

An update of long-term trends in property and violent crime in New South Wales: 1990-2013

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Aim: *The aim of this paper is to analyse the trends in the rates of annual recorded incidents of 10 categories of property and violent crime for the period 1990 to 2013 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 2013, 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 24 annual rates for each of the 10 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 2013 with per capita rates in 1990, lower rates were found for: motor vehicle theft (77% lower), robbery with a firearm (73% lower), break and enter non-dwelling (68% lower), break and enter dwelling (52% lower), murder (43% lower), robbery without a weapon (35% lower), and robbery with a weapon not a firearm (29% lower). Three of the ten offence types analysed in this report were found to have recorded rates higher in 2013 than in 1990: sexual assault (125% higher), other sexual offences (95% higher) and assault (74% higher).*

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 2013 recorded sexual assault rate was marginally below the highest in that series (occurring in 2012) and the rate since 2000 has recorded a significant uptrend. Apart from sexual assault and 'other' sexual offences, the remaining eight offence types recorded significant downtrends in recorded rates since 2000. The three robbery and three property crime series all recorded falls of more than 60 percent 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 categories of property and violent crime for the period 1990 to 2013 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.¹ 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 2013. 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 three adjustments to the data series since 1995. The first two occurred in 2009 and 2011, respectively, and are outlined below in the Notes section.² The third occurred for this update in 2014. Due to improvements in data extraction, incidents of robbery without a weapon can now be more accurately classified and so incident counts for this category have been revised back to 1995. As such, some incidents that were previously classified as *robbery without a weapon* have now been moved into the other two categories of robbery.

Results

Violent crime

Figure 1 shows the number of *murder* victims in NSW per 100,000 population from 1990 to 2013. Figures 2, 3 and 4 show respectively the number of recorded *assault*, *sexual offences* and *robbery* incidents per 100,000 population from 1990 to 2013. The major points to note from these figures are:

- A significant downward trend is apparent in the NSW *murder* rate (down 43% 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 (1.2 in 2011, 0.9 in 2012 and 1.1 in 2013) 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 1990s 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. Since 2008 there has been a gradual decline (to around 890 incidents in 2013) such that the current rate of recorded *assault* is similar to that of the late 1990s. The increases in recorded *assault* during the 1990s may in part be due to increased reporting of these offences by victims (Ringland & Baker, 2009). 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 2013, NSW recorded increases

Figure 1. Murder rate for NSW, 1990-2013

Victims recorded per 100,000 population

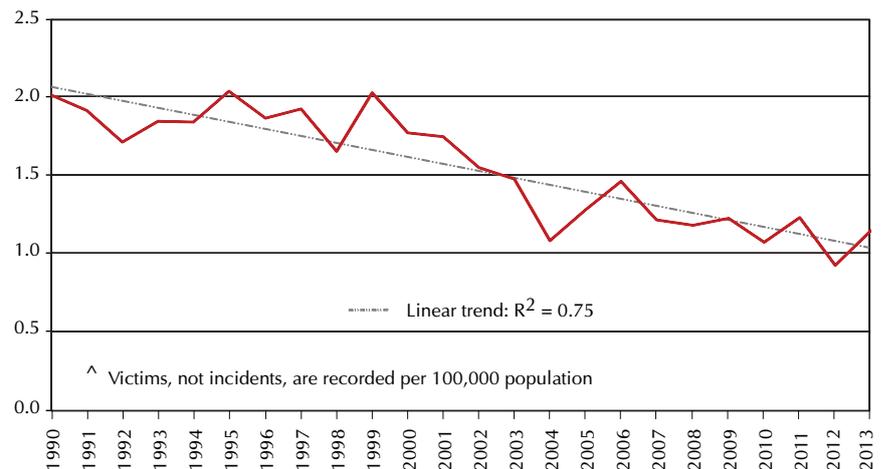


Figure 2. Assault rate for NSW, 1990-2013

Incidents recorded per 100,000 population

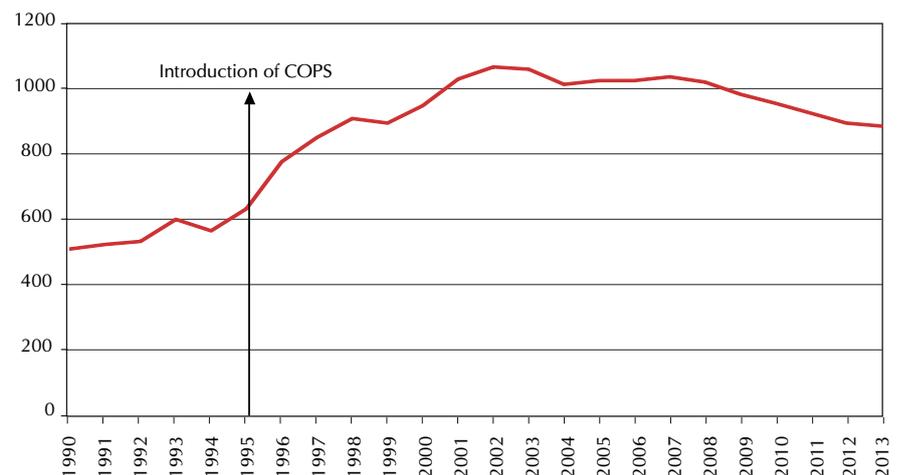


Figure 3. Sexual offences rate for NSW, 1990-2013

Incidents recorded per 100,000 population

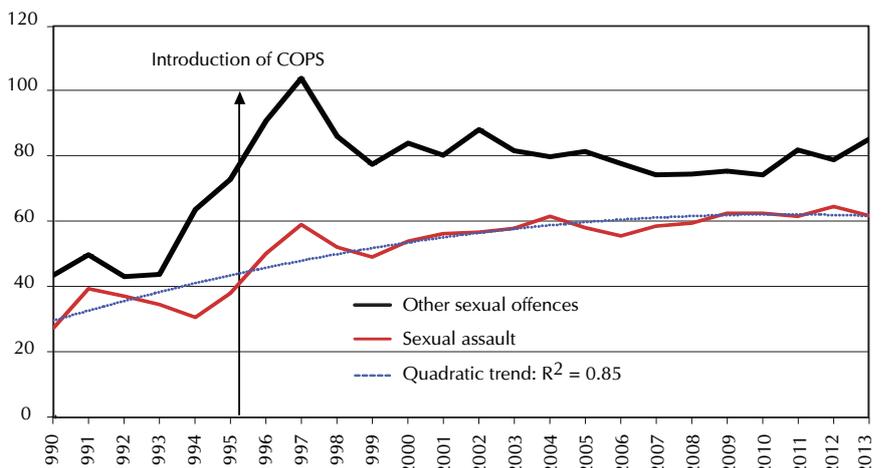


Figure 4. Robbery rate for NSW, 1990-2013

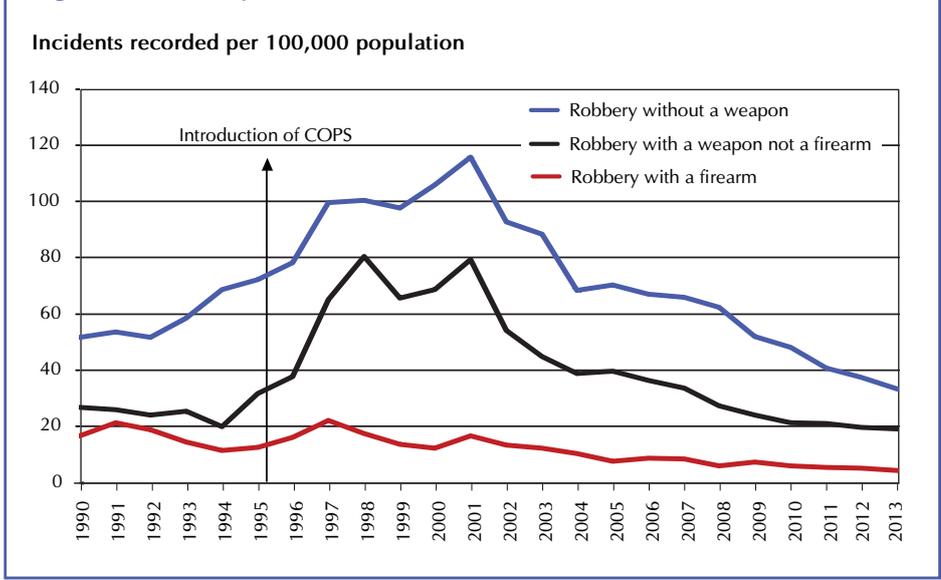


Figure 4a. Robbery with a firearm rate for NSW, 1990-2013

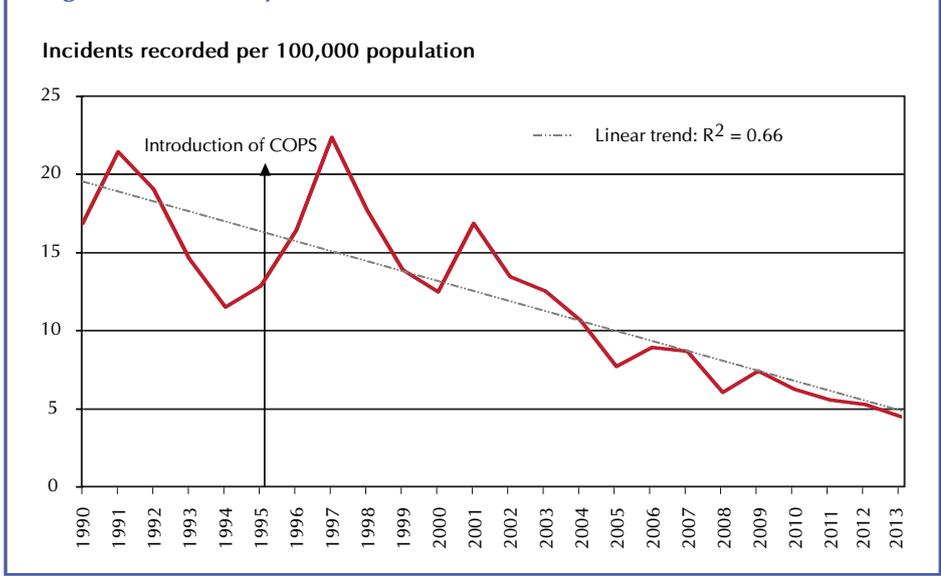
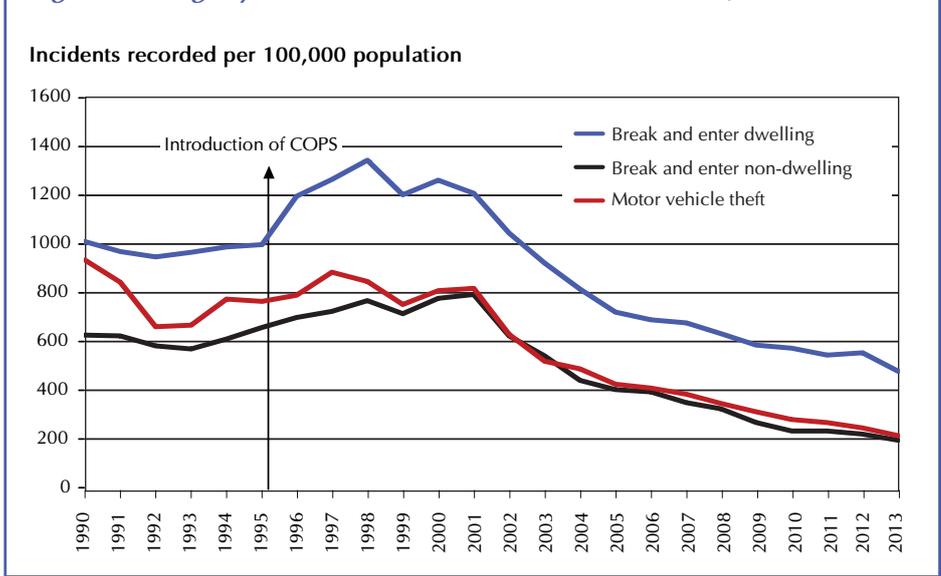


Figure 5. Burglary and motor vehicle theft rate for NSW, 1990-2013



in the crime rate of both *sexual assault* (up 125%) and *other sexual offences*³ (up 95%)(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* recorded a significant downward trend between 2002 and 2010 (see Figure 3) but has increased by 15 percent since then. *Sexual assault*, however, has continued the significant upward trend since 2000 with a slight drop more recently from 2012 to 2013.

- Recorded rates of all three robbery offences are now below those seen around 1990 and continue to show declines (see Figure 4), even though the long-term trends for *robbery with a weapon not a firearm* and *robbery without a weapon* are still registering as statistically stable. A significant and consistent downward trend continues for the NSW rate of *robbery with a firearm* (down 73% since 1990). The 2013 rate is less than a quarter of the 1990 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 since 1990: *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 77% 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 population and then dropped sharply from 2001 onwards, having registered a 73 percent fall since then.
- Break and enter dwelling* rates increased sharply 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 property crime series shown in Figure 5 have more than halved since 2001 and are now well below the recorded 1990 levels.

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 2013 with per capita rates in 1990, the rate of:

- motor vehicle theft* is 77 percent lower
- robbery with a firearm* is 73 percent lower
- break and enter non-dwelling* is 68 percent lower
- break and enter dwelling* is 52 percent lower
- murder* is 43 percent lower
- robbery without a weapon* is 35 percent lower; and
- robbery with a weapon not a firearm* is 29 percent lower.

The falls in these categories of crime are countered by increases in recorded rates of *sexual assault*, *other sexual offences* and *assault*. Comparing rates of crime in 2013 with those in 1990, the rate of:

- sexual assault* is 125 percent higher
- other sexual offences* is 95 percent higher; and
- assault* is 74 percent higher.

Given that recorded crime data includes only crimes that come to the attention of the police⁴, 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 2012-13 Crime Victimization catalogue (Australian Bureau of Statistics (ABS), 2014). This ABS publication now contains five consecutive financial years (2008-9 to 2012-13) of personal and household summary crime data obtained from a national survey, much of which is disaggregated to state level (see datacube summary). For NSW, the latest report states that physical assault for those aged 15 and over was reported to police 48 percent of the time, with a personal victimisation rate of 2.2 percent. For households, NSW break-ins were reported to police 79 percent of the time, with a household victimisation rate of 2.4 percent.

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 2013 recorded *sexual assault* rate was marginally below the highest in that series (occurring in 2012) and the rate since 2000 has recorded a significant uptrend. Apart from *sexual assault* and *other sexual offences*, the remaining eight offences recorded significant downtrends in recorded rates since 2000. The three robbery and three property crime series all recorded drops of more than 60 percent since 2000.

Notes

- For the rate calculations, population data were obtained from the 2013 Australian Bureau of Statistics publication: Regional Population Growth, Australia, 2012, Cat. No. 3218.0 (for population estimates 1995 to 2012). As no population estimates were available for 2013 at the time this report was prepared, rates for 2013 were calculated using 2012 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.
- 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.

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 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.

3. 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).
4. 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 ^a	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
1990	119	29,776	1,606	2,552	3,022	981	1,568	58,862	36,639	54,488
1991	115	31,014	2,343	2,942	3,173	1,265	1,542	57,155	36,838	49,758
1992	101	31,773	2,220	2,583	3,080	1,132	1,444	56,437	34,754	39,423
1993	110	36,076	2,083	2,646	3,525	877	1,528	58,036	34,379	40,169
1994	83	25,732	1,397	2,908	3,120	522	912	44,850	27,858	35,304
1995	124	38,785	2,344	4,484	4,420	785	1,954	61,006	40,392	47,011
1996	115	48,241	3,140	5,663	4,857	1,015	2,347	74,016	43,523	49,132
1997	120	53,513	3,726	6,535	6,250	1,401	4,085	79,246	45,463	55,538
1998	104	57,724	3,320	5,467	6,367	1,120	5,089	84,966	48,728	53,770
1999	129	57,519	3,169	4,981	6,262	888	4,200	76,990	45,945	48,312
2000	114	61,564	3,517	5,465	6,857	806	4,444	81,654	50,416	52,546
2001	114	67,811	3,714	5,302	7,601	1,107	5,215	79,345	52,220	53,801
2002	102	70,825	3,781	5,859	6,146	888	3,580	69,248	41,437	41,918
2003	98	70,879	3,887	5,468	5,895	834	2,984	61,506	36,312	34,778
2004	72	68,091	4,158	5,368	4,590	710	2,601	54,751	29,714	33,018
2005	86	69,416	3,945	5,516	4,760	517	2,673	48,896	27,556	28,985
2006	99	70,044	3,807	5,313	4,577	605	2,477	47,034	27,077	28,194
2007	83	71,411	4,062	5,136	4,539	596	2,319	46,656	24,375	26,647
2008	82	71,289	4,172	5,208	4,362	418	1,913	44,333	22,970	24,485
2009	86	69,596	4,445	5,352	3,686	521	1,703	41,619	19,234	22,351
2010	76	68,400	4,495	5,316	3,452	445	1,522	41,250	17,070	20,299
2011	88	66,768	4,463	5,920	2,945	398	1,524	39,529	17,076	19,620
2012	67	65,359	4,732	5,774	2,752	381	1,444	40,600	16,294	18,311
2013	83	64,726	4,537	6,222	2,444	325	1,402	35,181	14,579	15,948

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

	Murder [^]	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
1990	2.0	511.0	27.6	43.8	51.9	16.8	26.9	1010.2	628.8	935.1
1991	1.9	525.8	39.7	49.9	53.8	21.4	26.1	968.9	624.5	843.5
1992	1.7	533.2	37.3	43.3	51.7	19.0	24.2	947.1	583.2	661.6
1993	1.8	600.8	34.7	44.1	58.7	14.6	25.4	966.5	572.5	668.9
1994	1.8	566.1	30.7	64.0	68.6	11.5	20.1	986.8	612.9	776.7
1995	2.0	633.0	38.3	73.2	72.1	12.8	31.9	995.7	659.2	767.3
1996	1.9	777.5	50.6	91.3	78.3	16.4	37.8	1192.9	701.4	791.8
1997	1.9	852.5	59.4	104.1	99.6	22.3	65.1	1262.5	724.3	884.8
1998	1.6	910.6	52.4	86.2	100.4	17.7	80.3	1340.4	768.7	848.2
1999	2.0	897.1	49.4	77.7	97.7	13.9	65.5	1200.8	716.6	753.5
2000	1.8	949.2	54.2	84.3	105.7	12.4	68.5	1258.9	777.3	810.1
2001	1.7	1031.3	56.5	80.6	115.6	16.8	79.3	1206.7	794.2	818.2
2002	1.5	1068.4	57.0	88.4	92.7	13.4	54.0	1044.6	625.1	632.3
2003	1.5	1062.2	58.3	81.9	88.3	12.5	44.7	921.8	544.2	521.2
2004	1.1	1015.2	62.0	80.0	68.4	10.6	38.8	816.3	443.0	492.3
2005	1.3	1027.4	58.4	81.6	70.5	7.7	39.6	723.7	407.8	429.0
2006	1.5	1027.6	55.9	77.9	67.1	8.9	36.3	690.0	397.3	413.6
2007	1.2	1037.2	59.0	74.6	65.9	8.7	33.7	677.6	354.0	387.0
2008	1.2	1021.9	59.8	74.7	62.5	6.0	27.4	635.5	329.3	351.0
2009	1.2	984.4	62.9	75.7	52.1	7.4	24.1	588.7	272.1	316.2
2010	1.1	957.3	62.9	74.4	48.3	6.2	21.3	577.3	238.9	284.1
2011	1.2	925.9	61.9	82.1	40.8	5.5	21.1	548.1	236.8	272.1
2012	0.9	896.5	64.9	79.2	37.7	5.2	19.8	556.9	223.5	251.2
2013	1.1	887.8	62.2	85.3	33.5	4.5	19.2	482.6	200.0	218.8

[^] For murder, the numbers and rates shown are for recorded victims rather than criminal incidents.