METROPOLITAN OPPORTUNITY SERIES

City and Suburban Crime Trends in Metropolitan America

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"The narrowing of the gap between city and suburban crime rates underscores that crime is not solely an urban challenge, but a metropolitan-wide issue."

Analysis of FBI Uniform Crime Report and U.S. Census Bureau data from 1990 to 2008 in the cities, towns, and counties of the 100 largest U.S. metropolitan areas finds that:

- **Both violent and property crime declined significantly between 1990 and 2008 in the 100 largest metro areas, with the largest decreases occurring in cities.** Violent crime rates dropped by almost 30 percent in cities, while property crime fell by 46 percent. Though city crime rates remain considerably above those in suburbs, smaller decreases in suburban violent and property crime rates over this time period (7 and 37 percent, respectively) narrowed the gap.

- **The gap between city and suburban violent crime rates declined in nearly two-thirds of metro areas.** In 90 of the 100 largest metro areas, the gap between city and suburban property crime rates narrowed from 1990 to 2008. In most metro areas, city and suburban crime rates rose or fell together.

- **Among suburban communities, older high-density suburbs registered the largest declines in crime rates.** All types of suburban communities saw property crime rates fall over this time period. Cities and high-density suburbs also saw violent crime rates decline, but low-density exurban communities experienced slight increases that are not explained by their changing demographics.

- **As crime rates fell and communities diversified, relationships between crime and community demographic characteristics weakened significantly.** The association between crime and community characteristics—like the proportion of the population that is black, Hispanic, poor, or foreign-born—diminished considerably over time. For example, the strength of the relationship between share of black residents and property crime decreased by half between 1990 and 2008, while the association between the share of Hispanic residents and violent crime all but disappeared.

In general, the nation's largest metropolitan areas are much safer today than they were in years past. Within metropolitan areas, older, more urbanized, poorer, and more minority communities have benefited the most from these trends, narrowing the disparities between cities and suburbs and underscoring that crime is not a uniquely urban issue, but a metropolitan one. As such, jurisdictions that lagged in reducing crime rates since 1990 may benefit from looking to neighboring communities and similar regions for lessons learned and successful policies that helped significantly reduce property and violent crime over the last two decades.

Introduction

The impact of crime on general well-being is profound. Those most directly impacted are the victims of crime. By one estimate, the combination of direct monetary losses and the costs of pain and suffering among crime victims in the U.S. amounts to nearly 6 percent of gross domestic product.[1] Beyond these direct costs are substantial indirect costs associated with reducing the threat of crime. In 2006, federal, state, and local government criminal justice expenditures amounted to $214 billion.[2] Many households pay significant premiums, either in terms of housing prices or commute costs, to live in neighborhoods with lower probabilities of victimization. Many also purchase security devices and insurance to minimize the likelihood and costs of being criminally victimized. Moreover, fear of crime often impacts the most mundane personal decisions, such as whether to walk down a given street or through a particular neighborhood, whether to let one's children play outside, or whether to leave one's home after dark.[3]

While all communities are affected by crime and the criminal justice system, residents in large urban areas are particularly impacted. Moreover, within large metropolitan areas, the residents of poor, largely minority neighborhoods suffer disproportionately. Crime rates are generally higher in more urbanized areas and the young, male, and minority residents of the nation's central cities contribute disproportionately to the growing prison population.[4]

Yet, in recent decades, U.S. crime rates have fallen sharply. By 2008 the sexual assault rate stood at only 23 percent of its peak value in 1991, while robbery, aggravated assault, and simple assault had fallen to 37, 33, and 42 percent of their 1991 levels, respectively. Similarly, homicide rates dropped from 10.5 per 100,000 in 1991 to 6.2 per 100,000 by 2006. Between 1991 and 2008 the number of burglaries per 1,000 households declined by 59 percent, while rates of theft and motor vehicle theft dropped by 62 and 70 percent, respectively.[5]

Though much has been written about the precipitous declines in crime since the 1990s, less is known about trends within the nation's big cities and suburbs.[6] Two-thirds of the nation's population lives in the 100 largest metropolitan areas, but crime levels vary greatly across—and even within—these regions. To what extent have decreases in crime been shared across these communities? Moreover, crime fell over a period that coincided with considerable changes in the makeup and distribution of the country's metropolitan population.[7] Do those changes help explain the steep declines in community-level crime?

In this paper, we explore these questions by analyzing crime data compiled by the Federal Bureau of Investigation (FBI) and data from the U.S. Census Bureau to provide a geographically-focused assessment of how crime rates have changed between 1990 and 2008. Specifically, we analyze data for the roughly 5,400 communities located within the 100 largest U.S. metropolitan areas. We estimate changes in metropolitan crime, as well as city and suburban trends within these regions. We then consider the relationship between community-level demographic characteristics and crime, and analyze how those relationships may have changed over time.

Methodology

This analysis uses data from the FBI and various U.S. Census Bureau surveys to assess crime trends and their relationship to demographic characteristics across and within the nation's 100 largest metropolitan areas.

Crime Data

To measure crime rates, we use data from the 1990, 2000, and 2008 Uniform Crime Report (UCR) Offenses Known and Cleared by Arrest data sets compiled by the FBI. The UCR data provide counts of crimes reported to the police for each police agency (referred to as a reporting unit in the UCR data) by month.

We use the UCR data to estimate rates of serious felony crimes. Felony criminal incidents involving victims are officially categorized into the following seven mutually exclusive categories:

- **Murder and non-negligent manslaughter:** defined as the willful killing of one human being by another.
- **Rape/sexual assault:** rape refers to forced sexual intercourse, inclusive of psychological coercion and physical force. Sexual assault is distinct from rape and includes any unwanted sexual contact between victim and offender.
- **Robbery:** a completed or attempted theft directly from a person by force of threat with or without a weapon and with or without an injury.
- **Assault:** an attack with or without a weapon and with or without an injury. Attack with a weapon or an attack without a weapon resulting in a serious injury is referred to as aggravated assault. An attack without a weapon with no or minor injuries to the victim is referred to as simple assault.
- **Burglary:** the unlawful or attempted or forcible entry of a residence, often but not necessarily involving theft.
- **Larceny/theft:** the taking of property without personal contact.
- **Motor vehicle theft:** the stealing or unauthorized taking of a motor vehicle, including attempted theft.[8]

In addition to providing select results for each of the individual crimes listed above, we aggregate incident types to present findings for two general categories of crime. Conventional aggregations generally group the first four felonies under the banner of *violent crimes*, since each felony involves direct coercive or violent contact between the offender and victim. The latter three felony offenses are commonly referred to as *property crimes*, since the objective of each is to unlawfully acquire the property of another without physically encountering the victim.

To calculate crime rates, we aggregate 12 months of crime data to create annual estimates for 1990, 2000, and 2008. In all tabulations, crime rates are measured as criminal incidents per 100,000 residents.

Geographies

We restrict our analysis to reporting units located within the country's 100 largest metropolitan areas, as defined by the U.S. Office of Management and Budget in 2008 and based on official population estimates in that year.

To determine the location of each reporting unit in the 100 largest metro areas, we first identify the unit of geography with which the police agency is associated. Crime data from reporting units generally can be matched to three types of geographies: places, Minor Civil Divisions, and unincorporated portions of counties.

For the most part, reporting units/police agencies correspond to places. "Places" include incorporated jurisdictions (such as cities, towns, and villages) as well as census-designated places (unincorporated areas delineated by the U.S. Census Bureau for statistical purposes). For example, the Oakland Police Department is a single reporting unit. In instances where there are multiple police agencies within a place, we aggregate crime data from all reporting units to create a place-level total.[9]

Reporting units may also correspond to a Minor Civil Division (MCD). The Census Bureau uses MCDs to designate the primary governmental and/or administrative divisions of a county, such as a civil township, precinct, or magisterial district. MCDs exist in 28 states and the District of Columbia. For the remaining states, the Census Bureau designates MCD equivalents, called Census County Divisions (CCDs), for statistical purposes.[10] Police agencies covering areas not located within a place but located within an identifiable MCD/CCD are aggregated to the MCD level.

Finally, police agencies covering unincorporated areas of counties that lie outside of these two geography types are combined into a balance-of-county aggregate.[11]

After matching reporting units to the relevant geography, we identified roughly 5,400 separate geographic units within the 100 largest metropolitan areas that appear in the UCR data.

To analyze differences in crime trends within regions, we assign each of these geographic units a community type. We first establish whether a community is a primary city or a suburb. *Primary cities* are those that appear first in the official metropolitan statistical area (MSA) name, as well as any

other city in the MSA title with a population of at least 100,000. *Suburbs* make up the remainder of the MSA outside the primary city or cities.

We also further classify suburban communities according to their degree of urbanization to explore differences in crime trends across types of suburbs in more detail. Based on a community's urbanization rate (or the share of people in the community who live in an urbanized area, as designated by the Census Bureau), we assign suburban geographies to one of four categories.[12] A *high-density* suburb has an urbanization rate of 99.5 percent or more; a *mature* suburb has an urbanization rate between 75 and 99.5 percent; an *emerging* suburb has an urbanization rate greater than 0 but less than 75 percent; and an *exurb* has no urbanized population whatsoever. High-density suburbs are often quite similar to central cities; they are usually inner-ring suburbs with relatively large minority populations, and often markedly differ from newer emerging suburbs and exurbs on metropolitan area fringes. Mature suburbs lie somewhere in the middle.

Demographic Data

Finally, we match our community-level crime data to data from the decennial census and the American Community Survey (ACS) to analyze the relationship between crime rates and community-level demographic characteristics. Specifically, we employ data from the 1990 Census of Population and Housing Summary Tape File 3A, the 2000 Census of Population and Housing Summary File 3, and the 2005-2009 ACS five-year estimates.[13] We use these data to estimate the proportion of community residents that are black, Hispanic, foreign-born, or poor in each year.

For identifiable census places and MCDs, we match corresponding estimates from the decennial census or ACS directly to the UCR data. Roughly 75 percent of the population of the metropolitan areas included in this study resides within a definable place or MCD. For the unincorporated balance-of-county observations, we assign the county-level average values.[14] The goal of this additional analysis is to assess the degree to which the empirical relationships between community-level crime rates and average characteristics have changed with the sharp declines in crime that have occurred since 1990.

Findings

A. Both violent and property crime declined significantly between 1990 and 2008 in the 100 largest metro areas, with the largest decreases occurring in cities.

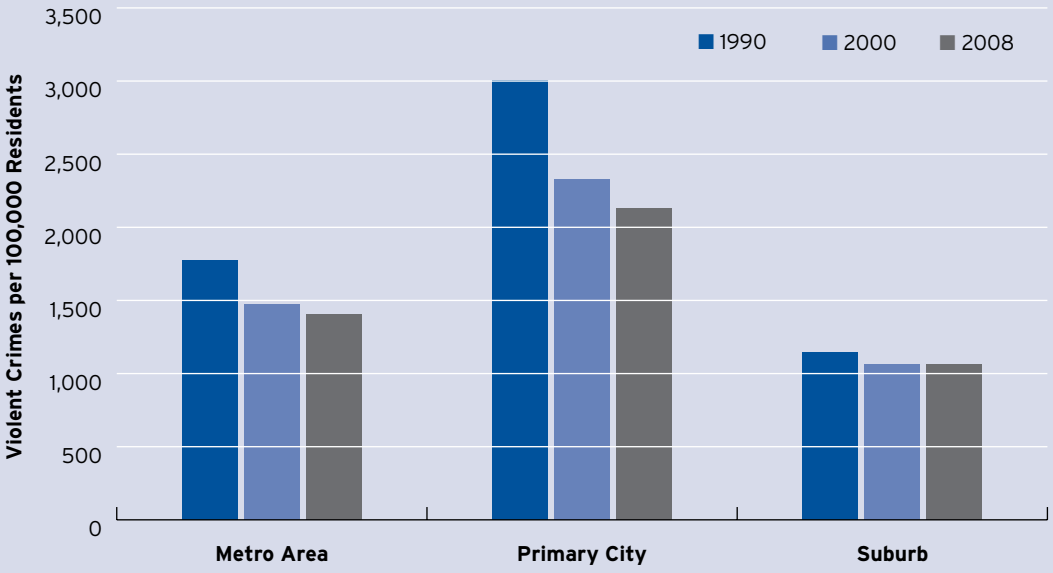
Documenting how crime rates have changed in the nation's 100 largest metropolitan areas over the last two decades Figure 1 presents estimates of the annual number of violent crimes and property crimes per 100,000 residents for 1990, 2000, and 2008. In effect, these averages represent the crime rate experienced by the typical resident of a given community type (metropolitan, city, suburban) in each year.[15]

Taken together, the 100 largest metro areas saw both violent and property crimes rates decline substantially between 1990 and 2008. Over that time period, violent crime fell by 21 percent, while property crime declined by twice that rate (42 percent). However, these changes did not occur evenly over time; more than 80 percent of the net decline in both types of crime occurred between 1990 and 2000 alone.

Nor did these changes occur evenly within metropolitan areas. Primary city residents experienced more pronounced decreases in crime, both absolutely and in percentage terms, than their suburban counterparts. Between 1990 and 2008, the primary city violent crime rate fell by 879 incidents per 100,000 (a 29 percent decrease) while property crime dropped by 3,848 incidents per 100,000 (a 46 percent decline). By contrast, the suburban violent crime rate dropped by 86 incidents per 100,000 (a 7 percent change) while the property crime fell by 1,508 incidents per 100,000 (a 37 percent decline).

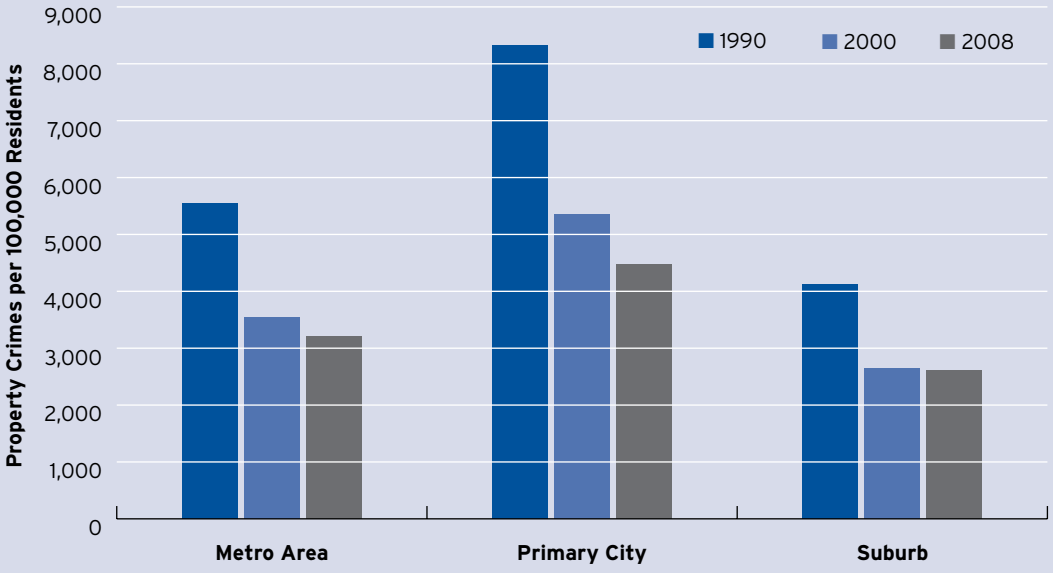
While city crime rates remain higher than suburban levels, the pace of urban declines between 1990 and 2008 markedly narrowed the city/suburban gap. Specifically, between 1990 and 2008, the violent crime rate in primary cities dropped from 2.8 times the comparable rate for the suburbs to double the suburban rate, and the disparity in the average property crime rate dropped from twice the suburban rate to 1.7.

Figure 1A. Violent Crimes per 100,000 Residents in the 100 Largest U.S. Metropolitan Areas, by City and Suburb



Source: Authors' analysis of UCR data

Figure 1B. Property Crimes per 100,000 Residents in the 100 Largest U.S. Metropolitan Areas, by City and Suburb



Source: Authors' analysis of UCR data

Table 1. Violent and Property Crime Rates for the 100 Largest Metropolitan Areas, by City and Suburb

	Metro Area					City					Suburb			
				Change, 1990 to	% Change 1990 to				Change, 1990 to	% Change 1990 to			Change, 1990 to	% Change 1990 to
	1990	2000	2008	2008	2008	1990	2000	2008	2008	2008	2000	2008	2008	2008
Violent	**1,776**	**1,474**	**1,402**	**-374***	**-21%**	**3,008**	**2,330**	**2,129**	**-879***	**-29%**	**1,061**	**1,062**	**-86***	**-7%**
Murder	11	6	6	-5*	-46%	23	13	12	-12*	-50%	3	3	-2*	-32%
Rape	41	29	26	-16*	-38%	69	44	36	-34*	-49%	21	21	-6*	-23%
Robbery	353	183	182	-171*	-48%	773	391	362	-410*	-53%	82	97	-41*	-30%
Aggravated assault	477	340	281	-196*	-41%	833	592	465	-368*	-44%	219	195	-100*	-33%
Simple assault	894	917	908	14	2%	1309	1291	1242	-67	-5%	736	746	64*	9%
Property	**5,544**	**3,535**	**3,210**	**-2,334***	**-42%**	**8,326**	**5,357**	**4,477**	**-3,848***	**-46%**	**2,653**	**2,616**	**-1,508***	**-37%**
Burglary	1,314	683	706	-608*	-46%	1,984	1,024	1,005	-979*	-49%	517	566	-407*	-42%
Larceny	3,359	2,357	2,131	-1,227*	-37%	4,772	3,447	2,853	-1,919*	-40%	1,830	1,793	-844*	-32%
MV theft	871	495	373	-498*	-57%	1,570	887	619	-950*	-61%	306	257	-257*	-50%

Source: Author's analysis of UCR data

**Difference statistically significant at the one percent level of confidence.*

Note: All figures measure the number of criminal incidents per 100,000 residents. Averages are weighted by community-level population for each year.

Moreover, the larger absolute and percentage crime declines in primary cities occurred broadly across offense categories (Table 1). With the exception of simple assault, the 100 largest metro areas saw crime decline significantly across incident types. In each case primary city declines outpaced those in suburbs. In other words, the aggregate trends documented in Figure 1 were not driven by changes in specific offenses. Rather between 1990 and 2008 there was a broad-based decline in criminal offending that disproportionately impacted primary cities.

B. The gap between city and suburban violent crime rates declined in nearly two-thirds of metro areas.

Though average declines in city crime rates outpaced suburban decreases, the extent to which individual metro areas experienced these trends—and the related narrowing of the city/suburban crime rate differential—varied considerably.

Among individual metro areas, about half (49) experienced declines in their metro-wide violent crime rates. Within the largest metro areas, cities were more likely to see violent crime fall than suburbs; more than half of the metro areas studied (56) experienced drops in city violent crime rates, while only 39 saw suburban violent crime decline.[16] Metro areas that were home to the greatest drops in city and suburban crime between 1990 and 2008 were diverse in location and size, and several place among the top 10 for greatest declines in both city and suburban violent crime rates, including Chicago, Los Angeles, Miami, New York, and Portland, OR (Table 2).

In fact, city and suburban crime rates generally tended to follow the same trajectory over this time period. In 59 metro areas, city and suburban crime trends moved together, whether trending upward or down. Of these, 44 metro areas saw city rates drop faster (or increase less) than suburban levels. In the remaining regions, only 11 experienced declines in suburban crime while city rates grew, while more than a quarter of regions saw city crime rates fall as suburban violent crime rates increased.

Together, these trends meant that the gap between city and suburban violent crime rates narrowed in 62 of the largest metro areas. The average change in the gap between city and suburban crime rates was -474 crimes per 100,000, though metro areas that started with the largest disparities between cities and suburbs in 1990 saw that gap narrow the most.[17]

Property crime declines were more broadly shared across individual metro areas between 1990 and 2008. Rates of property crime decreased in 95 metro areas, with 95 regions experiencing a decline in

Table 2. Cities and Suburbs with Largest Declines in Violent Crime Rates, 100 Largest U.S. Metropolitan Areas, 1990 to 2008

	Primary City Violent Crime Rates per 100,000 Residents				Suburban Violent Crime Rates per 100,000 Residents		
	1990	2008	% Change		1990	2008	% Change
Chicago-Naperville-Joliet, IL-IN-WI	5,750	1,135	-80.3	Chicago-Naperville-Joliet, IL-IN-WI	1,557	269	-82.7
New York-Northern New Jersey-Long Island, NY-NJ-PA	2,489	636	-74.4	Riverside-San Bernardino-Ontario, CA	1,758	970	-44.8
Atlanta-Sandy Springs-Marietta, GA	6,975	2,920	-58.1	Poughkeepsie-Newburgh-Middletown, NY	1,161	668	-42.5
Hartford-West Hartford-East Hartford, CT	7,022	3,015	-57.1	Bakersfield, CA	1,853	1,128	-39.1
Portland-South Portland-Biddeford, ME	3,533	1,598	-54.8	Los Angeles-Long Beach-Santa Ana, CA	1,564	971	-37.9
Portland-Vancouver-Beaverton, OR-WA	3,113	1,439	-53.8	Sacramento–Arden-Arcade–Roseville, CA	1,343	855	-36.3
Miami-Fort Lauderdale-Pompano Beach, FL	4,789	2,246	-53.1	Portland-Vancouver-Beaverton, OR-WA	950	607	-36.1
Los Angeles-Long Beach-Santa Ana, CA	3,071	1,494	-51.4	Miami-Fort Lauderdale-Pompano Beach, FL	2,464	1,592	-35.4
Dallas-Fort Worth-Arlington, TX	4,535	2,460	-45.8	New York-Northern New Jersey-Long Island, NY-NJ-PA	986	644	-34.7
Seattle-Tacoma-Bellevue, WA	3,280	1,812	-44.8	San Jose-Sunnyvale-Santa Clara, CA	1,183	785	-33.6

Source: Author's analysis of UCR data

Table 3. Cities and Suburbs with Largest Declines in Property Crime Rates, 100 Largest U.S. Metropolitan Areas, 1990 to 2008

	Primary City Violent Crime Rates per 100,000 Residents				Suburban Violent Crime Rates per 100,000 Residents		
	1990	2008	% Change		1990	2008	% Change
Tucson, AZ	11,338	2,294	-79.8	Chicago-Naperville-Joliet, IL-IN-WI	4,189	1,398	-66.6
New York-Northern New Jersey-Long Island, NY-NJ-PA	7,503	1,870	-75.1	New Haven-Milford, CT	5,638	2,045	-63.7
El Paso, TX	10,281	3,277	-68.1	Boise City-Nampa, ID	4,182	1,876	-55.1
Miami-Fort Lauderdale-Pompano Beach, FL	14,448	5,379	-62.8	Bridgeport-Stamford-Norwalk, CT	3,551	1,596	-55.1
Los Angeles-Long Beach-Santa Ana, CA	6,961	2,629	-62.2	New York-Northern New Jersey-Long Island, NY-NJ-PA	3,509	1,611	-54.1
Boston-Cambridge-Quincy, MA-NH	9,466	3,660	-61.3	Indianapolis-Carmel, IN	2,792	1,348	-51.7
San Diego-Carlsbad-San Marcos, CA	8,177	3,225	-60.6	Colorado Springs, CO	3,496	1,688	-51.7
Palm Bay-Melbourne-Titusville, FL	6,022	2,382	-60.4	Los Angeles-Long Beach-Santa Ana, CA	4,869	2,452	-49.6
Bridgeport-Stamford-Norwalk, CT	8,200	3,261	-60.2	Lakeland-Winter Haven, FL	7,221	3,658	-49.3
Portland-South Portland-Biddeford, ME	10,995	4,419	-59.8	Denver-Aurora, CO	5,389	2,754	-48.9

Source: Author's analysis of UCR data

city rates and 85 seeing suburban rates fall. The regions that posted the largest decreases in city and suburban crime rates are once again diverse in their geographic location and population size, though there is only limited overlap with the regions that saw the greatest drops in violent crime, like New York and Los Angeles (Table 3).

Compared to violent crime, less overlap exists between metro areas experiencing the largest declines in city and suburban property crime, but metro areas were even more likely to see city and

suburban trends for property crime move together over this time period. In 85 metro areas, changes in property crime rates trended in the same direction between 1990 and 2008, and in all but one of these regions (Scranton) property crime declined. In two-thirds of these metro areas, cities saw property crime rates fall faster than suburban rates.

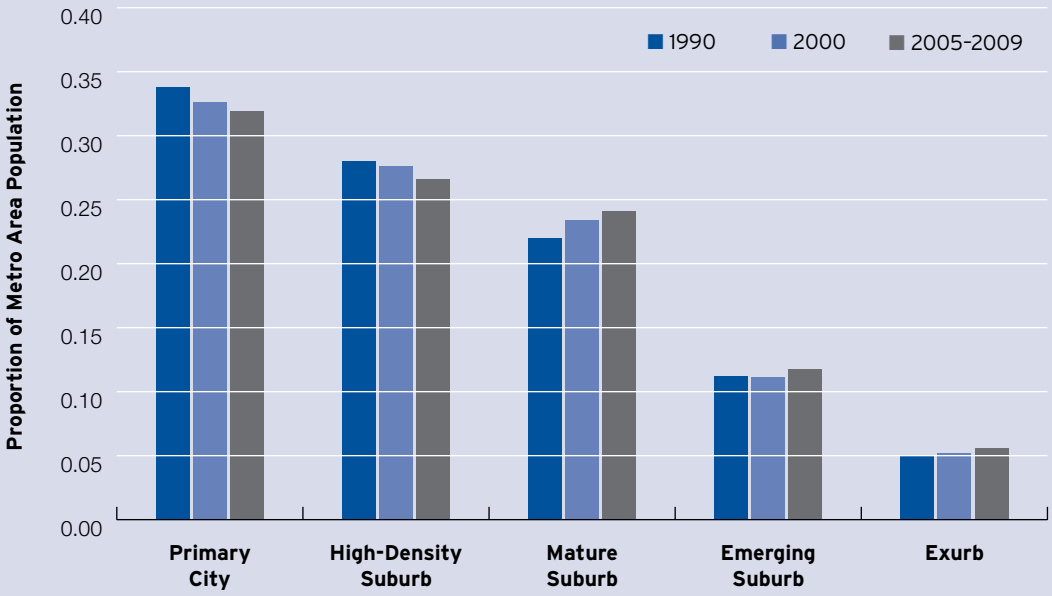
As a result of these changes, fully 90 metro areas saw the gap between city and suburban property crime rates narrow between 1990 and 2008. And given the broad-based nature of property crime declines, the average change in the disparity between city and suburban rates was more than four times greater than for violent crime (-2,075).[18]

C. Among suburban communities, older high-density suburbs registered the largest declines in crime rates.

In our tabulations so far, we have used "suburbs" to encompass all metropolitan communities that fall outside primary cities; however, a great deal of variation exists among these areas. This large category includes inner-ring suburbs proximate to primary cities (and that often have characteristics and social problems comparable to those of the central city), high-growth emerging suburbs, and exurban areas on the metropolitan area fringe with very low population density. In order to paint a more thorough portrait of crime trends within metropolitan areas, in this section we stratify suburbs into four categories based on their level of urbanization: high-density suburbs, mature suburbs, emerging suburbs, and exurbs.

To better understand the composition of these communities, we first analyze the distribution and demographic characteristics of U.S. metropolitan area residents in each category. Over the eighteen years studied, population movements continued the post-WWII trends towards greater population decentralization within metropolitan areas, with population share declining in primary cities and high-density suburbs while growing in mature suburbs and lower-density suburbs (Figure 2).[19] Moreover, as total population shifted outward in these metro areas, key demographic groups also decentralized. In 1990, 64 percent of African Americans lived in primary cities, but by 2005-2009 that figure had dropped to 51 percent. In addition, poor residents and the Hispanic population passed a notable tipping point over this time period; despite being majority urban in 1990, by 2005-2009 more than half of each population was suburban.[20]

Figure 2. Distribution of Population Across Community Types, 100 Largest U.S. Metropolitan Areas



Source: Authors' analysis of 1990 and 2000 decennial census data and 2005-2009 ACS five-year estimates

Table 4. Demographic Characteristics Within the 100 Largest Metropolitan Areas, by Community Type

	Share Black			Share Poor			Share Hispanic			Share Foreign-Born		
	1990	2008	Change	1990	2008	Change	1990	2008	Change	1990	2008	Change
Primary City	24.8	22.1	-2.7	18.1	18.3	0.2	16.4	24.9	8.4[a]	14.9	20.4	5.9[a]
High-Density Suburb	8.8	10.9	2.1[a]	8.3	10.3	1.9[a]	10.2	18.4	8.1[a]	11.9	18.4	6.5[a]
Mature Suburb	7.6	11.5	3.9[a]	7.9	9.1	1.2[a]	7.4	13.6	6.2[a]	8.1	13.3	5.1[a]
Emerging Suburb	6.7	8.3	1.6[a]	9.5	10.0	0.5[c]	6.8	12.1	5.3[a]	5.2	8.4	3.2[a]
Exurb	8.3	8.0	-0.3	14.1	13.4	-0.6[b]	6.0	11.4	5.4[a]	3.0	5.6	2.6[a]

Source: Authors' analysis of 1990 decennial census data and 2005-2009 ACS five-year estimates

Note: All averages are weighted by community population.

a. Change statistically significant at the one percent level of confidence.

b. Change statistically significant at the five percent level of confidence.

c. Change statistically significant at the 10 percent level of confidence.

With this decentralization, the demographic makeup of community types also shifted (Table 4). In general, primary cities post the highest shares for the proportion of residents that is black, poor, Hispanic, and foreign born, yet suburbs significantly diversified over this period. Between 1990 and 2005-2009, all community types showed an increase in their proportion of Hispanic and foreign-born residents. Most suburbs also saw their proportion of African Americans grow, though exurbs, along with primary cities, held statistically steady on this measure. In addition, high-density, mature, and emerging suburbs saw significant increases in their share of poor residents over this period. Exurbs were the only community type to experience a slight decrease in the proportion of poor residents, though they continued to have the highest poverty rate among suburban types in 2005-2009.

Just as demographic distributions and trends varied within the 100 largest metro areas, crime trends also played out differently across community types. Following the primary city trend, high-density suburbs saw relatively large drops in violent crime rates between 1990 and 2008. At the same time, emerging suburbs and exurban communities experienced slight increases (Figure 3A). Despite these upticks, the population distributions shown in Figure 2 suggest that the overwhelming majority of metropolitan area residents (82 percent) experienced declines in their community's violent crime rate.

Similar to the findings for violent crime rates, we generally observe lower property crime rates in areas with lower urbanization. But by 2008 the crime-community type profile had flattened considerably, driven primarily by relatively large property crime declines in central cities and high-density suburbs (Figure 3B). In contrast to the violent crime results, all areas experience pronounced decreases in property crime over the eighteen-year period, and there is little evidence of an increase in crime in the emerging suburbs and exurbs between 2000 and 2008.

How do the demographic shifts outlined above relate to the differing crime trends seen across community types? To explore the extent to which these shifts explain the crime patterns observed in Figure 3A and 3B, we use a series of linear regression models (Appendix C). The dependent variable is the change in community-level crime between 1990 and 2008, and the key explanatory variables are indicator variables for community type and community-level changes in the demographic characteristics presented in Table 4.[21]

Starting with violent crime, the baseline model confirms the statistical significance of the large average crime declines in central cities and high-density suburbs as well as the slight increases in emerging suburbs and exurbs noted above. We then add controls for the change in the proportion of residents that is black, poor, Hispanic, and foreign born. In terms of specific characteristics, we find a positive association between a change in violent crime rates and both the proportion of residents that is African-American and that is poor. In contrast, crime declines significantly with increases in the proportion that is foreign-born and Hispanic.

Figure 3A. Violent Crimes per 100,000 Residents by Community Type, 100 Largest Metropolitan Areas

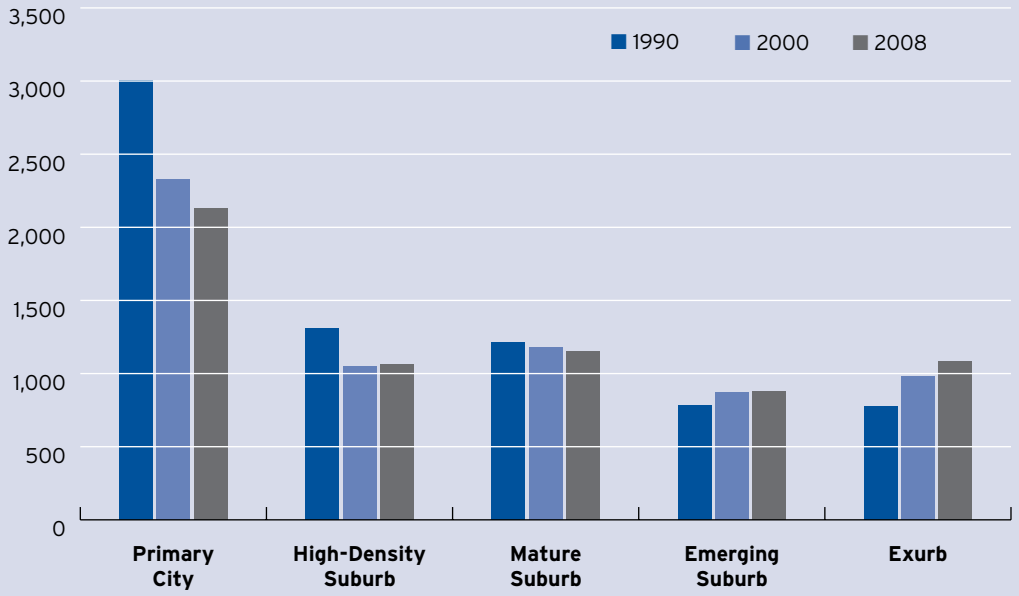


Figure 3B. Property Crimes per 100,000 Residents by City Type for Cities in the 100 Largest Metropolitan Areas

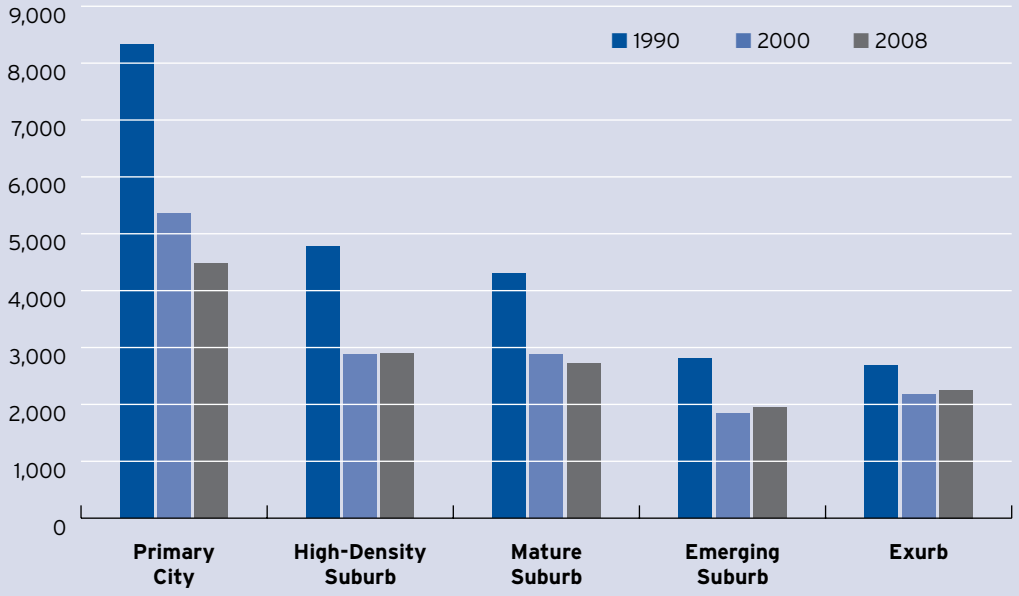
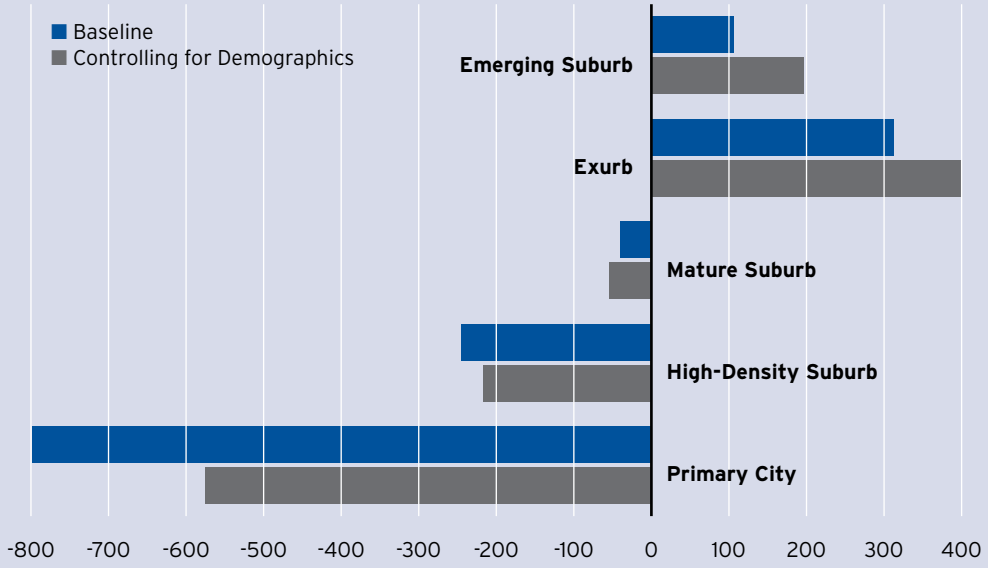
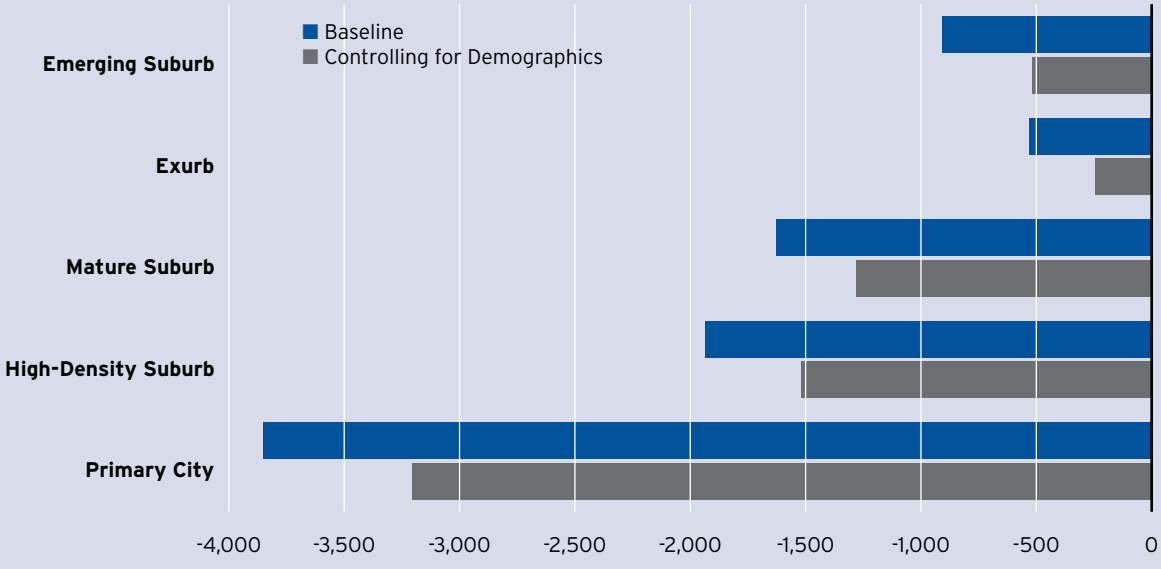


Figure 4. Estimated Change in Violent Crime by Community Type, with and without Accounting for Demographic Change



Source: Authors' analysis of UCR data, 1990 decennial census, and 2005-2009 ACS five-year estimates

Figure 5. Estimated Change in Property Crime by Community Type, with and without Accounting for Demographic Change



Source: Authors' analysis of UCR data, 1990 decennial census, and 2005-2009 ACS five-year estimates

Yet the ability of these controls to explain the observed changes in crime varies widely across community types (Figure 4). For primary cities, roughly 30 percent of the decline in violent crime can be explained by the demographic control variables.[22] However, for high-density suburbs, these controls (at least the demographics we control for in Table 4) explain only about 12 percent of the decline, and do not at all explain the changes seen in emerging suburbs and exurbs. In fact, since the estimated changes in violent crime are larger when we adjust for demographics, the regressions suggest that had the demography of these areas not changed in the manner that they had, crime would have increased by even more than it actually did.

The results for property crime are qualitatively similar to those for violent crime, although the observed changes are larger (Figure 5). The first model for property crime confirms the statistical significance of the declines seen in property crime for all community types, with the greatest decreases occurring in more urbanized communities. When we control for demographic changes, the coefficients for each community type variable become smaller, suggesting that within each community type, demographic change has served to lower crime rates.

D. As crime rates fell and communities diversified, relationships between crime and community demographic characteristics weakened significantly.

As crime rates declined between 1990 and 2008, and the gap between city and suburban rates narrowed, the results from Finding C suggest that the empirical relationships between community demographics and crime rates weakened. In this section, we directly explore that proposition.

Tables 6 and 7 present the results of a series of regressions in which we test the relationships between crime rates and specific demographic characteristics in each year. We start with a simple regression of community-level crime rates on a selected demographic characteristic (Specification (1) in the tables). By comparing the results estimated in each year, this model indicates whether the empirical relationship between crime rates and the demographic characteristic in question has

Table 6. Results from Regressing Violent Crime Rates on Various City Level Demographic Characteristics: Separate Model Estimates for 1990, 2000, and 2008

	Coefficient Estimates		
	1990	**2000**	**2008**
Proportion Black			
Specification (1)	5,619*	3,832*	3,802*
Specification (2)	6,500*	4,459*	4,285*
Proportion Poor			
Specification (1)	12,492*	9,859*	9,789*
Specification (2)	13,936*	10,662*	9,771
Proportion Hispanic			
Specification (1)	2,763*	1,189*	514*
Specification (2)	5,342*	2,904*	2,334*
Proportion Foreign-Born			
Specification (1)	3,230*	333*	-707*
Specification (2)	6,356*	2,673*	1,942*

Source: Authors' analysis of UCR, decennial census data, and 2005-2009 ACS five-year estimates

All regressions are weighted by the community-level population for the given year of the dependent variable. Specification (1) is a simple bivariate regression of the crime rate on the demographic characteristic. Specification (2) adds a dummy variable for non-incorporated areas in the balance of counties as well as 100 dummy variables for each metropolitan area.

**Coefficient statistically significant at the one percent level of confidence.*

changed. (For example, if a coefficient in 2008 is smaller than the comparable coefficient in 1990, then the association between these two variables has weakened over time.)

We then add a complete set of dummy variables for each metropolitan area, as well as a dummy variable indicating communities for which we used average county-level characteristics (Specification (2)).[23] Including the complete set of metropolitan area dummy variables ensures that coefficients are estimated using only the variation in the demographic variable and crime rates occurring across communities *within* each of the metropolitan areas.[24]

The results of the simple regression model in Table 6 shows a substantial weakening between violent crime and each demographic variable, with near total attenuation for the proportion Hispanic and an eventually negative coefficient for the proportion of foreign-born residents. The results for specification (2) suggest stronger relationships within each year and metropolitan area. However, we still observe a substantial decrease in the strength of relationships between these demographic traits and crime over time.

Property crime exhibits very similar patterns. In the first specification, the coefficient on the proportion black declines by almost half—from 10,006 in 1990 to 5,421 in 2008. We find a similar weakening of the relationship between poverty and property crime. Property crime and the proportion Hispanic are positively associated in all years, though the coefficient in 2008 is only 22 percent of the value of the comparable coefficient in 1990. Finally, by 2008 there is no measurable relationship between the property crime rate and the proportion foreign-born. Adding dummy variables for each metropolitan area and a dummy indicating a balance-of-county observation increases all estimates. However, the patterns of weakening relationships between these characteristics and crime over time still hold.

In sum, the disproportionate declines in crime in more urbanized areas coincided with disproportionate declines in crime in areas with higher shares of minority and poor residents. Consequently, such average community-level characteristics are less predictive of crime today than in years past.

Table 7. Results from Regressing Property Crime Rates on Various City Level Demographic Characteristics: Separate Model Estimates for 1990, 2000, and 2008

	Coefficient Estimates		
	1990	**2000**	**2008**
Proportion Black			
Specification (1)	10,006*	6,790*	5,421*
Specification (2)	11,077*	7,803*	6,289*
Proportion Poor			
Specification (1)	24,902*	17,657*	14,813*
Specification (2)	23,361*	17,774*	13,850*
Proportion Hispanic			
Specification (1)	6,793*	2,296*	1,469*
Specification (2)	8,853*	4,796*	3,535*
Proportion Foreign-Born			
Specification (1)	6,952*	858*	-123
Specification (2)	13,124*	5,810*	3,875*

Source: Authors' analysis of UCR, decennial census data, and 2005-2009 ACS five-year estimates

All regressions are weighted by the community-level population for the given year of the dependent variable. Specification (1) is a simple bivariate regression of the crime rate on the demographic characteristic. Specification (2) adds a dummy variable for non-incorporated areas in the balance of counties as well as 100 dummy variables for each metropolitan area.

**Coefficient statistically significant at the one percent level of confidence.*

Conclusion

U.S. metropolitan areas today are considerably safer than they were twenty years ago, and residents of these regions are less likely to be victimized by violent and property crimes of all sorts. Declining crime rates have had disproportionate impacts on urbanized, poor, and relatively minority areas where crime levels were the highest at the beginning of our study period.

The implications of these trends for the relative attractiveness of centralized urban locations are profound. Not only do cities become a more attractive residential choice; they also become more attractive locations for leisure and recreation, tourism, and other important sources of economic activity that benefit both the residents of central cities as well as the residents from all communities within a metropolitan area. One might expect such concentrated crime declines to be capitalized into central city property values, and perhaps contribute to a slowing of population decentralization (with subsequent, albeit small, implications for sprawl and metropolitan area traffic congestion).

At the same time, we find very little evidence that the decentralization of poverty and minority households has contributed to higher crime in distant suburbs. Our results clearly indicate that demographic changes in the nation's suburbs, if anything, lower crime rates all else held equal. Indeed, we document substantial property crime rate declines in all community types throughout the 100 largest metropolitan areas, though we do observe modest increases in violent crime in emerging suburbs and exurbs. While changing demographics do not explain these statistically significant, though slight, increases in violent crime, future research should explore other factors that may be contributing to these trends.

Moreover, the narrowing of the gap between city and suburban crime rates, coupled with the fact that intra-metropolitan crime trends tend to move together (whether up or down), underscore that crime is not solely an urban challenge, but a metropolitan-wide issue. Thinking about these trends from a metropolitan perspective affords opportunities for policymakers and public safety officials to learn from neighboring communities and regions about what crime-reduction policies might be effective in their region. In particular, growing and urbanizing suburbs and communities where crime reduction stalled or lost ground since the 1990s stand to benefit from lessons learned and successful policies adopted in communities that achieved significant declines in both violent and property crime over the past two decades.

Appendix A. Violent Crime per 100,000 Residents, 100 Largest Metropolitan Areas, by City and Suburb

	Violent Crime Rates in 1990			Violent Crime in 2000			Violent Crime in 2008		
	All	City	Suburb	All	City	Suburb	All	City	Suburb
Akron, OH	1,738	3,932	636	1,660	3,075	1,022	1,861	4,398	810
Albany-Schenectady-Troy, NY	950	2,957	672	1,543	4,457	1,175	1,077	3,219	824
Albuquerque, NM	2,251	3,277	358	2,318	2,999	1,202	2,141	2,556	1,443
Allentown-Bethlehem-Easton, PA-NJ	621	528	638	882	2,164	663	855	2,527	586
Atlanta-Sandy Springs-Marietta, GA	1,801	6,975	1,119	1,488	5,724	1,060	1,461	2,920	1,309
Augusta-Richmond County, GA-SC	1,104	1,189	1,041	1,991	2,558	1,632	2,353	3,681	1,609
Austin-Round Rock, TX	2,274	3,339	975	1,860	2,488	1,178	1,660	2,512	950
Bakersfield, CA	1,609	1,077	1,853	1,020	499	1,300	1,231	1,400	1,128
Baltimore-Towson, MD	2,829	5,225	1,759	2,653	5,030	1,841	1,979	3,146	1,615
Baton Rouge, LA	1,937	4,071	685	1,970	2,932	1,521	2,226	4,193	1,437
Birmingham-Hoover, AL	962	2,232	477	1,302	1,216	1,328	2,127	3,603	1,743
Boise City-Nampa, ID	1,061	1,266	929	1,389	1,587	1,259	1,100	1,247	1,027
Boston-Cambridge-Quincy, MA-NH	971	3,693	453	1,045	2,437	787	1,150	2,166	961
Bradenton-Sarasota-Venice, FL	1,951	4,121	1,738	1,828	2,578	1,759	1,796	2,825	1,710

Appendix A. Violent Crime per 100,000 Residents, 100 Largest Metropolitan Areas, by City and Suburb (continued)

	Violent Crime Rates in 1990			Violent Crime in 2000			Violent Crime in 2008		
	All	City	Suburb	All	City	Suburb	All	City	Suburb
Bridgeport-Stamford-Norwalk, CT	1,571	4,138	462	1,140	2,517	552	1,163	2,465	631
Buffalo-Niagara Falls, NY	1,398	2,882	856	1,653	3,460	1,075	1,393	3,217	837
Cape Coral-Fort Myers, FL	751	1,100	650	1,431	730	1,642	1,203	1,143	1,225
Charleston-North Charleston-Summerville, SC	2,141	1,873	2,190	3,224	2,780	3,318	2,897	2,490	2,979
Charlotte-Gastonia-Concord, NC-SC	2,476	4,283	1,340	2,160	2,839	1,562	1,997	2,577	1,520
Chattanooga, TN-GA	1,183	2,275	589	2,524	4,680	1,479	1,972	2,990	1,469
Chicago-Naperville-Joliet, IL-IN-WI	3,077	5,750	1,557	673	1,507	231	555	1,135	269
Cincinnati-Middletown, OH-KY-IN	1,384	4,530	649	1,130	3,651	652	1,409	4,159	923
Cleveland-Elyria-Mentor, OH	1,619	4,537	725	1,318	4,774	361	1,528	4,989	637
Colorado Springs, CO	734	736	729	1,040	1,198	717	875	1,077	556
Columbia, SC	2,183	4,121	1,764	2,512	3,858	2,217	2,288	2,399	2,265
Columbus, OH	1,522	2,704	575	2,116	4,044	606	2,446	4,383	1,024
Dallas-Fort Worth-Arlington, TX	2,711	4,535	1,351	2,180	3,488	1,309	1,667	2,460	1,191
Dayton, OH	1,917	6,794	599	1,396	4,767	589	1,674	4,088	1,142
Denver-Aurora, CO	1,460	1,993	1,090	862	1,211	648	955	1,236	788
Des Moines-West Des Moines, IA	1,235	2,065	516	1,311	2,029	795	1,705	3,355	773
Detroit-Warren-Livonia, MI	1,787	2,889	1,374	1,780	3,030	1,384	1,913	3,777	1,358
El Paso, TX	2,740	2,861	1,929	2,449	2,612	1,657	1,959	1,917	2,156
Fresno, CA	1,951	2,505	1,355	1,954	2,714	1,121	1,551	2,141	938
Grand Rapids-Wyoming, MI	1,889	4,096	975	2,052	3,761	1,432	1,834	3,068	1,424
Greensboro-High Point, NC	991	1,281	736	1,053	1,184	933	1,250	1,469	1,036
Greenville-Mauldin-Easley, SC	1,602	2,370	1,449	2,065	3,518	1,904	2,165	2,798	2,099
Harrisburg-Carlisle, PA	929	4,449	496	805	2,617	615	1,231	4,325	934
Hartford-West Hartford-East Hartford, CT	1,392	7,022	602	1,026	3,261	710	1,182	3,015	926
Honolulu, HI	1,237	1,237	—	1,040	1,040	—	1,282	1,282	—
Houston-Sugar Land-Baytown, TX	1,893	2,697	1,279	2,246	3,317	1,498	2,121	2,943	1,603
Indianapolis-Carmel, IN	1,102	2,277	404	1,097	1,838	300	1,673	3,058	426
Jackson, MS	1,018	1,932	300	1,546	3,418	447	1,161	2,393	574
Jacksonville, FL	2,629	3,299	1,192	2,409	2,896	1,507	2,106	2,568	1,385
Kansas City, MO-KS	2,669	5,875	1,146	1,795	3,441	1,177	1,872	3,504	1,344
Knoxville, TN	840	1,904	365	1,958	2,627	1,694	1,715	2,691	1,359
Lakeland-Winter Haven, FL	2,738	2,655	2,756	2,271	2,034	2,316	1,904	1,729	1,937
Las Vegas-Paradise, NV	1,239	1,394	474	2,035	2,088	1,855	2,377	2,711	1,502
Little Rock-North Little Rock-Conway, AR	2,090	3,722	1,294	1,948	3,414	1,322	3,211	5,265	2,415
Los Angeles-Long Beach-Santa Ana, CA	2,127	3,071	1,564	1,422	2,017	1,081	1,161	1,494	971
Louisville-Jefferson County, KY-IN	584	869	487	697	1,668	426	1,124	1,687	555
Madison, WI	973	1,442	605	688	1,137	371	697	985	500
McAllen-Edinburg-Mission, TX	1,833	2,226	1,723	1,993	2,046	1,980	1,883	1,837	1,893
Memphis, TN-MS-AR	1,409	2,071	559	2,529	3,523	1,365	4,397	6,443	2,171
Miami-Fort Lauderdale-Pompano Beach, FL	2,797	4,789	2,464	2,134	3,384	1,966	1,684	2,246	1,592
Milwaukee-Waukesha-West Allis, WI	1,698	3,345	411	1,125	2,289	356	1,295	2,709	395
Minneapolis-St. Paul-Bloomington, MN-WI	931	1,453	754	1,267	3,289	685	961	2,561	577
Modesto, CA	1,664	1,859	1,508	1,748	1,639	1,827	1,272	1,486	1,131
Nashville-Davidson–Murfreesboro–Franklin, TN	2,203	3,937	644	3,172	4,888	1,915	2,826	4,357	1,852
New Haven-Milford, CT	2,196	7,573	1,162	964	4,344	607	1,256	5,440	826
New Orleans-Metairie-Kenner, LA	1,879	2,638	1,388	1,418	1,097	1,605	1,835	2,428	1,635
New York-Northern New Jersey-Long Island, NY-NJ-PA	1,615	2,489	986	827	1,038	675	641	636	644

Appendix A. Violent Crime per 100,000 Residents, 100 Largest Metropolitan Areas, by City and Suburb (continued)

	Violent Crime Rates in 1990			Violent Crime in 2000			Violent Crime in 2008		
	All	City	Suburb	All	City	Suburb	All	City	Suburb
Ogden-Clearfield, UT	1,155	3,497	650	1,255	3,121	869	1,250	3,732	810
Oklahoma City, OK	1,555	2,414	918	1,450	2,136	952	1,522	2,298	980
Omaha-Council Bluffs, NE-IA	1,359	1,997	800	1,724	2,426	1,009	1,348	1,653	1,030
Orlando-Kissimmee, FL	1,935	3,729	1,656	2,173	4,844	1,834	1,981	3,887	1,742
Oxnard-Thousand Oaks-Ventura, CA	974	1,130	815	946	1,171	708	798	944	643
Palm Bay-Melbourne-Titusville, FL	1,486	1,383	1,504	1,748	2,464	1,608	1,916	1,557	1,998
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	1,463	2,038	1,228	1,693	3,284	1,124	1,569	3,228	1,028
Phoenix-Mesa-Scottsdale, AZ	1,841	2,173	1,289	1,493	1,673	1,236	1,276	1,464	1,063
Pittsburgh, PA	1,027	4,296	484	985	3,572	584	980	3,109	671
Portland-South Portland-Biddeford, ME	1,172	3,533	791	938	2,048	778	984	1,598	903
Portland-Vancouver-Beaverton, OR-WA	1,634	3,113	950	1,188	2,017	748	875	1,439	607
Poughkeepsie-Newburgh-Middletown, NY	1,367	5,332	1,161	952	2,799	862	794	3,618	668
Providence-New Bedford-Fall River, RI-MA	1,324	3,293	1,090	1,276	1,959	1,192	1,446	2,143	1,362
Provo-Orem, UT	463	585	406	585	908	457	550	989	402
Raleigh-Cary, NC	712	1,101	379	1,102	1,554	715	935	1,362	553
Richmond, VA	1,346	2,471	1,041	1,949	3,874	1,526	1,766	3,160	1,494
Riverside-San Bernardino-Ontario, CA	1,963	2,800	1,758	1,376	2,294	1,170	1,113	1,854	970
Rochester, NY	1,855	6,170	580	1,235	3,639	605	1,289	3,491	748
Sacramento–Arden-Arcade–Roseville, CA	1,558	2,110	1,343	1,150	1,707	943	1,124	1,734	855
Salt Lake City, UT	1,704	4,343	1,026	1,556	2,466	1,360	1,714	3,748	1,325
San Antonio, TX	1,260	1,452	881	2,014	2,326	1,385	1,979	2,160	1,610
San Diego-Carlsbad-San Marcos, CA	1,546	1,793	1,367	1,300	1,433	1,198	1,151	1,194	1,119
San Francisco-Oakland-Fremont, CA	1,943	2,808	1,493	1,356	1,762	1,154	1,354	2,086	994
San Jose-Sunnyvale-Santa Clara, CA	1,368	1,469	1,183	1,080	1,151	948	875	922	785
Scranton–Wilkes-Barre, PA	549	1,249	437	383	203	411	606	1,008	547
Seattle-Tacoma-Bellevue, WA	1,922	3,280	1,328	1,437	2,263	1,107	1,237	1,812	1,019
Springfield, MA	1,204	4,422	241	2,117	5,416	1,185	2,134	4,742	1,407
St. Louis, MO-IL	1,925	6,323	1,129	1,186	4,723	665	1,186	3,837	805
Stockton, CA	1,728	2,338	1,251	1,818	2,823	1,051	1,968	2,926	1,246
Syracuse, NY	953	1,914	646	1,286	2,998	804	1,141	3,594	558
Tampa-St. Petersburg-Clearwater, FL	2,130	3,167	1,689	2,589	3,880	2,099	1,967	2,666	1,734
Toledo, OH	3,056	5,495	672	2,796	5,545	456	2,546	4,335	952
Tucson, AZ	2,338	3,016	1,313	2,193	2,954	1,155	1,970	2,876	975
Tulsa, OK	1,487	2,208	829	1,570	2,413	859	1,688	2,593	1,026
Virginia Beach-Norfolk-Newport News, VA-NC	1,305	1,247	1,383	2,079	2,299	1,828	2,205	2,311	2,094
Washington-Arlington-Alexandria, DC-VA-MD-WV	1,516	2,661	1,213	1,403	2,094	1,251	1,215	2,104	1,030
Wichita, KS	2,907	4,222	961	2,476	3,462	986	3,070	4,196	1,353
Worcester, MA*	—	—	340	1,120	2,219	793	1,275	2,199	1,007
Youngstown-Warren-Boardman, OH-PA	938	3,496	480	771	3,559	339	1,622	4,353	1,226

**Data for the city of Worcester is missing in 1990.*

Appendix B. Property Crime per 100,000 Residents, 100 Largest Metropolitan Areas, by City and Suburb

	Property Crime Rates in 1990			Property Crime Rates in 2000			Property Crime Rates in 2008		
	All	City	Suburb	All	City	Suburb	All	City	Suburb
Akron, OH	3,589	6,952	1,901	2,310	2,524	2,214	3,057	5,410	2,082
Albany-Schenectady-Troy, NY	3,416	6,459	2,995	2,933	6,564	2,474	2,454	4,782	2,179
Albuquerque, NM	6,206	8,955	1,133	5,851	7,838	2,595	4,784	6,187	2,427
Allentown-Bethlehem-Easton, PA-NJ	2,913	5,882	2,366	2,402	4,528	2,039	2,624	5,267	2,198
Atlanta-Sandy Springs-Marietta, GA	7,145	17,207	5,819	4,189	12,299	3,370	4,001	8,356	3,546
Augusta-Richmond County, GA-SC	5,443	8,277	3,339	4,143	5,954	2,994	4,721	7,290	3,282
Austin-Round Rock, TX	7,944	11,277	3,878	4,168	5,798	2,396	3,955	6,252	2,040
Bakersfield, CA	5,387	7,132	4,588	3,166	3,905	2,767	3,735	4,985	2,964
Baltimore-Towson, MD	5,563	8,339	4,323	4,501	7,831	3,363	3,553	4,915	3,128
Baton Rouge, LA	5,909	10,975	2,936	5,783	8,899	4,326	3,868	5,746	3,115
Birmingham-Hoover, AL	4,942	9,560	3,181	3,502	7,347	2,340	4,621	8,807	3,533
Boise City-Nampa, ID	4,572	5,180	4,182	3,495	4,160	3,060	2,220	2,917	1,876
Boston-Cambridge-Quincy, MA-NH	3,689	9,466	2,590	2,298	4,971	1,803	2,159	3,660	1,881
Bradenton-Sarasota-Venice, FL	6,524	9,132	6,268	4,003	5,941	3,825	4,261	4,453	4,245
Bridgeport-Stamford-Norwalk, CT	4,954	8,200	3,551	2,559	3,778	2,037	2,079	3,261	1,596
Buffalo-Niagara Falls, NY	4,351	7,613	3,159	2,865	6,056	1,844	2,990	5,961	2,084
Cape Coral-Fort Myers, FL	4,362	4,794	4,237	4,249	3,341	4,523	3,509	3,097	3,662
Charleston-North Charleston-Summerville, SC	5,965	7,071	5,760	5,189	6,735	4,861	4,060	4,729	3,925
Charlotte-Gastonia-Concord, NC-SC	7,083	10,371	5,015	4,957	6,703	3,420	4,620	6,231	3,293
Chattanooga, TN-GA	5,450	10,502	2,698	5,162	9,970	2,833	4,390	7,647	2,782
Chicago-Naperville-Joliet, IL-IN-WI	5,611	8,112	4,189	2,196	5,379	508	2,413	4,477	1,398
Cincinnati-Middletown, OH-KY-IN	3,707	6,606	3,029	2,702	6,065	2,065	2,939	6,295	2,346
Cleveland-Elyria-Mentor, OH	3,580	7,359	2,422	2,162	5,610	1,208	2,280	5,854	1,361
Colorado Springs, CO	5,724	7,062	2,792	3,668	4,545	1,875	3,134	4,268	1,348
Columbia, SC	5,371	11,589	4,027	4,264	8,292	3,379	3,977	5,986	3,558
Columbus, OH	5,594	9,114	2,772	4,916	8,320	2,250	4,239	6,777	2,376
Dallas-Fort Worth-Arlington, TX	8,960	12,836	6,069	4,957	7,226	3,446	4,235	5,889	3,242
Dayton, OH	4,771	9,992	3,361	3,888	8,844	2,702	3,211	6,280	2,535
Denver-Aurora, CO	6,153	7,252	5,389	3,681	4,796	2,999	3,036	3,513	2,754
Des Moines-West Des Moines, IA	5,814	8,432	3,547	4,299	6,529	2,695	3,093	5,110	1,953
Detroit-Warren-Livonia, MI	5,779	9,005	4,571	3,767	7,082	2,716	3,151	5,594	2,423
El Paso, TX	9,360	10,281	3,138	4,874	5,428	2,182	3,110	3,277	2,320
Fresno, CA	7,058	9,465	4,469	5,158	6,875	3,279	3,990	4,724	3,227
Grand Rapids-Wyoming, MI	4,581	7,072	3,550	3,415	5,518	2,652	2,936	4,866	2,295
Greensboro-High Point, NC	5,032	7,452	2,904	4,736	6,304	3,296	4,661	6,341	3,019
Greenville-Mauldin-Easley, SC	4,586	7,052	4,096	3,861	8,505	3,347	3,775	6,482	3,492
Harrisburg-Carlisle, PA	3,172	8,057	2,570	2,191	4,458	1,953	2,198	5,658	1,866
Hartford-West Hartford-East Hartford, CT	4,271	12,467	3,121	3,384	8,024	2,728	2,826	5,117	2,507
Honolulu, HI	5,814	5,814	—	5,062	5,062	—	3,506	3,506	—
Houston-Sugar Land-Baytown, TX	7,245	10,081	5,078	4,258	5,826	3,165	3,842	5,105	3,048
Indianapolis-Carmel, IN	4,277	5,594	3,496	2,712	3,900	1,433	3,795	6,134	1,688
Jackson, MS	5,389	10,100	1,688	4,531	9,910	1,373	3,466	7,674	1,463
Jacksonville, FL	7,176	8,648	4,018	4,883	5,844	3,102	4,652	5,761	2,921
Kansas City, MO-KS	6,319	12,188	3,530	4,241	8,545	2,627	3,953	7,659	2,754
Knoxville, TN	3,837	7,238	2,318	3,526	5,466	2,764	3,744	6,776	2,640
Lakeland-Winter Haven, FL	7,844	10,800	7,221	5,196	7,086	4,832	3,972	5,664	3,658
Las Vegas-Paradise, NV	5,712	6,442	2,120	3,824	3,903	3,557	3,611	3,972	2,665

Appendix B. Property Crime per 100,000 Residents, 100 Largest Metropolitan Areas, by City and Suburb (continued)

	Property Crime Rates in 1990			Property Crime Rates in 2000			Property Crime Rates in 2008		
	All	City	Suburb	All	City	Suburb	All	City	Suburb
Little Rock-North Little Rock-Conway, AR	7,346	12,954	4,613	5,421	8,729	4,011	5,367	8,233	4,257
Los Angeles-Long Beach-Santa Ana, CA	5,650	6,961	4,869	2,872	3,470	2,531	2,516	2,629	2,452
Louisville-Jefferson County, KY-IN	3,885	5,730	3,259	2,312	5,082	1,538	3,475	4,727	2,212
Madison, WI	4,589	6,915	2,763	2,732	3,787	1,989	2,774	3,785	2,084
McAllen-Edinburg-Mission, TX	6,097	9,814	5,055	5,191	7,848	4,580	4,632	6,056	4,321
Memphis, TN-MS-AR	5,607	8,420	1,993	5,517	7,773	2,875	5,705	8,055	3,148
Miami-Fort Lauderdale-Pompano Beach, FL	9,427	14,448	8,589	5,759	7,976	5,461	4,672	5,379	4,558
Milwaukee-Waukesha-West Allis, WI	5,503	8,363	3,268	3,953	6,473	2,288	3,835	6,134	2,373
Minneapolis-St. Paul-Bloomington, MN-WI	3,793	3,721	3,817	3,631	6,006	2,948	3,081	5,047	2,609
Modesto, CA	5,732	5,962	5,548	4,643	5,134	4,283	4,483	5,285	3,953
Nashville-Davidson–Murfreesboro–Franklin, TN	4,190	6,500	2,115	4,813	7,352	2,953	3,585	5,489	2,374
New Haven-Milford, CT	7,021	14,214	5,638	2,791	7,055	2,340	2,492	6,843	2,045
New Orleans-Metairie-Kenner, LA	7,347	10,177	5,515	4,845	6,035	4,152	3,953	5,404	3,465
New York-Northern New Jersey-Long Island, NY-NJ-PA	5,181	7,503	3,509	2,047	2,768	1,528	1,720	1,870	1,611
Ogden-Clearfield, UT	4,308	8,777	3,345	3,431	6,730	2,748	2,640	5,135	2,198
Oklahoma City, OK	7,334	10,724	4,818	6,006	10,201	2,965	4,609	7,108	2,866
Omaha-Council Bluffs, NE-IA	4,414	6,115	2,921	4,533	6,065	2,974	3,415	4,298	2,497
Orlando-Kissimmee, FL	6,957	12,065	6,163	5,032	10,071	4,392	4,466	8,810	3,921
Oxnard-Thousand Oaks-Ventura, CA	3,496	4,302	2,673	2,047	2,462	1,606	1,994	2,260	1,708
Palm Bay-Melbourne-Titusville, FL	6,437	6,022	6,512	2,960	4,115	2,734	3,400	2,382	3,632
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	4,064	5,843	3,335	3,168	4,955	2,530	2,944	4,342	2,489
Phoenix-Mesa-Scottsdale, AZ	7,743	8,652	6,234	5,596	6,238	4,675	4,247	4,739	3,688
Pittsburgh, PA	2,583	7,433	1,776	1,882	4,891	1,415	1,990	4,200	1,669
Portland-South Portland-Biddeford, ME	4,528	10,995	3,484	2,506	4,139	2,270	2,330	4,419	2,053
Portland-Vancouver-Beaverton, OR-WA	5,381	8,988	3,715	4,478	6,321	3,498	3,207	4,978	2,365
Poughkeepsie-Newburgh-Middletown, NY	2,980	6,892	2,777	1,987	3,867	1,897	1,973	3,790	1,892
Providence-New Bedford-Fall River, RI-MA	4,606	10,383	3,920	2,917	6,903	2,428	2,764	5,471	2,439
Provo-Orem, UT	3,876	4,350	3,652	3,287	3,998	3,007	2,470	2,816	2,353
Raleigh-Cary, NC	4,354	5,970	2,974	4,049	5,485	2,821	2,620	3,125	2,166
Richmond, VA	4,980	10,349	3,525	3,834	7,886	2,942	2,838	4,561	2,503
Riverside-San Bernardino-Ontario, CA	5,675	7,064	5,334	3,287	4,559	3,001	3,067	3,989	2,891
Rochester, NY	4,573	9,802	3,027	3,371	7,106	2,391	2,633	5,420	1,948
Sacramento–Arden-Arcade–Roseville, CA	5,904	7,992	5,094	3,775	5,713	3,056	3,339	4,660	2,758
Salt Lake City, UT	7,177	12,190	5,889	4,685	9,094	3,735	4,491	9,447	3,543
San Antonio, TX	9,358	11,888	4,379	5,625	6,947	2,958	5,953	7,307	3,197
San Diego-Carlsbad-San Marcos, CA	5,961	8,177	4,352	2,867	3,246	2,575	2,829	3,225	2,534
San Francisco-Oakland-Fremont, CA	5,893	7,831	4,884	3,566	4,461	3,119	3,606	4,532	3,152
San Jose-Sunnyvale-Santa Clara, CA	4,145	4,294	3,872	2,209	2,079	2,452	2,420	2,386	2,485
Scranton–Wilkes-Barre, PA	1,683	3,110	1,455	997	602	1,056	2,200	3,639	1,989
Seattle-Tacoma-Bellevue, WA	6,405	10,458	4,631	5,030	7,301	4,120	4,149	5,865	3,496
Springfield, MA	2,957	7,157	1,701	3,214	6,495	2,287	2,808	4,900	2,224
St. Louis, MO-IL	4,593	11,291	3,381	3,388	12,433	2,056	3,064	8,621	2,265
Stockton, CA	7,500	10,258	5,342	4,444	5,861	3,365	4,923	6,307	3,880
Syracuse, NY	3,701	6,261	2,883	2,553	5,165	1,817	2,129	4,557	1,551
Tampa-St. Petersburg-Clearwater, FL	6,847	11,483	4,876	4,940	7,448	3,988	4,100	5,271	3,709
Toledo, OH	6,005	8,620	3,449	4,312	7,067	1,968	4,029	5,882	2,377
Tucson, AZ	8,650	11,338	4,589	6,339	8,503	3,388	2,703	2,294	3,153

Appendix B. Property Crime per 100,000 Residents, 100 Largest Metropolitan Areas, by City and Suburb (continued)

	Property Crime Rates in 1990			Property Crime Rates in 2000			Property Crime Rates in 2008		
	All	City	Suburb	All	City	Suburb	All	City	Suburb
Tulsa, OK	5,732	8,342	3,352	4,010	5,815	2,489	3,735	6,054	2,039
Virginia Beach-Norfolk-Newport News, VA-NC	5,896	6,693	4,845	4,046	4,792	3,196	3,470	3,855	3,069
Washington-Arlington-Alexandria, DC-VA-MD-WV	4,635	7,589	3,853	3,051	4,526	2,726	2,917	4,091	2,673
Wichita, KS	6,060	8,282	2,773	4,242	5,754	1,957	4,278	5,576	2,298
Worcester, MA*	—	—	1,529	2,269	4,353	1,649	2,045	3,618	1,590
Youngstown-Warren-Boardman, OH-PA	2,714	6,887	1,966	1,731	6,676	965	3,219	5,757	2,851

**Data for the city of Worcester is missing in 1990.*

Appendix C. Ordinary Least Squared Regression of the Community-Level Changes in Crime Rates Between 1990 and 2008 on Community Type and Demographic Change

	Dependent Variable = Change in Violent Crime		Dependent Variable = Change in Property Crime	
	(1)	(2)	(3)	(4)
City	-799[a]	-575[a]	-3,850[a]	-3,205[a]
	(28)	(35)	(51)	(64)
High density suburb	-246[a]	-217[a]	-1,934[a]	-1,520[a]
	(31)	(38)	(56)	(72)
Mature suburb	-40	-54	-1,626[a]	-1,279[a]
	(33)	(41)	(60)	(76)
Emerging suburb	107[b]	196[a]	-910[a]	-519[a]
	(47)	(52)	(86)	(96)
Exurb	313[a]	399[a]	-530[a]	-246[c]
	(70)	(69)	(128)	(127)
←, proportion black	-	5,068[a]	-	4,424[a]
		(312)		(577)
←, proportion poor	-	1,086[a]	-	6,510[a]
		(603)		(1114)
←, proportion foreign-born	-	-948[b]	-	-3,604[a]
		(431)		(797)
←, proportion Hispanic	-	-1,873[a]	-	-5,742[a]
		(308)		(568)
R^2	0.146	0.223	0.591	0.623
N	5,383	5,251	5,383	5,251

Source: Authors' analysis of UCR, decennial census data, and 2005-2009 ACS five-year estimates

All regressions omit a constant term. Hence, the coefficients on the community type indicator variables provide the average change for each type.

All regressions are weighted by the average of the 1990 and 2005-2009 community-level population. The difference in the number of observations between the regressions with and without the demographic controls is driven by missing values for 132 observations for the proportion poor either in 1990 or 2005-2009.

a. Change statistically significant at the one percent level of confidence.

b. Change statistically significant at the five percent level of confidence.

c. Change statistically significant at the 10 percent level of confidence.

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Endnotes

1. See the Senate testimony of Jens Ludwig, September 19, 2006 and reference cited therein. Testimony transcript at http://judiciary.senate.gov/hearings/testimony.cfm?id=2068&wit_id=5749, accessed on April 11, 2011.

2. Figures from Bureau of Justice Statistics, http://bjs.ojp.usdoj.gov/index.cfm?ty=tp&tid=5, accessed on September 8, 2010.

3. Ludwig (see note 1) estimates the total costs of crime to be slightly over $2 trillion per year in 2006.

4. See Steven Raphael and Melissa Sills, "Urban Crime in the United States," in Richard Arnott and Dan McMillen, eds, *A Companion to Urban Economics* (Boston: Blackwell Publishing, 2005), and Steven Raphael and Michael Stoll, *Do Prisons Make Us Safer? The Benefits and Costs of the Prison Boom* (New York: Russell Sage Foundation, 2009).

5. These figures come from various years of the National Criminal Victimization Survey (NCVS), accessed on April 11, 2011 at the Bureau of Justice Statistics webpage http://bjs.ojp.usdoj.gov/. Here we report figures from the National Criminal Victimization Survey since this national level data does not suffer from under-reporting of criminal incidents to the police (as it is a survey of victims/potential victims). Throughout our analysis we employ data from the Federal Bureau of Investigation's Uniform Crime Reports, a data series that is based on crimes reported to the authorities. While victimization surveys provide rate estimates that are not biased by under-reporting, the NCVS does not permit sub-national geographical analysis.

6. See e.g., *The Crime Drop in America*, 2nd edition, Alfred Blumstein and Joel Wallman, eds. (Cambridge: Cambridge University Press, 2006); Steven Levitt, "Understanding Why Crime Fell in the 1990s: Four Factors that Explain the Decline and Six that Do Not" *Journal of Economic Perspectives* 18(1) (2004): 163-190.

7. Metropolitan Policy Program at Brookings, "State of Metropolitan America: On the Front Lines of Demographic Transformation" (Washington: 2010).

8. See Rennison (2002) for a detailed discussion of these definitions.

9. For example, many universities have their own police departments. Hence, a city that has within its boundaries a single university with its own department will have two reporting units: one for the city's police department and one for the university police department.

10. 28 states, mostly on the east coast, use the MCD system, while CCSD's are found mostly on the west coast.

11. For all three geography types, we use the 2005 Law Enforcement Agency Identifier Crosswalk to mach each police agency in the UCR data to Census Bureau data.

12. The Census Bureau defines "urbanized area" as an area with a population density of at least 1,000 people per square mile of land that has a minimum residential population of 50,000 people.

13. Post-Census 2000, five-year estimates from the ACS represent the only demographic data source with sample sizes sufficient to produce estimates for geographies with populations under 20,000.

14. In the model estimates presented below, we explored the sensitivity of our results to this particular imputation for balance-of-county observations. First, we reran all models omitting these observations. Second, we reran all models including a dummy variable indicating counties with such an imputation. All of the results are robust to these specification changes.

15. Average crime rates in Figures 1 and 2 are weighted by population to take into account differences in size across geographic units. For example, more weight is placed on New York City than Long Beach in tabulating the average primary city crime rate. Appendix A and B present violent and property crime rates overall and for primary cities and suburbs in 1990 and 2008 for each of the metropolitan areas analyzed in this study.

16. Worcester and Honolulu are not included in these summary counts because the city of Worcester did not report crime data in 1990, and Honolulu does not have separate suburban data in any year.

17. This change is statistically significant at the five percent level of confidence.

18. This change is statistically significant at the one percent level of confidence.

19. Of course, these changing distributions can be driven either by decentralization of the existing population or differential population growth rates, with higher growth in the more distant suburban cities.

20. Authors' analysis of 1990 decennial census data and 2005-2009 American Community Survey.

21. Specifically, for violent crime rates (models (1) and (2)) and property crime rates (models (3) and (4)) we first estimate models where the specification only includes the community type indicators. This baseline regression serves to document the average change in crime rates in communities of each type (and also provides a test for the statistical significance of these changes). We then add the changes in demographic variables to the specification.

22. The coefficient on the primary city declined from -799 to -575 after the controls were added.

23. Recall, for areas that do not match to either a FIPS place code or a census county subdivision code, we assign the average value for each demographic characteristic for the entire county.

24. The indicator for non-place, non-MCD suburbs ensures that the estimation results are not being driven by our imputation of region-level values from the county average. All regressions are weighted by community-level population.

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