

## An update of long-term trends in property and violent crime in New South Wales: 1990-2011

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**Aim:** The aim of this paper is to analyse the trends in the rates of annual recorded incidents of 10 major categories of property and violent crime for the period 1990 to 2011 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 2011, 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 22 annual rates for each of the 10 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 2011 with per capita rates in 1990, lower rates were found for: murder (47% lower), motor vehicle theft (71% lower), break and enter non-dwelling (63% lower), break and enter dwelling (46% lower), robbery with a weapon not a firearm (23% lower), robbery with a firearm (70% lower), and robbery without a weapon (20% lower). The falls in these categories of crime are countered by increases in recorded rates of assault (80% higher), sexual assault (116% higher) and 'other' sexual offences (83% higher) in 2011 compared with 1990.

**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 2011 recorded sexual assault rate was marginally below that recorded in 2009 and 2010. Assault has remained stable since 2000 and is now showing signs of a decline with a weakly significant downtrend since 2000. Property crimes have shown the biggest declines since 1990.

**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 2011 in New South Wales (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

2011. 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 is 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.

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 could be up to 1.5 per cent 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 per cent for 2011.

## Results

### Violent crime

Figure 1 shows the number of *murder* victims in NSW per 100,000 population from 1990 to 2011. Figures 2, 3 and 4 show respectively the number of recorded *assault*, *sexual offences* and *robbery* incidents per 100,000 population from 1990 to 2011. The major points to note from these figures are:

- A significant downward trend is apparent in the NSW *murder* rate (down 47 percent 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 (1.0 in 2010 and 1.1 in 2011) have continued back on trend showing strong linearity with the  $r^2$  measure of goodness of fit remaining around 0.75.

Figure 1. Murder rate for NSW, 1990-2011

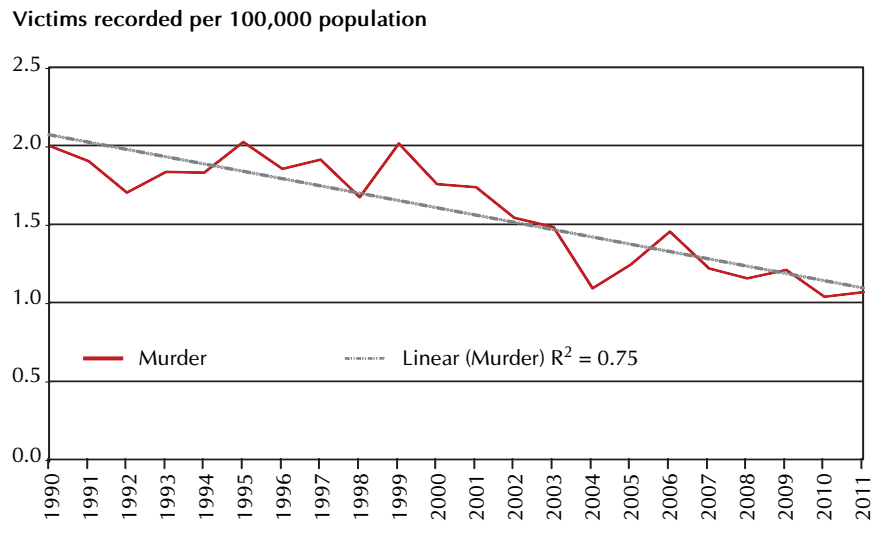


Figure 2. Assault rate for NSW, 1990-2011

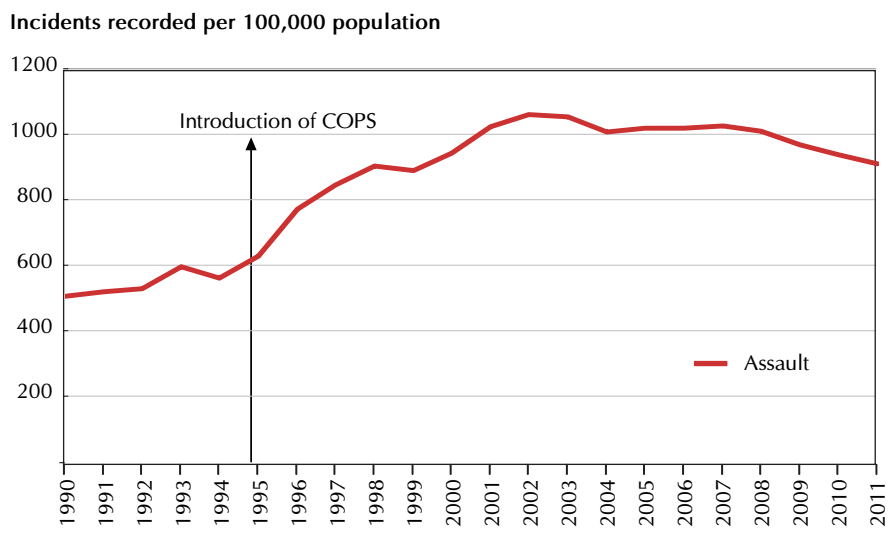


Figure 3. Sexual offences rate for NSW, 1990-2011

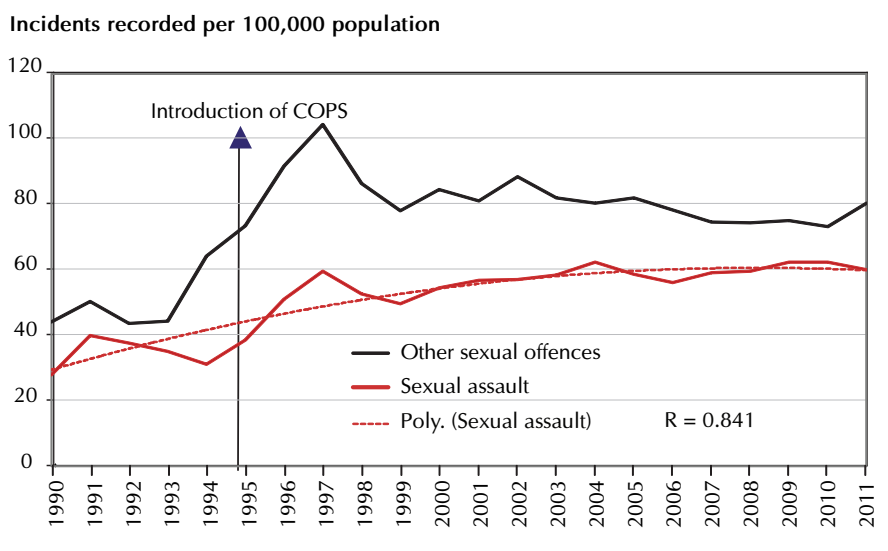
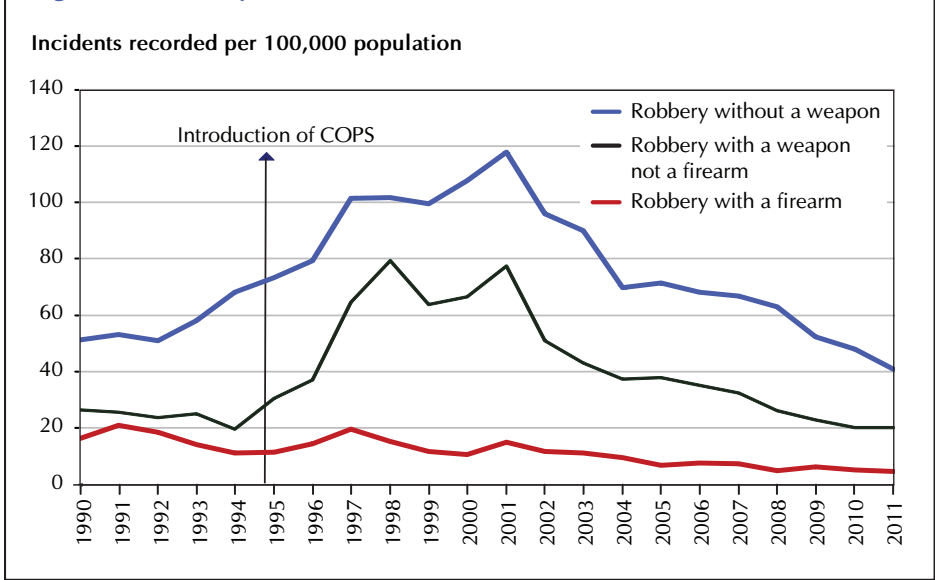


Figure 4. Robbery rate for NSW, 1990-2011

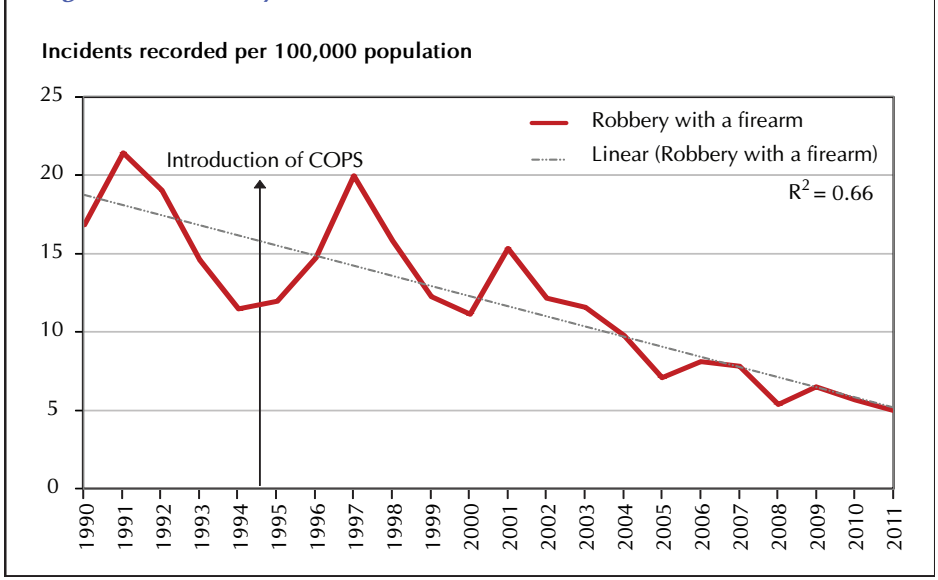


- A significant upward trend can be observed in the recorded NSW assault rate (up 80% since 1990)(Figure 2). However, over the past 12 years the rate has remained statistically stable and the graph shows that a turning point may have been passed. In the early 1990's the recorded assault rate was about 500 incidents per 100,000 population climbing to over 1,000 incidents per 100,000 population by 2001 and remaining around 1,000 to 2008. The recorded assault rate appears to have peaked in 2002-03 and is now more than 10 per cent below the peak.

- Over the period from 1990 to 2011 NSW recorded increases in the crime rate of both sexual assault (up 116%) and other sexual offences<sup>4</sup> (up 83%) (Figure 3). 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. Sexual assault, however, has recorded similar high levels in 2004, 2009 and 2010, and is only marginally below those peaks for the 2011 recorded level.

- Recorded rates of robbery without a weapon and robbery with a weapon not a firearm reflect levels 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 70% since 1990). The 2011 rate is around one third of the early 1990s rate, when fitted to a linear trend (see Figure 4a).

Figure 4a. Robbery with a firearm rate for NSW, 1990-2011



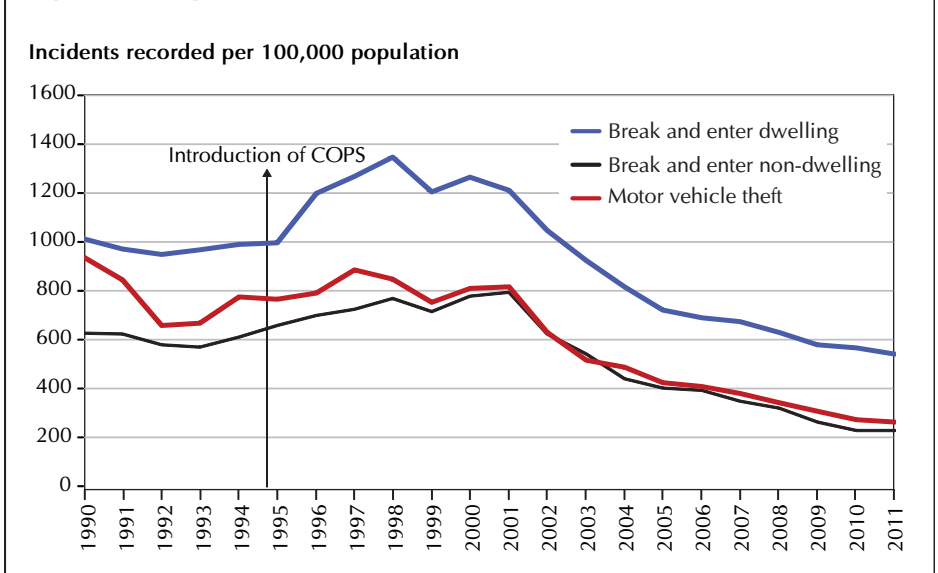
- Recorded rates of robbery without a weapon and robbery with a weapon not a firearm reflect levels seen around 1990 and continue to show declines (see Figure 4), even though the long-term trends are still registering as statistically stable. A significant and consistent downward trend continues for the NSW rate of robbery with a firearm (down by 70% since 1990). The 2011 rate is around 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

Figure 5. Burglary and motor vehicle theft rate for NSW, 1990-2011



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 71 percent 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 67 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 2011 data, the decline could be tapering off for *break and enter non-dwelling* and *motor vehicle theft*.

## Discussion

Some categories of crime in NSW are now at the lowest recorded levels they have been for 20 years. Comparing per capita rates of crime in 2011 with per capita rates in 1990, the rate of:

- murder is 47 per cent lower
- motor vehicle theft is 71 per cent lower
- break and enter non-dwelling is 63 per cent lower
- break and enter dwelling is 46 per cent lower
- robbery with a weapon not a firearm is 23 per cent lower
- robbery with a firearm is 70 per cent lower; and
- robbery without a weapon is 20 per cent 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 80 per cent higher
- sexual assault is 116 per cent higher; and
- other sexual offences is 83 per cent higher.

Given that recorded crime data include only crimes that come to the attention of the police, 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 2010-11 Crime Victimization catalogue (Australian Bureau of Statistics (ABS), 2012). This ABS publication contains three years of personal and household crime summary data obtained from a national survey, some of which is disaggregated to state level (see Table 2 and Table 3). For NSW, the latest report states that physical assault for those aged 15 years and over was reported to police 54.6 per cent of the time (not significantly different to the 54.5 per cent in 2009-10) with a personal victimisation rate of 2.8 per cent (not significantly different to the 2.4 per cent

estimate from 2009-10). For households, NSW break-ins were reported to police 81.2 per cent of the time (significantly up from 69.5 per cent in 2009-10) with a household victimisation rate of 2.7 per cent (not significantly different to the 2.5 per cent in 2009-10). For NSW the above estimates of the victimisation rates were not significantly different over the financial years 2008-09 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 2011 recorded sexual assault rate was marginally below that recorded in 2009 and 2010. Assault has remained stable since 2000 and is now showing signs of a decline with a weakly significant downtrend since 2000. Property crimes have shown the biggest declines since 1990.

## Notes

1. For the rate calculations, population data were obtained from the 2011 Australian Bureau of Statistics publication: Regional Population Growth, Australia, 2009-10, Cat. No. 3218.0 (for population estimates 1990 to 2010). As no population estimates were available for 2011 at the time this report was prepared, rates for 2011 were calculated using 2010 population estimates.
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).

## References

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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	38,783	2,343	4,481	4,523	732	1,899	61,001	40,397	47,007
<b>1996</b>	115	48,237	3,138	5,663	4,962	913	2,336	74,013	43,532	49,129
<b>1997</b>	120	53,514	3,724	6,534	6,400	1,252	4,075	79,243	45,464	55,529
<b>1998</b>	106	57,719	3,313	5,463	6,491	1,001	5,057	84,970	48,736	53,722
<b>1999</b>	129	57,503	3,165	4,979	6,413	784	4,127	76,989	45,946	48,298
<b>2000</b>	114	61,560	3,513	5,464	7,017	722	4,344	81,653	50,419	52,511
<b>2001</b>	114	67,809	3,714	5,305	7,782	1,006	5,127	79,345	52,224	53,768
<b>2002</b>	102	70,829	3,756	5,846	6,399	804	3,409	69,248	41,442	41,878
<b>2003</b>	99	70,878	3,877	5,453	6,038	772	2,902	61,505	36,319	34,751
<b>2004</b>	73	68,096	4,156	5,366	4,718	656	2,527	54,748	29,718	32,994
<b>2005</b>	84	69,407	3,943	5,512	4,874	480	2,594	48,892	27,561	28,952
<b>2006</b>	99	70,043	3,801	5,308	4,678	552	2,428	47,035	27,095	28,155
<b>2007</b>	84	71,411	4,055	5,126	4,646	539	2,270	46,650	24,377	26,615
<b>2008</b>	81	71,301	4,162	5,193	4,453	378	1,865	44,320	22,970	24,443
<b>2009</b>	86	69,599	4,418	5,332	3,774	464	1,671	41,603	19,231	22,328
<b>2010</b>	75	68,369	4,478	5,274	3,520	410	1,487	41,245	17,069	20,263
<b>2011</b>	77	66,353	4,309	5,786	3,000	361	1,493	39,407	17,032	19,548

**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	73.1	73.8	11.9	31.0	995.6	659.3	767.2
<b>1996</b>	1.9	777.4	50.6	91.3	80.0	14.7	37.6	1192.8	701.6	791.8
<b>1997</b>	1.9	852.5	59.3	104.1	102.0	19.9	64.9	1262.4	724.3	884.6
<b>1998</b>	1.7	910.5	52.3	86.2	102.4	15.8	79.8	1340.4	768.8	847.5
<b>1999</b>	2.0	896.9	49.4	77.7	100.0	12.2	64.4	1200.8	716.6	753.3
<b>2000</b>	1.8	949.1	54.2	84.2	108.2	11.1	67.0	1258.9	777.3	809.6
<b>2001</b>	1.7	1031.3	56.5	80.7	118.4	15.3	78.0	1206.7	794.3	817.7
<b>2002</b>	1.5	1068.5	56.7	88.2	96.5	12.1	51.4	1044.6	625.2	631.7
<b>2003</b>	1.5	1062.2	58.1	81.7	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>	1.2	1027.3	58.4	81.6	72.1	7.1	38.4	723.6	407.9	428.5
<b>2006</b>	1.5	1027.6	55.8	77.9	68.6	8.1	35.6	690.1	397.5	413.1
<b>2007</b>	1.2	1034.2	58.7	74.2	67.3	7.8	32.9	675.6	353.0	385.4
<b>2008</b>	1.2	1016.4	59.3	74.0	63.5	5.4	26.6	631.8	327.4	348.4
<b>2009</b>	1.2	976.5	62.0	74.8	53.0	6.5	23.4	583.7	269.8	313.3
<b>2010</b>	1.0	945.3	61.9	72.9	48.7	5.7	20.6	570.3	236.0	280.2
<b>2011</b>	1.1	917.4	59.6	80.0	41.5	5.0	20.6	544.9	235.5	270.3

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