b>	2.0	896.9	49.4	77.7	100.0	12.2	64.4	1200.8	716.7	753.3
<b>2000</b>	1.8	949.1	54.2	84.2	108.2	11.1	67.0	1258.9	777.4	809.6
<b>2001</b>	1.7	1031.3	56.5	80.7	118.3	15.3	78.0	1206.7	794.2	817.7
<b>2002</b>	1.5	1068.5	56.8	88.3	96.5	12.1	51.4	1044.7	625.2	631.8
<b>2003</b>	1.5	1062.3	58.2	81.9	90.5	11.6	43.5	921.8	544.3	520.8
<b>2004</b>	1.1	1015.3	62.0	80.0	70.3	9.8	37.7	816.3	443.1	491.9
<b>2005</b>	1.3	1027.4	58.4	81.6	72.1	7.1	38.4	723.6	408.0	428.5
<b>2006</b>	1.5	1027.6	55.8	77.9	68.6	8.1	35.6	690.0	397.5	413.2
<b>2007</b>	1.2	1034.2	58.8	74.4	67.3	7.8	32.9	675.7	353.1	385.5
<b>2008</b>	1.2	1016.5	59.5	74.1	63.5	5.4	26.6	632.0	327.5	348.4
<b>2009</b>	1.2	976.5	62.2	75.0	53.0	6.5	23.4	583.9	269.9	313.3
<b>2010</b>	1.1	947.3	62.2	73.4	48.8	5.7	20.6	571.3	236.4	280.9
<b>2011</b>	1.2	914.1	60.6	80.9	41.2	5.0	20.4	541.2	233.9	268.2
<b>2012</b>	1.0	888.0	63.4	77.3	38.3	4.8	19.2	554.5	222.5	249.5

<sup>^</sup> For murder, the number shown is the number of recorded victims rather than criminal incidents