

Property Crime in Massachusetts: A 25-Year Retrospective

Annual Policy Brief

Issued October 2012

Report prepared by:
Massachusetts Executive Office of Public Safety and Security
Office of Grants and Research
Research and Policy Analysis Division

Author:
Brittany Peters, Research Analyst

HIGHLIGHTS

The volume of property crime (150,168 offenses) within the Commonwealth fell 31% between the years 1987 and 2011.

During that same 25-year period, the rate of property crime per 100,000 persons in Massachusetts dropped 40% from 3,770.16 offenses per 100,000 persons to 2,279.58 offenses.

The statewide volume of property crime decreased 5% from calendar year 2010 to calendar year 2011, with a decline in each of the three major offense categories: burglary (-5%); larceny (-5%); and motor vehicle theft (-7%).

The rate of property crime per 100,000 persons in Massachusetts decreased 5% between calendar years 2010 and 2011, with a decline in each of the three major offense categories: burglary (-6%); larceny (-5%); and motor vehicle theft (-8%).

OVERVIEW

The purpose of this *Annual Policy Brief* is to increase public awareness of the nature and prevalence of property crime in the Commonwealth by analyzing data over a 25-year period from 1987 to 2011. The state data presented in this report is also examined within the context of national trends during the same timeframe. The three major offense classifications that are used to measure property crime are burglary, larceny, and motor vehicle theft. These classifications are based upon the Massachusetts Department of State Police Crime Reporting Unit's (CRU) *Massachusetts Part I Offense Data Uniform Crime Report Codebook*, modeled after the Federal Bureau of Investigation's (FBI) *Uniform Crime Reporting Handbook*.

This 2012 *Policy Brief* will examine the volume and rates of these property crime categories utilizing data from 375 law enforcement agencies that voluntarily submitted crime statistics during calendar years 2010 and 2011.¹ The 375 agencies are comprised of 308 municipal police departments (representing 88% of the 351 cities and towns within Massachusetts), 38 campus police departments, 21 state police barracks, seven counties patrolled by transit police, and one hospital police department. Of these reporting agencies, 302, or 81%, utilized the National-Incident Based Reporting System (NIBRS) and the remaining 73 agencies provided summary data to the CRU via the Uniform Crime Reporting (UCR) Program.

¹ Four municipal police departments submitted data only in 2011; and 13 agencies (eight municipal police departments; four campus police departments; and one hospital police department) submitted data only in 2010.

DATA COLLECTION, METHODOLOGY, AND INTERPRETATION

The data presented in this report comes from three primary sources – local agency and cumulative state property crime statistics were provided by the CRU; national property crime data was obtained through the FBI’s website; and population data (both decennial counts and annual estimates, where available) was retrieved from the United States Census Bureau’s website. Figures prior to calendar year 2010 that are presented in this document were drawn from trends reported in previous *Annual Policy Briefs*. The Appendix provides annual data of property crime in Massachusetts from 1987 to 2011 by volume and rate.²

The volume of property crime refers to the raw number or total count of offenses. Rates, on the other hand, produce the number of offenses divided by the population of a given jurisdiction. Rates allow for the comparison of the volume of crime within the state and nation over a period of time by controlling for population change. Examinations of crime rates also allow for the comparison of municipalities of varying sizes that would not otherwise be possible. All of the crime rates presented in this *Annual Policy Brief* are calculated per 100,000 persons.

Crime count estimates were generated for 52 agencies that submitted at least three months of statistics during calendar year 2011 but reported less than 12 full months of data, utilizing the following formula: Number of Crimes/Number of Months Reporting x 12. This process is, however, inherently flawed because it, “...implicitly assumes that the crime rate for non-reporting months is the same as for the reporting months.”³ In addition, 52 agencies (43 municipal departments, eight campus departments, and the Environmental Police) were excluded from our examination altogether as they reported fewer than three months of data, making a reliable estimation of crime counts over time all but impossible.

HISTORY OF NATIONAL CRIME DATA COLLECTION

The UCR was established in 1930 by the International Association of Chiefs of Police (IACP) as a means of quantifying national crime data within the context of periodic fluctuations in the volume of crime at the local, state and national levels. The Federal Bureau of Investigation (FBI) was tasked by the IACP with oversight of the UCR and began collecting crime statistics from a modest number of law enforcement agencies across the country. This process remained constant until 1958, when it was determined that there was sufficient participation by law enforcement agencies throughout the nation to aggregate the data and produce annual crime estimates. Shortly thereafter, individual states began to collect crime data from law enforcement agencies within their jurisdiction and these numbers were then tallied and forwarded on to the FBI.⁴

In the 1980’s, the FBI, in conjunction with the Bureau of Justice Statistics, created NIBRS as a supplement to the UCR⁵ to parse out specific subsets of data related to the offense, victim and offender that are not otherwise captured within the summary datasets.⁶ NIBRS data, much like UCR data, is submitted on a voluntary basis and as such, the method and degree of reporting by individual law enforcement agencies varies greatly. In addition, the FBI has implemented a crime estimation system to account for data that is omitted or submitted after the deadline, which further compromises the validity of official figures.⁷ The CRU serves as the repository for those Massachusetts law enforcement agencies that submit monthly UCR summary data or NIBRS data and this information is then, in turn, reported to the FBI.

² State and municipal crime data was provided by Dan Bibel, from the CRU. Maps were provided by Bob Kearney, from the Office of Grants and Research.

³ Maltz, *Bridging Gaps in Police Crime Data*, 11.

⁴ *Ibid*, 4.

⁵ *Ibid*, IV.

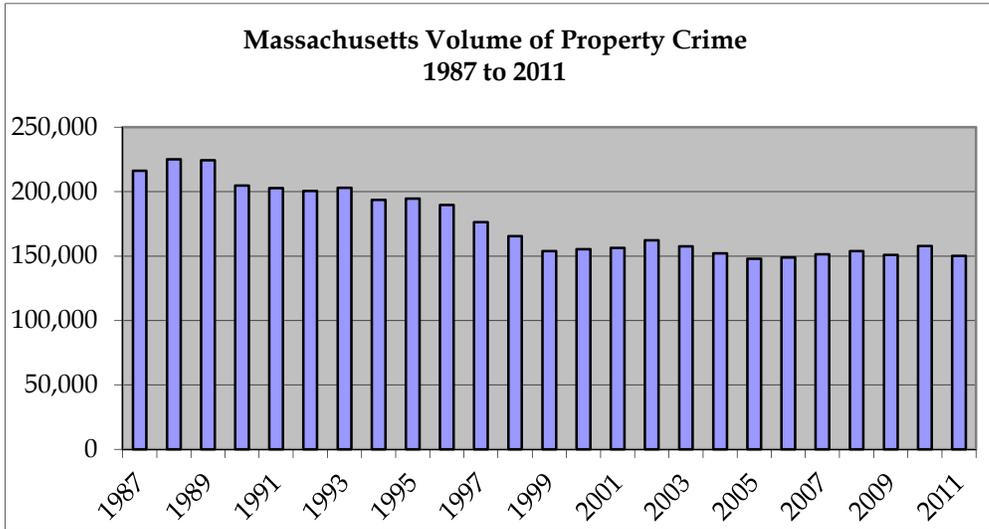
⁶ *Ibid*, 12.

⁷ *Ibid*, 1.

VOLUME OF PROPERTY CRIME IN MASSACHUSETTS

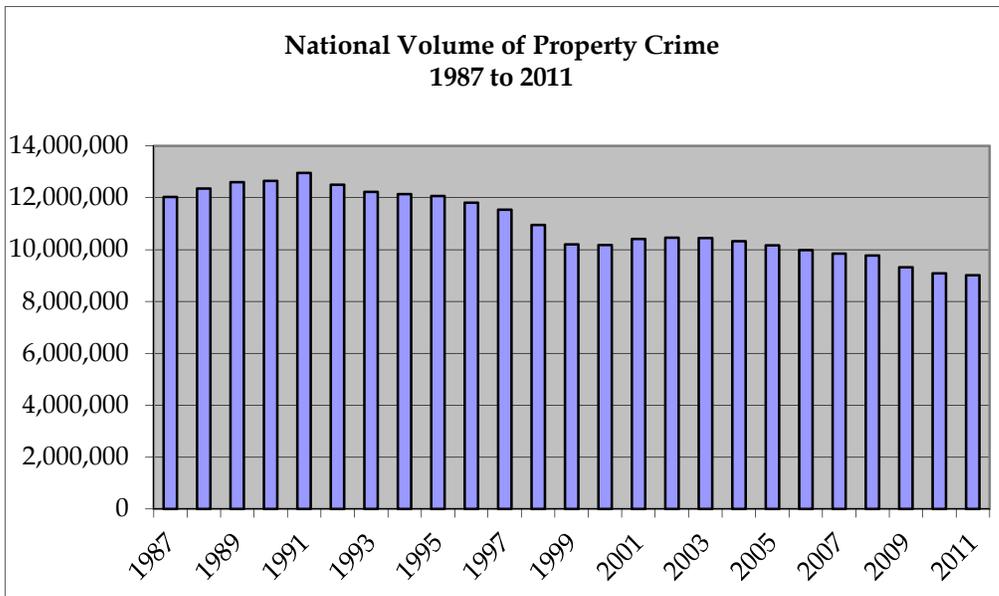
The most recent year of complete available data – 2011 – revealed that the volume of property crime within the Commonwealth (150,168 offenses) had fallen 5% from the previous year and 31% over the course of the 25-year period examined in this *Policy Brief*. In addition, property crimes declined 33% from the peak of 225,040 offenses in 1988. These trends are displayed in Figure 1 below.

Figure 1.



The change in the volume of property crime at the national level (based on preliminary data published by the FBI for calendar year 2011) follows a similar pattern. The overall volume of property crime fell 25% from 12,024,700 offenses to 9,010,224 offenses over the 25-year period and declined 30% from the peak of 12,961,100 offenses in 1991. One-year property crime counts from 2010 to 2011 were also down 1%.⁸ This information is presented below in Figure 2.

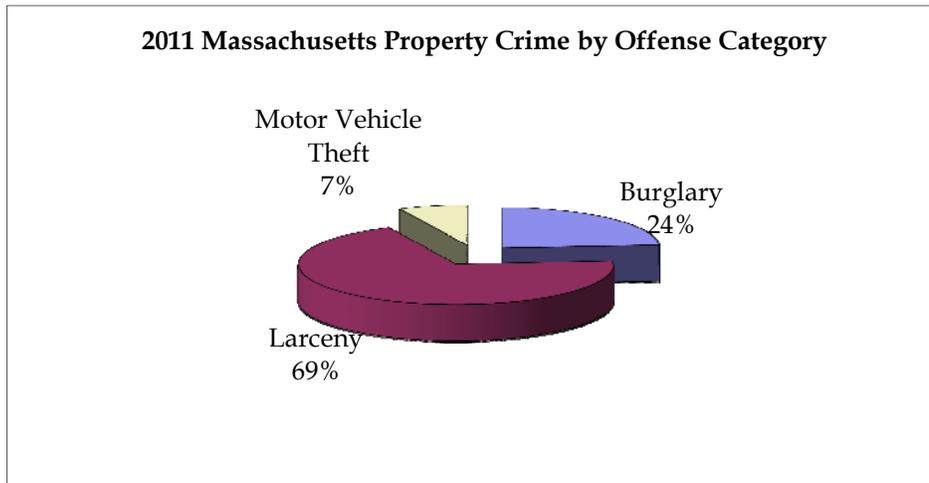
Figure 2.



⁸ The volume of property crime in the nation in 2010 was 9,082,887.

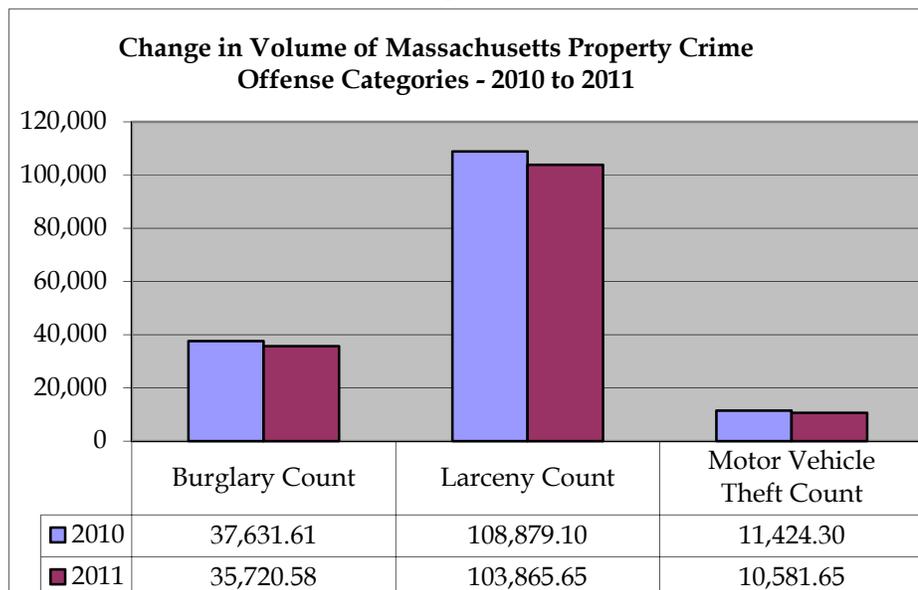
Of the 150,168 property offenses committed in Massachusetts during 2011, the overwhelming majority were larcenies (103,865.65), followed by burglaries (35,720.58) and motor vehicle thefts (10,581.65).⁹ These values are displayed as percentages in Figure 3 and closely resemble the proportion of offenses to the overall number of property crimes in the nation in 2010.¹⁰ Moreover, while the raw numbers and percentage shares of each of the three offense categories have changed from one year to the next, the ranking has remained consistent over time; larcenies are the most frequently occurring property crimes, followed distantly by burglaries, and then motor vehicle thefts.

Figure 3.



In the one year period from 2010 to 2011, the volume of property crime in Massachusetts decreased 5%, with a drop in each of the three crime categories; the number of burglaries and larcenies each fell by 5%; and motor vehicle thefts fell 7%.

Figure 4.



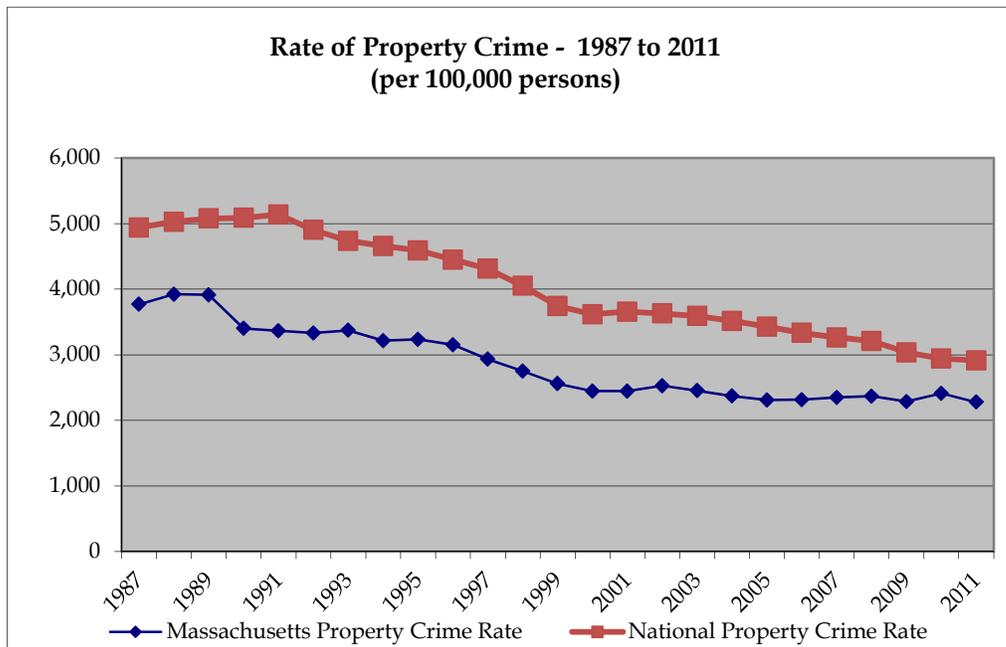
⁹ The property crime figures presented in this section are carried out to two decimal places due to the use of estimates for those law enforcement agencies that did not report data for the full 12 months of 2011.

¹⁰ The volume of property crime in the nation in 2010, the most recent year of data available, was 9,082,887. Larcenies=6,185,867 (68%); burglaries=2,159,878 (24%); and motor vehicle thefts=737,142 (8%).

RATE OF PROPERTY CRIME IN MASSACHUSETTS

Over the 25-year period examined in this *Policy Brief*, the rate of property crime in Massachusetts dropped a notable 40% from 3,770.16 offenses per 100,000 persons to 2,279.58 offenses. In comparison, during this same period of time, the national rate of property crime fell 41%, just slightly higher than the statewide rate of change.¹¹ Data released by the FBI for calendar year 2010 ranks the property crime rate for Massachusetts (2,350.50)¹² as thirteenth among the nation in ascending order, and fourth behind the New England states New Hampshire, Connecticut and Vermont (2,186.30; 2,193.20; and 2,282.30, respectively). The most currently available data reveals that the rate of property crime in Massachusetts decreased 5% between calendar years 2010 and 2011, with a decline in each of the three major offense categories. Preliminary figures suggest that the national property crime rate continued to fall during 2011, but at a much lower rate (-2%) than the reduction seen in the Commonwealth. As noted in the *Data Collection, Methodology, and Interpretation Section* of this Report (see page 2), crime rates provide a more accurate picture of the changes in crime patterns within the state and the nation over time, as the statewide population grew 15% from 1987 to 2011 and the national population increased 28% during those same years.¹³

Figure 5.



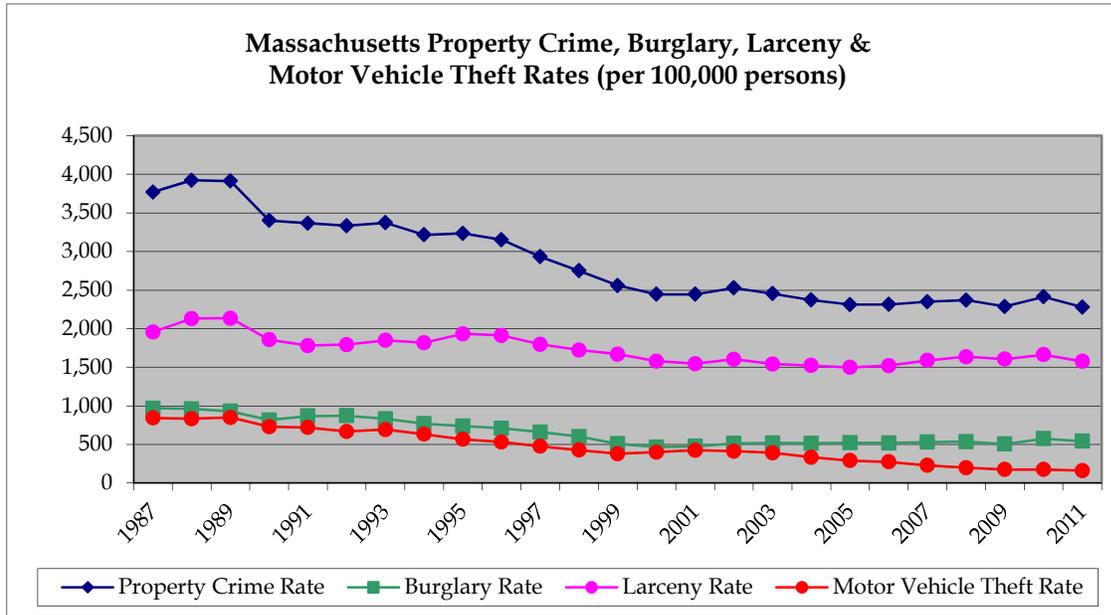
In addition to illustrating the overall decline in Massachusetts property crime rates, Figure 6 displays the changes in the rates for each of the three major property crime offense categories. Although the property crime rate in Massachusetts peaked in 1988 and has fallen progressively since then, there does not appear to be any clearly defined pattern between changes in the overall rate and fluctuations in the categories of burglary and motor vehicle theft. The larceny rate changes do however appear to be closely related to the annual shifts in the property crime rate in the Commonwealth. Between 1987 and 2011, the burglary rate dropped 44%, the larceny rate declined 19%, and the rate of motor vehicle theft fell a remarkable 81%. From 2010 to 2011, the rates for those same offense categories decreased 6%, 5%, and 8%, respectively.

¹¹ The rate of property crime in the nation in 1987 was 4,940.30 offenses per 100,000 persons; that number fell to 2,891.67 in 2011, based on preliminary figures.

¹² The figure published by the FBI differs from the property crime rate provided by the CRU (2,412.09) and presented in the Appendix of this *Brief*, likely due to late submissions and/or variations in the estimation methodology utilized by the author and the FBI.

¹³ The national population figures climbed during those same years from 243,400,000 to 311,591,917 persons.

Figure 6.



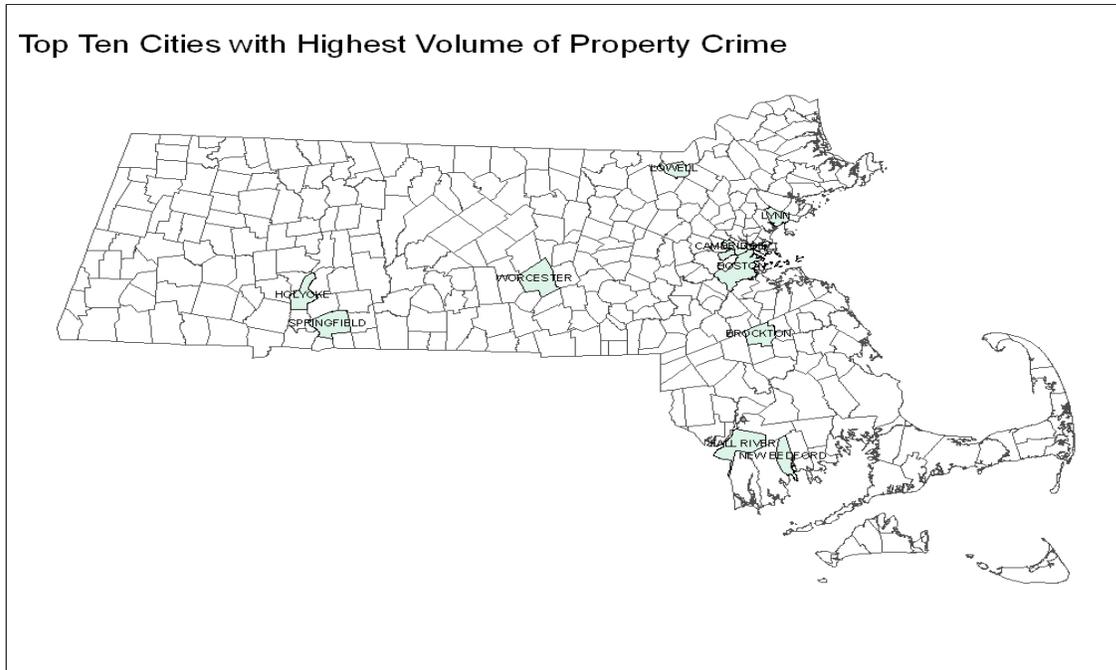
LOCATION OF PROPERTY CRIME

The ten Massachusetts communities with the highest volume of property crime in 2011 (in declining order) are as follows: Boston, Springfield, Worcester, Fall River, Brockton, New Bedford, Cambridge, Lowell, Lynn, and Holyoke. Not surprisingly, the vast majority of these communities are the most populous cities within the Commonwealth. An overview of the population ranking for each municipality is presented below in Table 1, along with the volume of property crimes. In addition, Map 1, on the following page, provides a visual display of these ten communities and thus, an illustration of the concentration of property crime, by volume, throughout the Commonwealth.

**Table 1.
Top Ten Communities in Massachusetts by Volume of Property Crime**

City	2011 Volume of Property Crime	2010 Population	Population Ranking (out of 308 reporting municipalities)
Boston	19,445	617,594	1
Springfield	8,327	153,060	3
Worcester	6,140	181,045	2
Fall River	3,600	88,857	10
Brockton	3,457	93,810	7
New Bedford	3,367	95,072	6
Cambridge	3,201	105,162	5
Lowell	3,106	106,519	4
Lynn	2,630	90,329	9
Holyoke	2,622	39,880	37

Map 1.



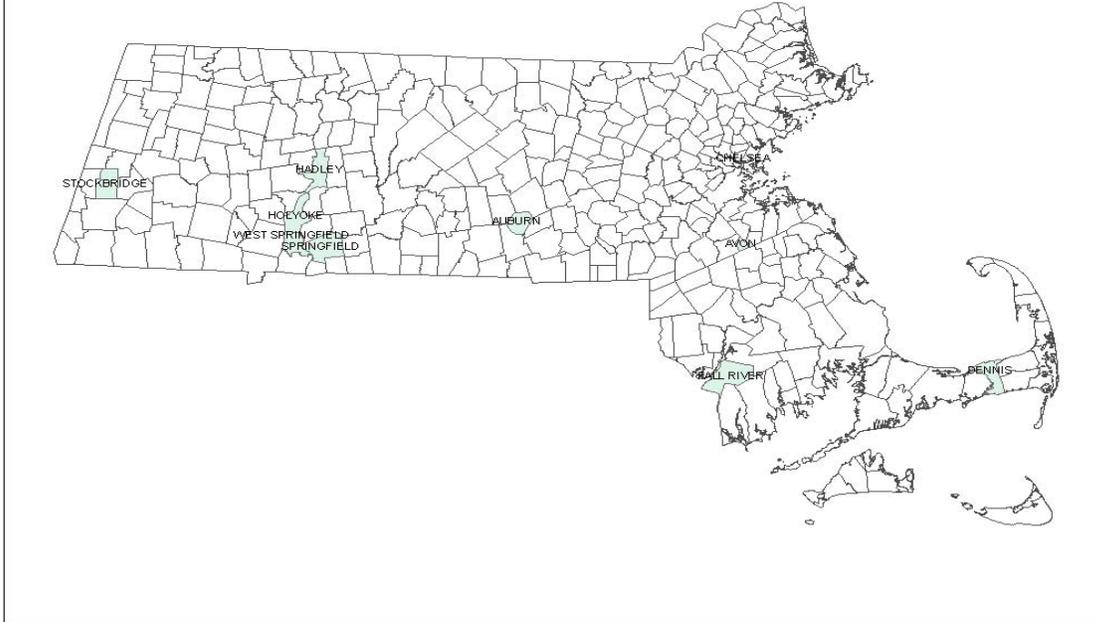
When the rates of property crime are further explored, taking into account the population of the community, it becomes evident that an analysis based solely upon the volume of crime, as conducted in Table 1, is insufficient to fully understand the extent of the problem. Consider, for example, that seven of the ten communities listed in Table 1 no longer appear in Table 2. The municipalities in Table 2 include communities of all sizes, from populations in excess of 100,000 persons to small towns with less than 2,000 residents. Map 2, on the next page, therefore provides an alternative depiction of the distribution of property crime, when controlling for population by rate, for these ten communities that are located across the state from western Massachusetts to Cape Cod.

Table 2.
Top Ten Communities in Massachusetts by Rate of Property Crime

City/Town	2011 Rate of Property Crime (per 100,000 persons)	2010 Population	Population Ranking (out of 308 reporting municipalities)
Holyoke	6,574.72	39,880	37
Springfield	5,440.35	153,060	3
Hadley	5,219.05	5,250	239
West Springfield	5,015.67	28,391	62
Stockbridge	4,673.86	1,947	285
Avon	4,499.54	4,356	256
Dennis	4,462.59	14,207	134
Fall River	4,051.45	88,857	10
Auburn	4,040.03	16,188	118
Orleans	4,006.79	5,890	233

Map 2.

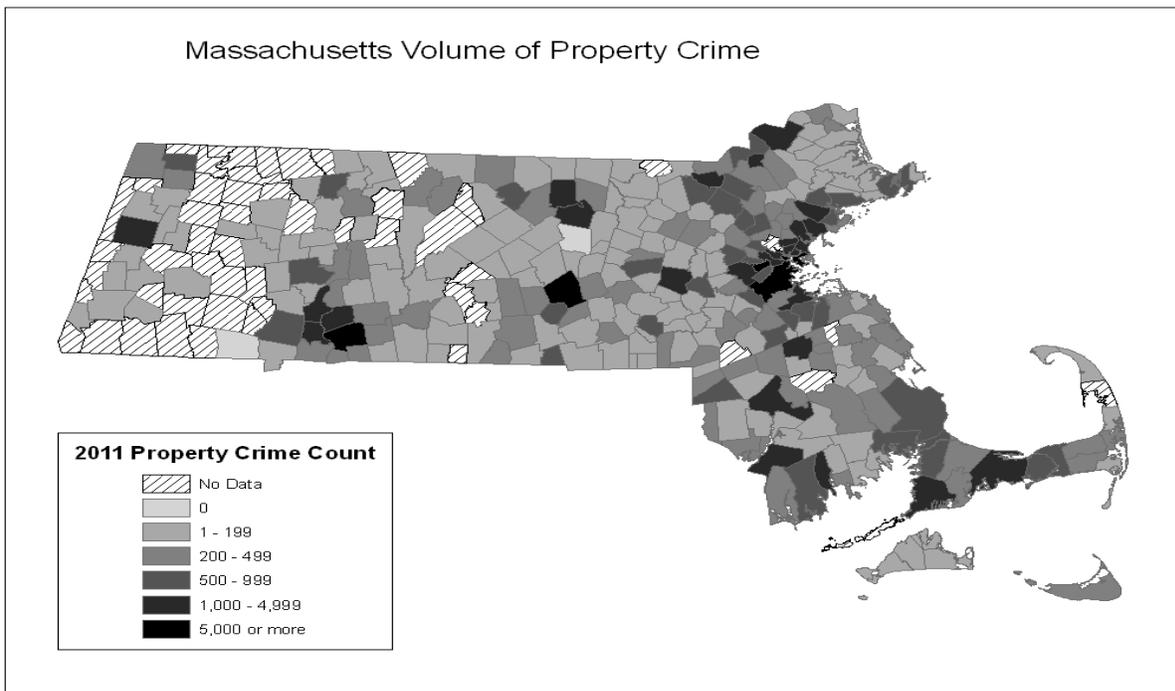
Top Ten Cities and Towns with Highest Property Crime Rate
(per 100,000 persons)



Where the two preceding maps displayed information for only the ten communities with the greatest number, by volume and rate, of property crimes, Map 3 illustrates the distribution of the volume of all reported property crime in the Commonwealth during 2011.

Map 3.

Massachusetts Volume of Property Crime



CONCLUSION

Property crime in the Commonwealth, as measured by the cumulative number of burglaries, larcenies, and motor vehicle thefts, has followed a pattern not unlike the national figures; most notably, property crime declined over the one-year period from 2010 to 2011, reflecting an overall downward trend during the past quarter century. This reduction is reflected in the volume, or raw counts of crimes, as well as the rates of crime, which accounts for population adjustments over time.

SOURCES

Federal Bureau of Investigation, *Crime in the United States, 2010*. Data Accessed August 1, 2012 and September 10, 2012.

<http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2010/crime-in-the-u.s.-2010/summary>

Federal Bureau of Investigation, *Crime in the United States, 2011*. Data Accessed August 1, 2012.

<http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2011/preliminary-annual-ucr-jan-dec-2011>

Maltz, Michael D., *Bridging Gaps in Police Crime Data*. Bureau of Justice Statistics, A Discussion Paper from the BJS Fellow Program, September 1999, 1 – 41.

Massachusetts Department of State Police, Crime Reporting Unit. *NIBRS and UCR Summary Data, 2010 and 2011*. Data received July 6, 2012.

U.S. Census Bureau, State & County QuickFacts. *Massachusetts*. Data Accessed July 23, 2012 – August 1, 2012. <http://quickfacts.census.gov/qfd/states/25000.html>

Please see the Executive Office of Public Safety and Security's website for additional research publications:
<http://www.mass.gov/eopss>

APPENDIX: Massachusetts Property Crime Data, 1987 - 2011

Year	Census Population	Volume				Rate (per 100,000 persons)			
		Property Crime	Burglary	Larceny	Motor Vehicle Theft	Property Crime	Burglary	Larceny	Motor Vehicle Theft
1987	5,737,037	216,296	55,615.51	112,306.97	48,373.16	3,770.16	969.41	1,957.58	843.17
1988	5,737,037	225,040	55,076.17	122,188.20	47,776.08	3,922.59	960.01	2,129.81	832.77
1989	5,737,037	224,501	53,376.77	122,435.91	48,688.05	3,913.18	930.39	2,134.13	848.66
1990	6,016,425	204,671	49,116.08	111,660.02	43,895.06	3,401.87	816.37	1,855.92	729.59
1991	6,016,425	202,582	52,161.44	107,099.56	43,321.29	3,367.15	866.98	1,780.12	720.05
1992	6,016,425	200,496	52,472.15	107,857.56	40,166.70	3,332.48	872.15	1,792.72	667.62
1993	6,016,425	202,915	50,065.60	111,210.01	41,639.64	3,372.69	832.15	1,848.44	692.10
1994	6,016,425	193,515	46,193.50	109,281.30	38,039.87	3,216.44	767.79	1,816.38	632.27
1995	6,016,425	194,661	44,379.37	116,237.43	34,044.26	3,235.49	737.64	1,932.00	565.86
1996	6,016,425	189,709	42,671.87	115,040.52	31,996.22	3,153.18	709.26	1,912.11	531.81
1997	6,016,425	176,404	39,667.49	108,125.38	28,611.26	2,932.04	659.32	1,797.17	475.55
1998	6,016,425	165,483	36,199.43	103,623.85	25,660.16	2,750.53	601.68	1,722.35	426.50
1999	6,016,425	153,984	30,682.88	100,442.23	22,859.02	2,559.40	509.99	1,669.47	379.94
2000	6,349,097	155,239	29,591.57	100,217.16	25,430.70	2,445.06	466.08	1,578.45	400.54
2001	6,395,585	156,395	30,473.59	98,818.53	27,103.34	2,445.37	476.48	1,545.11	423.78
2002	6,412,549	162,170	32,896.81	102,836.81	26,436.44	2,528.95	513.01	1,603.68	412.26
2003	6,420,289	157,537	33,404.16	98,988.40	25,144.53	2,453.74	520.29	1,541.81	391.64
2004	6,416,553	152,150	33,038.21	97,707.45	21,404.75	2,371.22	514.89	1,522.74	333.59
2005	6,398,743	147,871	33,371.07	95,912.85	18,587.10	2,310.94	521.53	1,498.93	290.50
2006	6,437,193	148,987	33,408.27	97,950.18	17,628.73	2,314.47	518.99	1,521.63	273.86
2007	6,449,755	151,452	34,222.59	102,501.88	14,727.93	2,348.19	530.60	1,589.24	228.35
2008	6,497,967	153,924	34,763.49	106,254.01	12,906.04	2,368.80	534.99	1,635.19	198.62
2009	6,593,587	150,820	33,343.00	105,859.00	11,618.00	2,287.37	505.69	1,605.48	176.20
2010	6,547,629	157,935	37,631.61	108,879.10	11,424.30	2,412.09	574.74	1,662.88	174.48
2011	6,587,536	150,168	35,720.58	103,865.65	10,581.65	2,279.58	542.24	1,576.70	160.63