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TWENTY
YEARS

CRIME IN 2015:
A PRELIMINARY ANALYSIS

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INTRODUCTION

Major media outlets have reported that murder has surged in some of the nation's largest cities.¹ These stories have been based on a patchwork of data, typically from a very small sample of cities. Without geographically complete and historically comparable data, it is difficult to discern whether the increases these articles report are purely local anomalies, or are instead part of a larger national trend.

This report provides a preliminary in-depth look at current national crime rates. It provides data on crime and murder for the 30 largest U.S. cities by population in 2015 and compares that to historical data. This analysis relies on data collected from the Federal Bureau of Investigation and local police departments. The authors were able to obtain preliminary 2015 murder statistics from 25 police departments in the nation's 30 largest cities and broader crime data from 19 of the 30. The data covers the period from January 1 to October 1, 2015. As this report relies on initial data and projects crime data for the remainder of the year, its findings should be treated as preliminary as they may change when final figures are available.^a

This report's principal findings, based on the data presented in Table 1, are:

- **Murder in 2015:** The 2015 murder rate is projected to be 11 percent higher than last year in the majority of cities studied. Overall, 11 cities experienced decreases in murder, while 14 experienced increases. Yet, this increase is not as startling as it may first seem. Because the underlying rate of murders is already so low, a relatively small increase in the numbers can result in a large percentage increase. Even with the 2015 increase, murder rates are roughly the same as they were in 2012, and 11 percent higher than they were in 2013. It should also be noted that murder rates vary widely from year to year. One year's increase does not necessarily portend a coming wave of violent crime.
- **Crime Overall in 2015:** Crime overall in 2015 is expected to be largely unchanged from last year, decreasing 1.5 percent. This report defines overall crime as murder and non-negligent manslaughter, aggravated assault, robbery, burglary, larceny, and motor vehicle theft. The increase in the murder rate is insufficient to drive up the crime rate, and using murder as a proxy for crime overall is mistaken. It is important to remember just how much crime has fallen in the last 25 years. The crime rate is now half of what it was in 1990, and almost a quarter (22 percent) less than it was at the turn of the century.

a Please see the Methodology section for a full explanation of this report's analysis and data sources.

Table 1: Murder and Crime in 30 Largest Cities (2014-2015)

City	2014 Total Murders	2015 Projected Total Murders	Projected Percent Change in Murders	Projected 2015 Murder Rate	2014 Crime Rate per 100,000	2015 Projected Crime Rate per 100,00	Percent Change in Crime Rate
New York, N.Y. ²	333	357	7.2%	4.2	2,113	2,079	-1.6%
Los Angeles, Calif. ³	260	288	10.8%	7.3	2,440	2,606	6.8%
Chicago, Ill. ⁴	411	496	20.7%	18.2	3,983	3,682	-7.6%
Houston, Tex. ⁵	242	301	24.4%	13.4	5,601	6,099	8.9%
Philadelphia, Pa. ⁶	248	243	-2.0%	15.6	4,051	3,933	-2.9%
Phoenix, Ariz. ⁷	114	112	-1.8%	7.3	4,211	4,016	-4.6%
San Antonio, Tex. ⁸	103	101	-1.9%	7.1	5,848	6,347	8.5%
San Diego, Calif. ⁹	32	30	-6.3%	2.2	2,492	2,885	15.7%
Dallas, Tex. ¹⁰	116	138	19.0%	10.8	4,164	4,091	-1.8%
San Jose, Calif. ¹¹	32	28	-12.5%	2.8	2,709	2,910	7.4%
Austin, Tex. ¹²	32	54	68.8%	5.9	4,432	4,132	-6.8%
Jacksonville, Fla. ¹³	96	106	10.4%	12.5	Unavailable	Unavailable	Unavailable
San Francisco, Calif.	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable
Indianapolis, Ind.	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable
Columbus, Ohio	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable
Fort Worth, Tex. ¹⁴	55	52	-5.5%	6.4	4,731	4,456	-5.8%
Charlotte, N.C. ¹⁵	47	66	40.4%	8.1	4,369	4,652	6.5%
Detroit, Mich. ¹⁶	314	294	-6.4%	41.6	Unavailable	Unavailable	Unavailable
El Paso, Tex.	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable
Seattle, Wash. ¹⁷	26	28	7.7%	4.1	6,627	5,862	-11.5%
Denver, Colo. ¹⁸	31	54	75.0%	8.2	3,695	3,869	4.7%
Memphis, Tenn. ¹⁹	129	124	-3.9%	17.8	Unavailable	Unavailable	Unavailable
Washington, D.C. ²⁰	105	156	48.6%	23.1	Unavailable	Unavailable	Unavailable
Boston, Mass. ²¹	53	36	-32.1%	5.5	3,302	2,916	-11.7%
Nashville, Tenn.	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable
Baltimore, Md. ²²	211	320	51.7%	51.4	5,962	6,181	3.7%
Oklahoma City, Okla. ²³	45	66	46.7%	10.8	5,094	4,592	-9.9%
Portland, Ore. ²⁴	26	20	-22.1%	3.1	5,227	3,941	-24.6%
Las Vegas, Nev. ²⁵	122	109	-10.7%	7.4	Unavailable	Unavailable	Unavailable
Louisville, Ky. ²⁶	56	70	25.0%	10.3	Unavailable	Unavailable	Unavailable

Source: Police department and city reports (see footnotes for each city). This report relies only on original government sources. Cities are ordered by population size.

I. MURDER IN 2015

A. Annual Murder Rates

Murder rates have dropped significantly over time. To understand the significance of recent increases in murder rates, it is important to have a clear historical context.

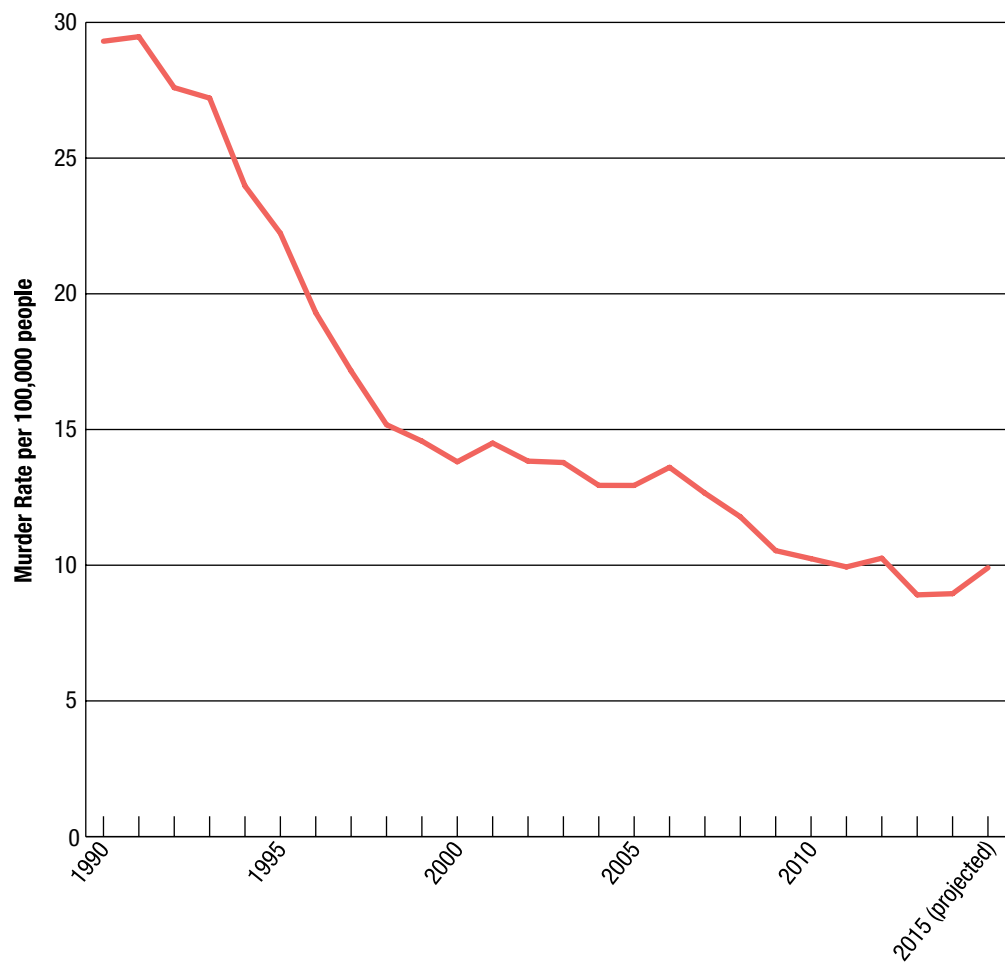
In order to appropriately measure murder in 2014 against murder in 2015, the authors gathered data from January 1, 2015 through October 1, 2015, and then used that data to project murder counts through the end of the year. The projections offered here are tentative estimates based on the recent history of each city's pattern of criminal activity. This method provides an approximation for statistical comparison against prior years — allowing readers to more accurately gauge the historical significance of current crime rates.

Figure 1 shows an average increase in murder in large urban cities of about 11 percent in 2015 compared to 2014. This puts murder rates for 2015 on par with rates in 2012. It is 11 percent higher than 2013. Overall, 11 cities experienced decreases in murder, while 14 experienced increases.

Today's murder rates are still at all-time historic lows. In 1990 there were 29.3 murders per 100,000 residents in these cities. In 2000, there were 13.8 murders per 100,000. Now, there are 9.9 murders per 100,000 residents. Averaged across the cities, we find that while Americans in urban areas have experienced more murders this year than last year, they are safer than they were five years ago and much safer than they were 25 years ago.

Notably, in absolute terms, murder rates are so low in many cities now that even an increase or decrease of just a few occurrences can cause a large change in percentage terms. For example, Table 1 shows that Charlotte is projected to have a 40 percent increase in murders from 2014 to 2015, with the number of murders climbing from 47 to 66. This represents an 8 percent increase in murders at the time the data was reported. Similarly, Austin saw a 69 percent increase in murders from 2014 to 2015, which represents 26 additional murders this year because of Austin's very low murder rate. While even these few additional murders should be taken very seriously, these statistics show how measuring change in percentage terms can be misleading.

Figure 1: Murder Rate per 100,000 People for 25 of 30 Largest Cities (1990-2015)

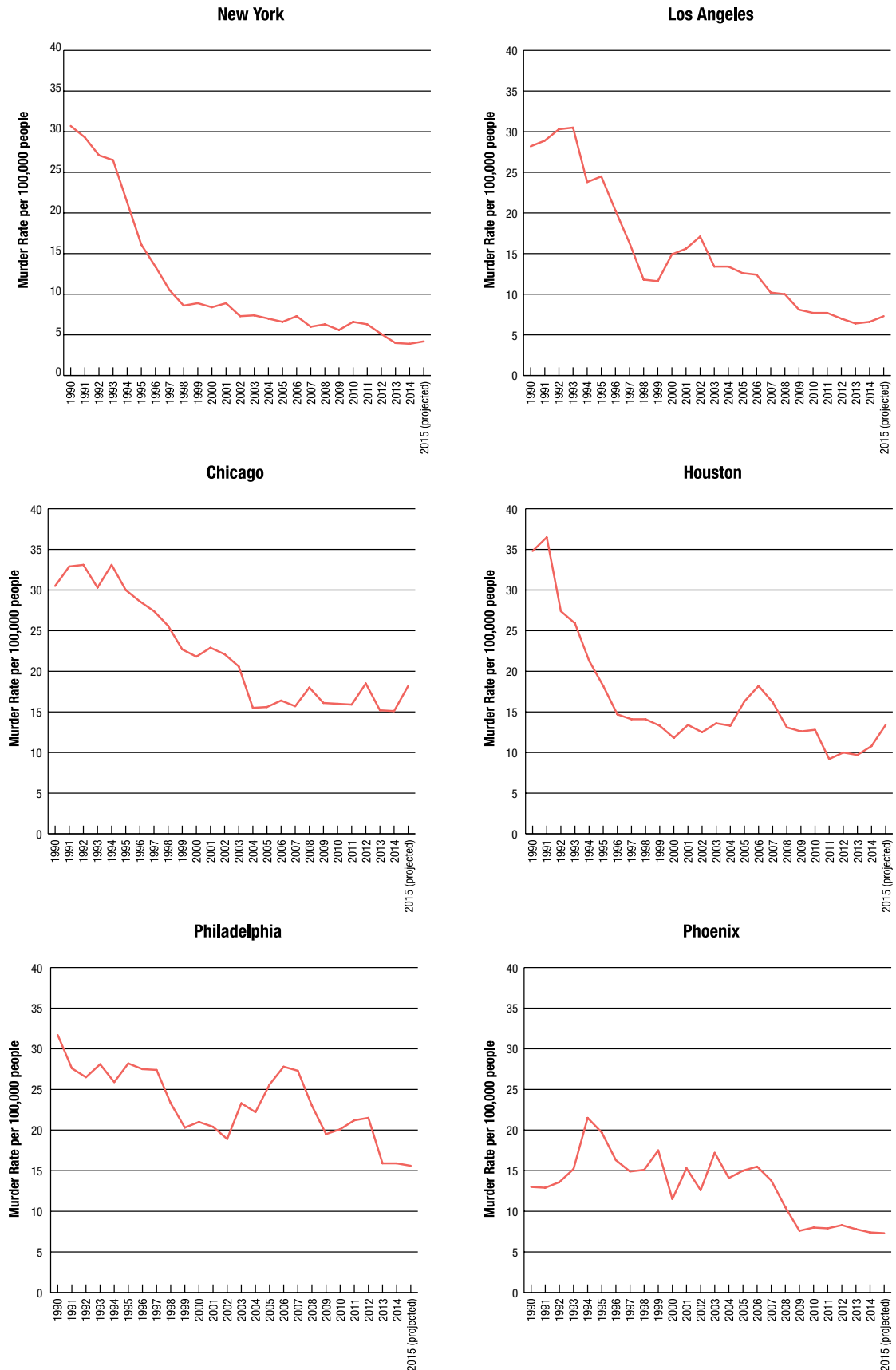


Source: FBI Uniform Crime Reports (1990-2014), Police and City Reports and Brennan Center Projection (2015).

Figure 2 shows murder rates for the six largest cities. These graphs indicate that current rates are similar to previous years:

- New York City's 2015 murder rate is on pace to increase 8 percent from 2014. This amounts to 28 more murders (a rise from 333 to 357). The murder rate is 0.3 murders per 100,000 greater than it was last year, an extremely small increase — meaning that 2015 and 2014 are more or less comparable. The number of murders in New York this year is markedly less than 1990's total (2,245 murders), about half of 2000's total (673), and 43 percent less than 2010 (536).
- Los Angeles is projected to end the year with an 11 percent increase in the murder rate from last year. 2012 was the last year to have more murders than 2015 will. Still, murder is down almost 50 percent since 2000.
- Chicago's murder rate is projected to increase 20 percent this year when compared to 2014. Chicago's 2015 murder rate is similar to 2012.
- Houston is projected to have a 24 percent increase from last year in murders. The most recent year with more murders was 2007. While Houston saw its murder numbers fall in the 1990s it has not followed the national trend of lower murder numbers since 2000.
- Philadelphia's murder rate is projected to remain largely unchanged, with a 2 percent decrease in 2015 from 2014. Yet the city has made remarkable progress. The murder rate is down 29 percent in the last five years.
- Phoenix has experienced the same year-to-date murders as last year, and its murder rate for 2015 is expected to be unchanged from 2014. Its murder rate is down almost 35 percent since 2000 and 3 percent since 2010.

Figure 2: Murder Rates in Major Cities (1990-2015)



Source: FBI Uniform Crime Reports (1990-2014), Police and City Reports and Brennan Center Projection (2015).

B. Month-to-Month Trends

Although monthly changes in the murder rate tend to attract notice from the press, the reality is that short-term fluctuations in the murder rate are common and not very predictive of long term trends.

Figure 3 shows month-to-month murder totals in six sample cities in four sample years (2000, 2010, 2014, and 2015). As the graphs indicate, there is great variation in the murder rate when measured over short time periods.

These fluctuations are caused by a variety of factors. For instance, summer months, on average, tend to have slightly higher crime and murder rates than colder winter months. The theory is that people tend to spend more time outside during warmer months, increasing their opportunity to commit crime. But even this phenomenon varies and is more profound in some years than others. Not surprisingly, geography also counts. The weather effect on crime in Chicago is greater than it is Phoenix or San Diego.

This month-to-month variation can cloud perceptions of crime. Houston is a good example of the danger of drawing conclusions from monthly data. In 2014, for instance murder fell in April but increased in May. This year, the opposite happened: Murder increased in April but fell in May. Comparing Houston's murder totals from April 2014 with totals in April 2015 would show a smaller murder increase than comparing May 2014 to May 2015. And if one advanced the calendar a month, and looked at the number of murders in June 2014 compared to June 2015, it would show almost no increase at all.

In short, one cannot rely on monthly numbers to push forward an argument about local — or even national — crime trends.

Figure 3: Murders in Major Cities by Month (2000, 2010, 2014, 2015)



Source: CompStat and City Reports for 2000 and 2010. Police Department Reports for 2015 and 2014.

Note: Monthly data for 2010 in New York City was not available.²⁷

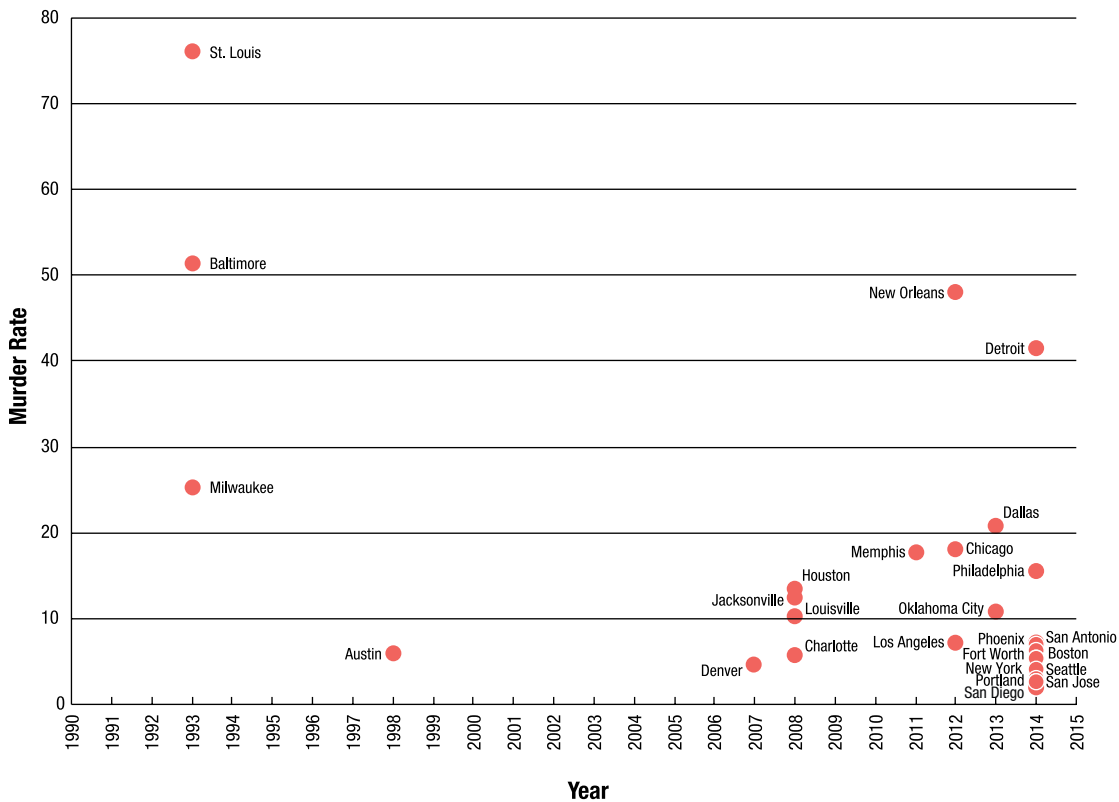
C. Historical Significance

How significant are these murder increases? Should the country worry about a reversion to the violence of the 1980s and 1990s?

The short answer is that it is impossible to tell if these partial year increases, even when projected to annual rates, signify the beginning of a long-term trend. Yet, some perspective can be gained if today's murder rate is looked at in the context of historical murder rates over the last few decades. It is also important to look at trends in individual cities.

Figure 4 plots the 30 largest cities' 2015 projected murder rates (for which data was available) against the most recent year when that city had a similar murder rate.²⁸ The graph also includes St. Louis, Milwaukee, and New Orleans given the recent media attention to murder rates in those cities.

Figure 4: Murder Rates in 2015 and Their Last Comparable Year



Source: FBI Uniform Crime Reports (1990-2014), Police and City Reports and Brennan Center Projection (2015).

Some observations from Figure 4:

- Even for those cities with increases, murder rates are still comparable to those from a year or two ago. Nine of the 25 cities have lower murder rates or rates largely unchanged from 2014. Sixteen of the 25 cities have rates comparable or below the murder rates of 2012.
- Many cities with major percent increases have relatively low overall murder rates. For example, Denver and Charlotte saw increases in their murder rates of at least 35 percent, but both have murder rates below 10 people per 100,000. Similarly Austin had a 68 percent increase, but its 2014 murder rate was only 3.5 per 100,000.
- There is no question a few cities have seen troubling increases in murders. Murder rates in Baltimore are now at 1990s levels. And in Milwaukee and St. Louis — where murder rates were already relatively high — murder rates have risen sharply, and are now near 1993 levels. Rather than a national pandemic, it appears that the increases in murder rates are localized, suggesting that community conditions are a major factor.

Why Is Murder up in Some Cities?

Several of the cities in Figure 4 have unusually high murder rates compared to other cities. In particular, five cities have murder rates nine times the national average or have increased rates of 10 murders per 100,000 people. Do they share any other factors in common? It turns out that these cities all have similar economic profiles.

Table 2: Characteristics of Cities with High Murder Rates

	Nat'l Avg	Average of All Other Cities	Baltimore	Detroit	Milwaukee	New Orleans	St. Louis
Med. Household Income (2013) ²⁹	\$53,657	\$51,894	\$42,665	\$25,769	\$35,049	\$35,504	\$35,959
Poverty Rate (2013) ³⁰	15.50%	19.60%	23.80%	39.30%	29.10%	27.30%	27.40%
Change in Population (1950-2013) ³¹	109%	353%	-34%	-63%	-6%	-33%	-63%
Unemployment (2014-15) ³²	5.1%	4.8%	7.2%	11.6%	7.6%	7.9%	7.7%
Murder Rate per 100,000 People (2015)	4.5	9.9	51.4	41.5	25.3	48	76

Source: U.S. Census and U.S. Bureau of Labor Statistics.

These five cities have four common characteristics:

- **Lower Incomes.** The 2014 median household income in these cities was almost 20 percent lower than the national average.
- **Higher Poverty Rates.** The 2014 poverty rate in these cities was 30 percent, twice the national average.
- **Falling Populations.** Residents have been leaving these cities for as long as 40 years.
- **High Unemployment.** Average unemployment rates per month in these cities were 50 percent higher than the national average from 2014 to 2015.

Based on these measures, all five cities are in profound economic decline. The relationship between economics and crime is hotly debated, but it is possible that the weak economies of these cities are a contributing factor to their high murder rates.

II. CRIME IN 2015

A. Annual Crime Rates

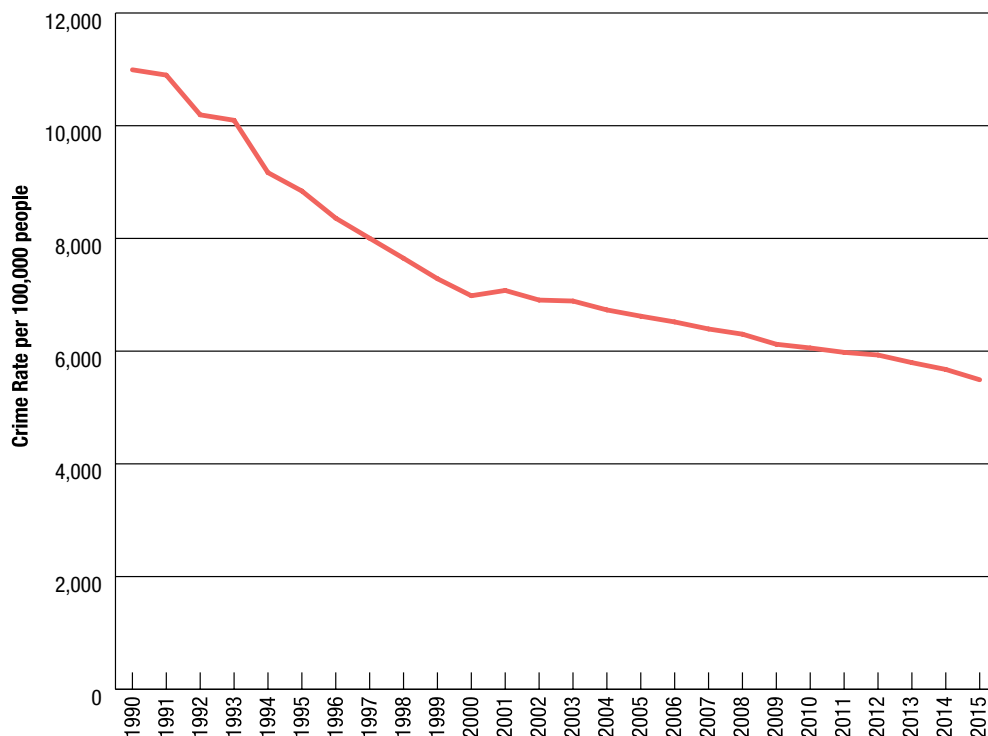
Tracking broader measures of crimes instead of murders is undoubtedly a better way to gauge public safety. In fact, murder accounted for just 1.2 percent of all violent crime in 2014.³³

For this analysis, the authors use “Index Crimes,” as used in the Federal Bureau of Investigation’s Uniform Crime Reports. Index crimes include: murder and non-negligent manslaughter, robbery, larceny (theft), aggravated assault, burglary, and motor vehicle theft. Using data from the FBI’s Uniform Crime Reporting (UCR) database, this report analyzed localized counts of these crimes from 1990 to 2014. For 2015 projections, the same methodology was used for the 2015 murder rates: Data from January 1, 2015 to October 1, 2015 was collected and then projected for the full 12 months of the year. Index crime was only available from 19 of the 30 cities in the survey.

The principal findings, based on data distilled in Table 1, are:

- The overall crime rate in 2015 for the 19 cities studied will be about 1.5 percent less than last year. Crime rates decreased in 11 of the 19 cities studied and increased in eight.
- The crime rate is down 22 percent since 2010 and 66 percent since 1990 in the cities studied.

Figure 5: Crime Rate for 19 of Top 30 Cities (1990- 2015)

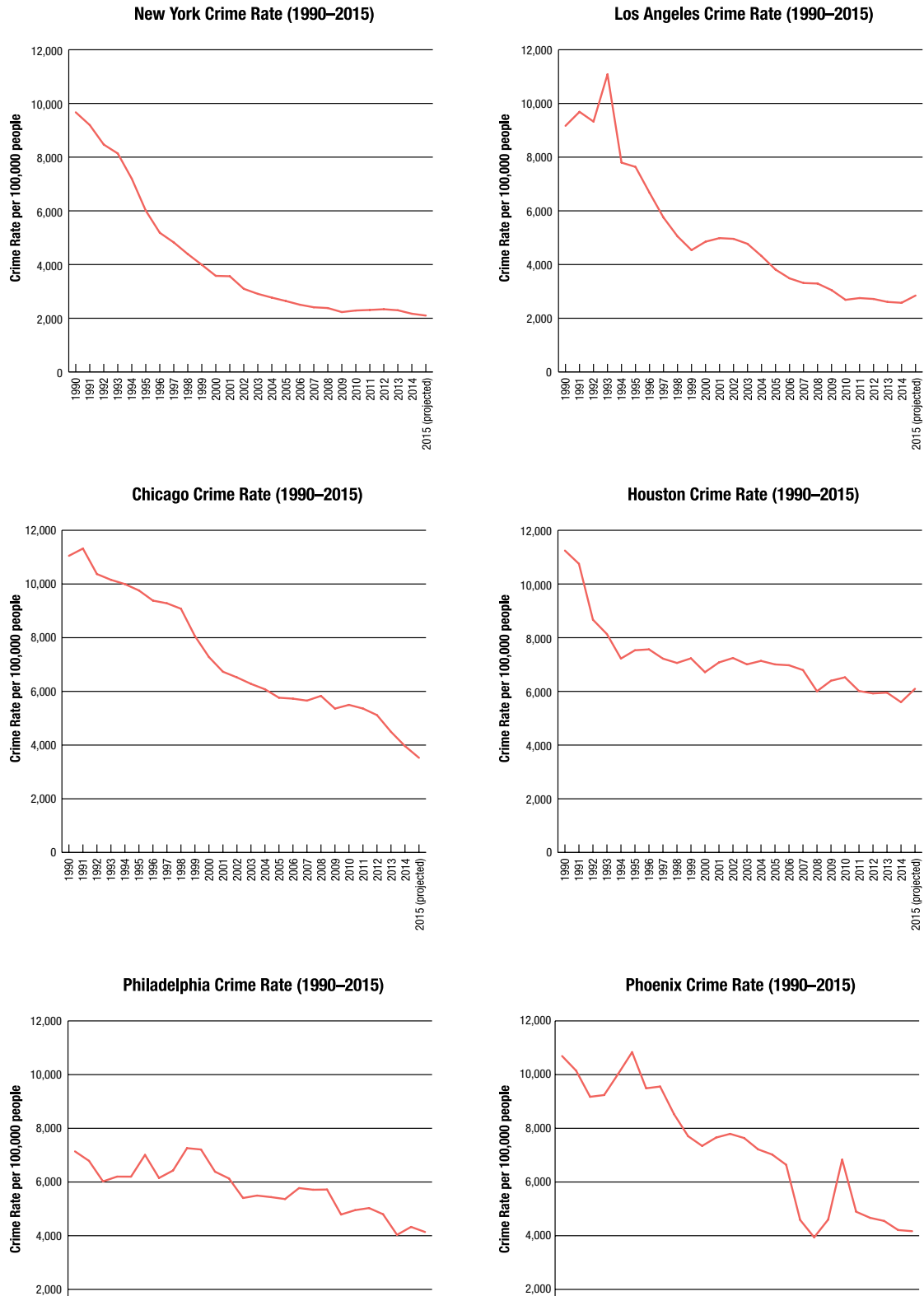


Source: FBI Uniform Crime Reports (1990-2014), Police and City Reports and Brennan Center Projection (2015).

Figure 6 shows projected crime rates for six major cities:

- New York City's projected 2015 crime rate is virtually the same as last year.³⁴ It is down 2 percent since 2014 and 40 percent since 2000.
- Chicago's projected 2015 crime rate is down 8 percent from 2014 and almost 50 percent since 2000. Although murder has increased, robbery and property crime have decreased almost 40 percent over the last decade.
- Los Angeles' 2015 projected crime rate is expected to show a 7 percent increase from 2014. That's an improvement from the first six months of the year, when crime overall was up nearly 13 percent. The LAPD has recently noted errors of misclassification that could have clouded crime rates from 2005 to 2012. However, those errors have been corrected in more recent years and do not affect the comparison of 2014 to 2015 crime date.
- Houston's 2015 projected crime rate shows an increase of 9 percent, and is higher than it has been in recent history. Although crime is down 10 percent since 2000, the jump is concerning when considered with the 24 percent increase in the city's murder rate.
- Philadelphia's projected crime rate is down 3 percent from 2014. During the past five years, the city's crime rate has declined about 20 percent.
- Phoenix's projected crime rate is down 5 percent from last year and down almost 45 percent since 2000.

Figure 6: Crime Rates in Selected Major Cities (1990-2015)



Source: FBI Uniform Crime Reports (1990-2014), Police and City Reports and Brennan Center Projection (2015).

B. Historical Significance

After large drops from 1990 to 2000, the United States has since seen crime rates decrease more slowly. Crime in 2015 follows that trend. There is no evidence of a deviation of the declining crime rates the country has been enjoying.

CONCLUSION

The available data analyzed in this report supports the conclusion that Americans continue to enjoy low crime rates. The average person in a large urban area is safer walking on the street today than he or she would have been at almost any time in the past 30 years. That does not mean there is not variation across cities.

In some cities, murder is up. However, there is not yet sufficient evidence to conclude that these levels will persist in the future or are part of a national trend.

Although headlines suggesting a coming crime wave make good copy, a look at the available data shows there is no evidence to support that claim.

METHODOLOGY

Murder Data

This report uses the Federal Bureau of Investigation Uniform Crime Reports, which include murder and non-negligent manslaughter. Murder is defined as: “the willful (nonnegligent) killing of one human being by another. Deaths caused by negligence, attempts to kill, assaults to kill, suicides, and accidental deaths are excluded.”

The authors collected data from city police departments for the 30 largest cities by the census estimates in 2010. Many reported through CompStat programs; others reported the murder figures on their websites or through requests for information. Not all city police departments report data on murders in the short term. Data could not be secured from Columbus, El Paso, Indianapolis, Nashville, and San Francisco. As shown in Table 1, the authors were able to secure 2015 murder data from 25 cities.

Crime Data

This report defines overall crime as Index Crimes as defined in the UCR. Index Crimes include: murder and nonnegligent manslaughter, robbery, aggravated assault, burglary, larceny, and motor vehicle theft. Rape was excluded from the analysis because the definition for rape has changed historically, making the kinds of comparisons this report seeks to do problematic. These additional crimes are defined by the UCR as:³⁵

- *Robbery*. The taking or attempting to take anything of value from the care, custody, or control of a person or persons by force or threat of force or violence and/or by putting the victim in fear.
- *Aggravated assault*. An unlawful attack by one person upon another for the purpose of inflicting severe or aggravated bodily injury... (and) usually is accompanied by the use of a weapon or by means likely to produce death or great bodily harm.
- *Burglary*. Defined as breaking or entering: the unlawful entry (or attempt to forcibly enter) a structure to commit a felony or a theft.
- *Larceny (theft)*. The unlawful attempt (successful or not) to take, carry, lead, or ride away property from the “possession or constructive possession” of another. Such as bicycle thefts, shoplifting, pickpocketing, anything not taken by force, violence, fraud, embezzlement, or forgery.
- *Motor vehicle theft*. The theft or attempted theft of a motor vehicle that is defined as self-propelled and runs on land surface and not on rails.

Though most cities rely on the UCR definition, definitions still can vary slightly from city to city based on state or local laws. This may explain certain cities having major differences from others, but the definitions for this cohort of cities were consistent year-to-year, making intra-city comparisons valid (while inter-city comparisons are less reliable).

Certain cities presented difficulties in gathering crime data. Organizing and collecting data on all index crime in the short term is more difficult for law enforcement agencies than doing the same for murder data. As shown in Table 1, the authors were able to secure 2015 murder data from 25 cities, but full

crime data from only 19. Data could not be secured from: Jacksonville, San Francisco, Indianapolis, Columbus, Detroit, El Paso, Washington DC, Memphis, Nashville, Las Vegas and Louisville.

2015 Projections

This report's analysis was conducted in fall 2015. Therefore not all crime data for 2015 was available. Projections for the end of the year are relatively difficult to make without a clear knowledge of each city's situation. In some cities the issues driving murder are likely to be persistent and keep murder up for the rest of the year. In others, the factors that caused a jump will not hold for the rest of the year. This report uses year-to-date murder and crime figures to project what the year-end data would be for these two measures. This projection was used to make historical comparisons to murder and crime in previous years, particularly to 2014. The projection for 2015 was calculated as follows. The authors took the proportion of crimes committed to date last year and multiplied that by the 2015 crime rates. For example, if a city had 100 murders through July 2014 and 200 by the end of 2014, then if the same city had 150 murders by July 2015, the authors projected the city would have 300 murders this year. This method is empirically accepted to create rough projections.

However, this process is biased by last year's monthly trends. Ideally one would look historically at year-to-date figures for that city for several previous years (perhaps five or 10 years) and use that as the measure. But gathering monthly data is exceptionally difficult for many cities.

This method of projection is useful to describe a general historical trend and to reflect 2015 in relation to 2014. However, one should not expect these projections to be completely accurate in the way one might expect of CompStat or other local police projections that rely on nuanced city-specific data and factors.

Rate Calculations

Population figures for rates were based on UCR population statistics up to 2014. 2015 populations were assumed to be the same as 2014. This likely inflated murder rates slightly. Historically, UCR and U.S. Census estimates have been very similar.

Historical Significance

Statistical significance tests attempt to measure the likelihood that a given result would have happened due to random variation, assuming independent identically distributed variables. In the case of crime and murder, neither of those assumptions holds.

First, random variation does not quite fit when it comes to murder. Murder is rarely if ever a random occurrence. Reported crime more generally could be (one could choose not to report certain kinds of petty crime), but even that is unlikely. Thinking of murder in those terms somewhat removes one from properly contextualizing the topic the authors is concerned with.

Second, murder is not independent and identically distributed. One murder can often lead to more and the distribution of murder throughout the country is certainly not equally distributed.

Not all situations are best served by using a significance test. The authors believe that is the case here. Because of this, the authors looked at whether the 2015 crime and murder rate differences were widely disparate from past years, particularly whether they were different from 2012-2014.

ENDNOTES

- 1 Mariano Castillo, *Is a New Crime Wave on the Horizon?*, CNN, June 4 2015, *available at* <http://www.cnn.com/2015/06/02/us/crime-in-america>; Aamer Madhani, *Several Big U.S. Cities See Murder Rates Surge*, USA TODAY, July 10, 2015, *available at* <http://www.usatoday.com/story/news/2015/07/09/us-cities-murder-surge-2015/29879091>; Martin Kaste, *Nationwide Crime Spike has Law Enforcement Retooling Its Approach*, NPR, Oct. 10, 2015, *available at* <http://www.npr.org/2015/07/01/418555852/nationwide-crime-spike-has-law-enforcement-retooling-their-approach>; Monica Davey, *Murder Rates Rising Sharply in Many U.S. Cities*, N.Y. TIMES, Aug. 31st 2015, *available at* <http://www.nytimes.com/2015/09/01/us/murder-rates-rising-sharply-in-many-us-cities.html>.
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- 5 See HOUSTON POLICE DEP'T, CITY WIDE SUMMARY FOR JULY 2015 (2015), *available at* <http://mycity.houstontx.gov/crime/ucrPage.aspx>. The authors added together each month to get 2015 and 2014 YTD figures.
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