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Assessing and Responding to the Recent Homicide Rise in the United States

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Executive Summary

Big-city homicides rose in 2015 and again in 2016, although not all cities experienced a large increase, and homicides fell in some cities. We consider two explanations of the homicide rise as guides for future research: (1) expansion in illicit drug markets brought about by the heroin and synthetic opioid epidemic and (2) widely referenced “Ferguson effects” resulting in de-policing, compromised police legitimacy, or both.

Larger increases in drug-related homicides than in other types of homicide provide preliminary evidence that expansions in illicit drug markets contributed to the overall homicide rise. The current drug epidemic is disproportionately concentrated in the white population, and homicides have increased among whites as well as among African-Americans and Hispanics. We surmise, therefore, that the drug epidemic may have had an especially strong influence on the rise in homicide rates among whites.

Current evidence that links de-policing to the homicide rise is mixed at best. Surveys of police reveal widespread concerns about increased police-community tensions and reductions in proactive policing in the aftermath of widely publicized deadly encounters between the police and African-Americans. Increases in homicide followed decreases in arrests in Baltimore and Chicago, although it is not known whether the same was true in other cities. Nationwide, arrest-offense ratios and arrest clearance rates decreased in 2015, but they had been declining for several years when homicide rates were falling. The extent of de-policing and its possible connection to the recent homicide rise remain open research questions.

Survey evidence reveals greater discontent with the police among African-Americans than among whites. Alienation from the police can result in a decreased willingness to contact them when a crime occurs or to cooperate in police investigations and, some studies suggest, an increase in criminal behavior. One study has shown that calls for police service fell after a controversial violent encounter between the police and an unarmed African-American in Milwaukee. The reduction in calls for service was greater in African-American neighborhoods than in other neighborhoods. The rate at which the police are contacted is only one of several indicators needed to measure any connection between diminished police legitimacy and the recent rise in homicides.

We emphasize the provisional nature of these hypotheses regarding the recent homicide rise. We recommend using city- and neighborhood-level case studies to further refine the hypotheses and develop new ones, and quantitative studies of larger samples of cases should follow. We discuss several key empirical indicators to measure changes in drug markets, policing, and police legitimacy and offer several suggestions for future research. The National Institute of Justice (NIJ) will play an important role in facilitating the necessary research.

U.S. homicide rates rose substantially in 2015 and 2016. These increases were much larger than was typical of yearly homicide fluctuations over the past several decades,

so they merit close attention. This paper extends a previous analysis (Rosenfeld 2016) by documenting the homicide rise in 2015 with more complete data and presenting data for large cities in 2016. The paper then considers two explanations for the recent homicide increase. The first explanation ties the increase to the expansion of illicit drug markets resulting from the heroin and synthetic opioid epidemic in the United States. The second explanation is the widely referenced Ferguson effect on crime rates, which attributes the homicide increase to reduced proactive policing, community alienation from the police, or both (Mac Donald 2016; Rosenfeld 2016). The paper concludes with recommendations for future research on the recent homicide rise.

Assessing and Responding to the Recent Homicide Rise in the United States

Documenting the Increase

According to the FBI's Uniform Crime Reporting (UCR) Program, 15,696 criminal homicides took place in the United States in 2015 — 1,532 more than during the previous year.¹ The homicide rate rose from 4.4 to 4.9 homicides per 100,000 population from 2014 to 2015, an 11.4-percent increase and the largest one-year percentage rise in the U.S. homicide rate since 1968 (see Figure 1). In cities with 250,000 or more residents, the focus of the current report,² homicides rose by 15.2 percent between 2014 and 2015 (see Appendix). By any reasonable standard, these are noteworthy increases, especially because they involve the most serious and reliably measured criminal offense.

Homicide continued to increase in 2016. The nationwide homicide rate rose to 5.3 homicides per 100,000 population, an increase of 8.2 percent over 2015. The number of homicides in the big cities increased by 10.8 percent between 2015 and 2016 (see Appendix).³

The Big Cities

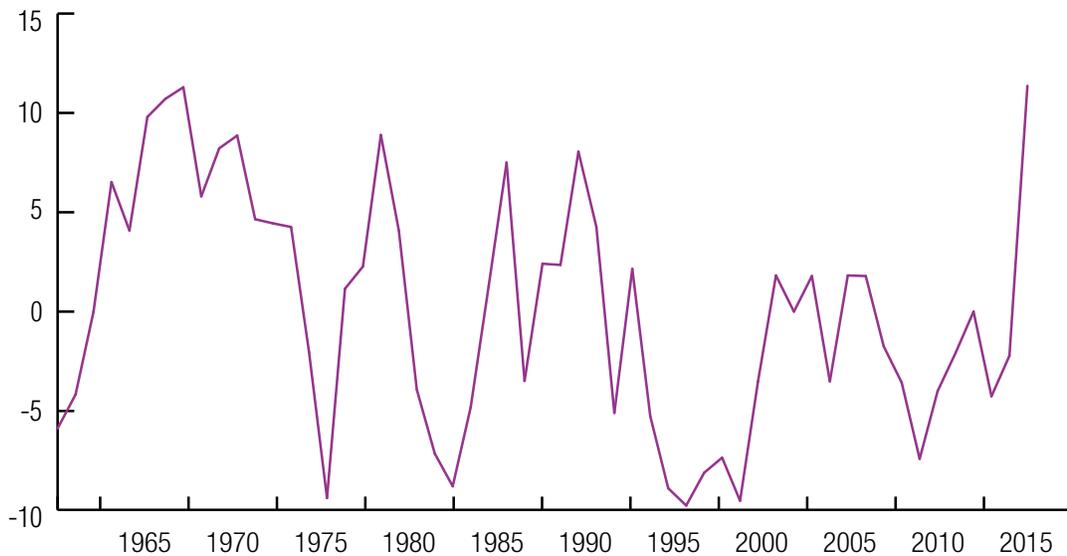
Most, but not all, large cities experienced homicide increases in 2015 and 2016, and some cities experienced sizable declines. Figures 2 and 3 display the percentage change in homicides in cities with more than 250,000 residents during those years. In order to avoid

1. The nationwide and city homicide data presented in this report are from the FBI's Uniform Crime Reports (<https://ucr.fbi.gov/ucr-publications>).

2. Hereafter, we refer to these cities as “big” or “large” cities.

3. The 10.8-percent increase includes the 49 deaths from the mass shooting at an Orlando, Florida, night club in June 2016 (<http://www.cnn.com/2016/06/12/us/orlando-nightclub-shooting/>). Excluding those killings, homicides in the big cities would have risen by 10.0 percent in 2016.

Figure 1. Year Over Year Percentage Changes in U.S. Homicide Rate, 1961-2015



Source: UCR

misleading percentage changes based on small homicide counts, only cities with at least 30 homicides in 2014 are shown.

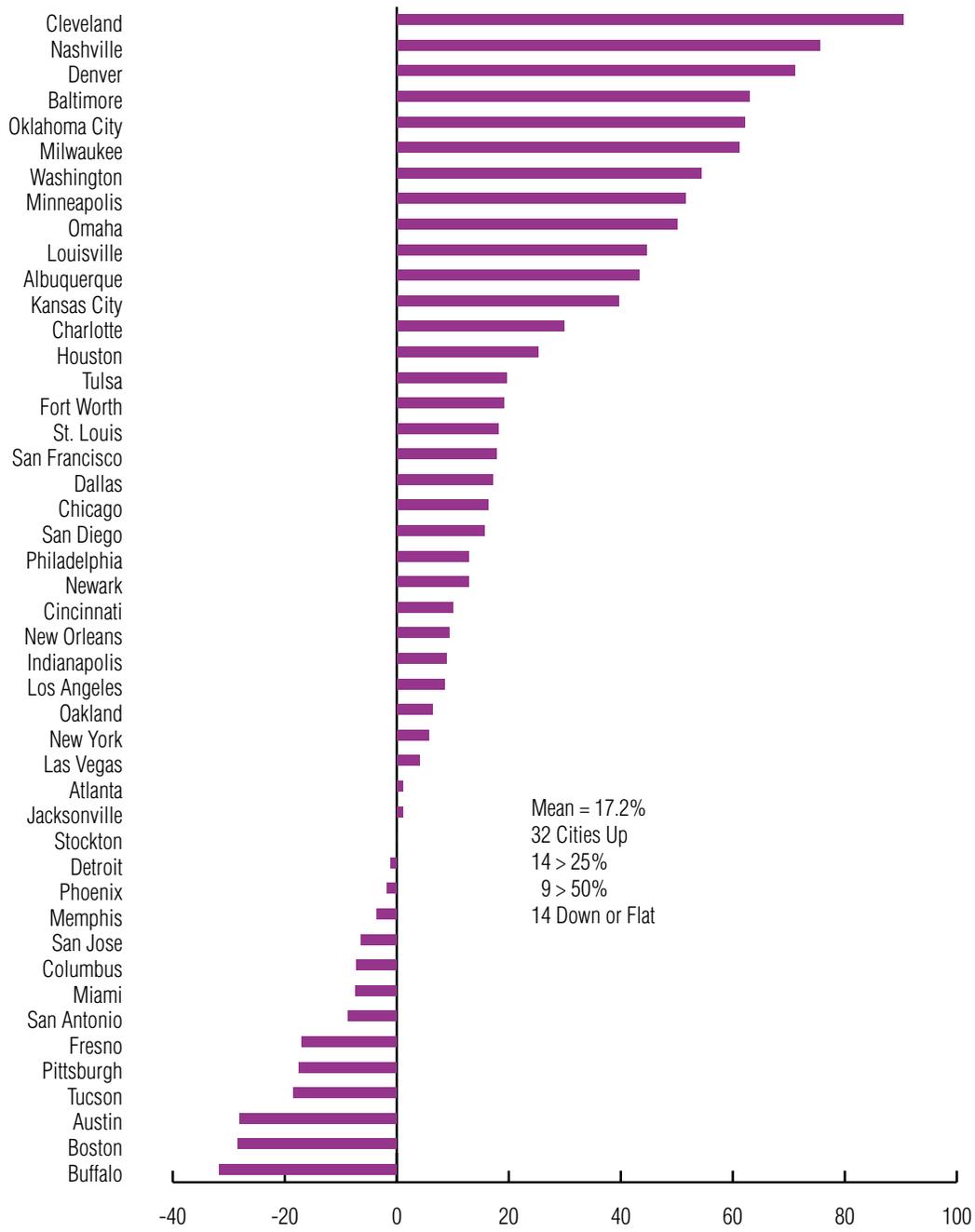
Homicides rose by 17.2 percent on average in 2015 in large cities with appreciable (more than 30) homicide counts. The increase was more than 25 percent in 14 cities and more than 50 percent in nine cities. The following year, homicides increased by 12.1 percent on average in these cities. Twelve cities saw increases of more than 25 percent in 2016, while just four cities experienced increases exceeding 50 percent. Not only did the big-city homicide rise decrease somewhat over the two years, different cities led the way each year. Cleveland, Nashville, Denver, Baltimore, and Oklahoma City had the five largest percentage increases in 2015. Austin, Chicago, San Antonio, San Jose, and Louisville topped the list in 2016. We should expect some “mean reversion” in cities that experience large changes in

homicide (i.e., large increases in one year followed by smaller increases or reductions the next year, and vice versa). But if large increases in homicide are time-limited, it may also suggest that the factors driving the increases are themselves relatively short-lived. We consider that possibility below.

Figure 4 summarizes the percentage change in homicides in large cities during 2015 and 2016. The figure displays a scatterplot in which each dot represents a city’s percentage change in homicide in 2015 (the vertical axis) and 2016 (the horizontal axis). As an example, the number of homicides in Omaha rose by 50 percent between 2014 and 2015 and then dropped by 40 percent between 2015 and 2016. The cities shown are again limited to those with at least 30 homicides in 2014.

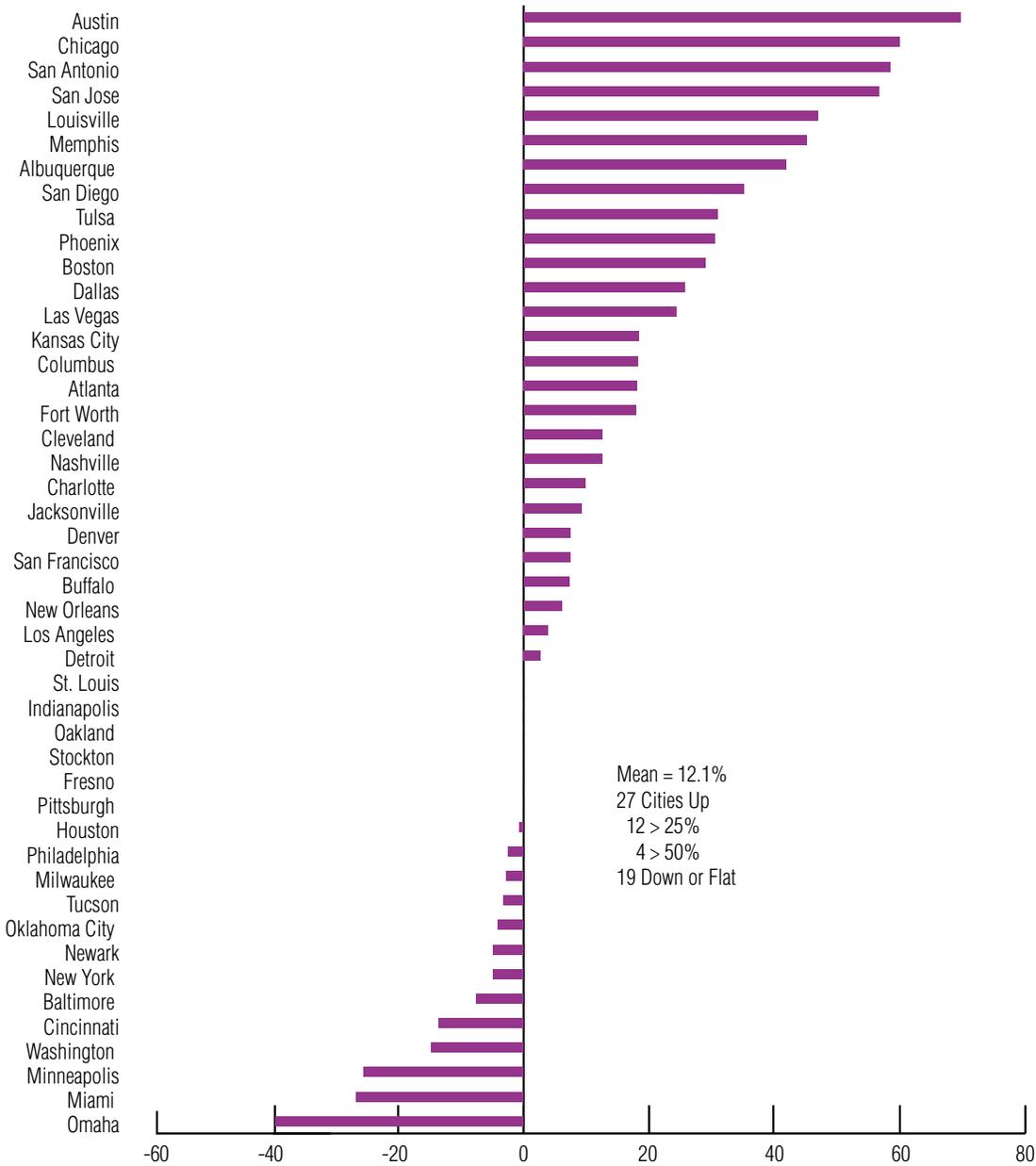
Only two cities, Miami and Tucson, experienced a decrease in homicide in both years. Homicide increases in two cities,

Figure 2. Percentage Changes in Homicide Between 2014 and 2015 in Large Cities With 30 or More Homicides in 2014 (N= 46)



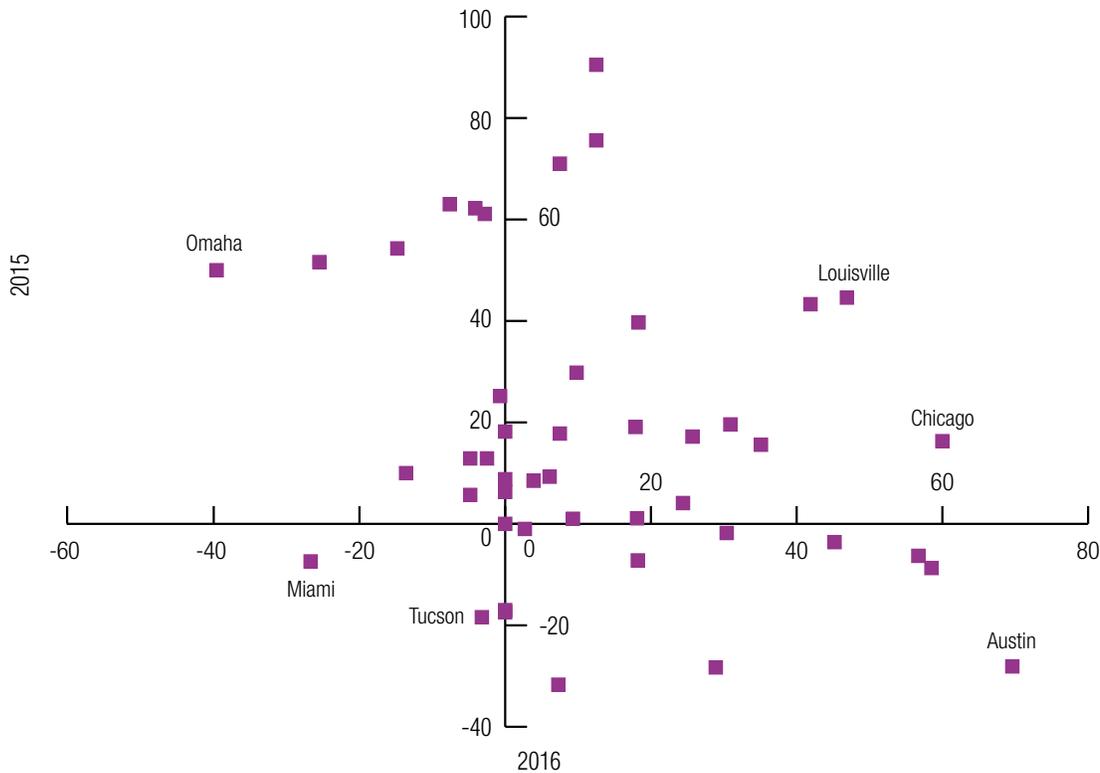
Source: UCR

Figure 3. Percentage Changes in Homicide Between 2015 and 2016 in Large Cities With 30 or More Homicides in 2014 (N = 46)



Source: UCR

Figure 4. Scatterplot of Percentage Changes in Homicide in Large Cities, 2015-2016 (N = 46)



Source: UCR

Albuquerque and Louisville, exceeded 40 percent during both years, but most of the cities that registered very large homicide increases in 2015 (e.g., Cleveland, Nashville, Denver, Baltimore) experienced decreases or far smaller increases the following year. After increasing at about the average rate for the sample in 2015, Chicago's homicide count grew by 60 percent in 2016. Widespread media attention and pointed political commentary made Chicago the poster child of the big-city homicide rise (Ford 2017; Fox 2017).

The Big Contributors

Another way to assess the homicide rise in 2015 and 2016 is to focus on the places that made the greatest contribution to the total homicide increase in big cities during each year. This approach directs attention to those cities with the greatest number of homicides in addition to those with the largest proportionate increases in homicide. Tables 1 and 2 list the largest contributors to the overall increase in homicide in large cities. Just two cities, Baltimore and Chicago, accounted for about one-quarter

Table 1. Cities With Largest Absolute Homicide Increases in 2015

City	Increase	Cumulative Increase	Cumulative % Increase
Baltimore	133	133	16.2%
Chicago	67	200	24.4%
Houston	61	261	31.9%
Cleveland	57	318	38.8%
Washington	57	375	45.8%
Milwaukee	55	430	52.5%
Philadelphia	32	462	56.4%
Nashville	31	493	60.2%
Kansas City	31	524	64.0%
St. Louis	29	553	67.5%

Source: UCR

Table 2. Cities With Largest Absolute Homicide Increases in 2016

City	Increase	Cumulative Increase	Cumulative % Increase
Chicago	287	287	46.0%
Memphis	61	348	55.8%
San Antonio	55	403	64.6%
Louisville	38	441	70.7%
Dallas	35	476	76.3%
Phoenix	34	510	81.7%
Las Vegas	31	541	86.7%
Kansas City	20	561	89.9%
Albuquerque	18	579	92.8%
Tulsa	17	596	95.5%

Source: UCR

of the total increase in homicide in large cities in 2015. Ten cities accounted for two-thirds of the 2015 big-city homicide rise that year. Chicago contributed just under half of the big-city homicide increase in 2016, and 10 cities accounted for nearly all of the increase in 2015.⁴

Is the Crime Drop Over?

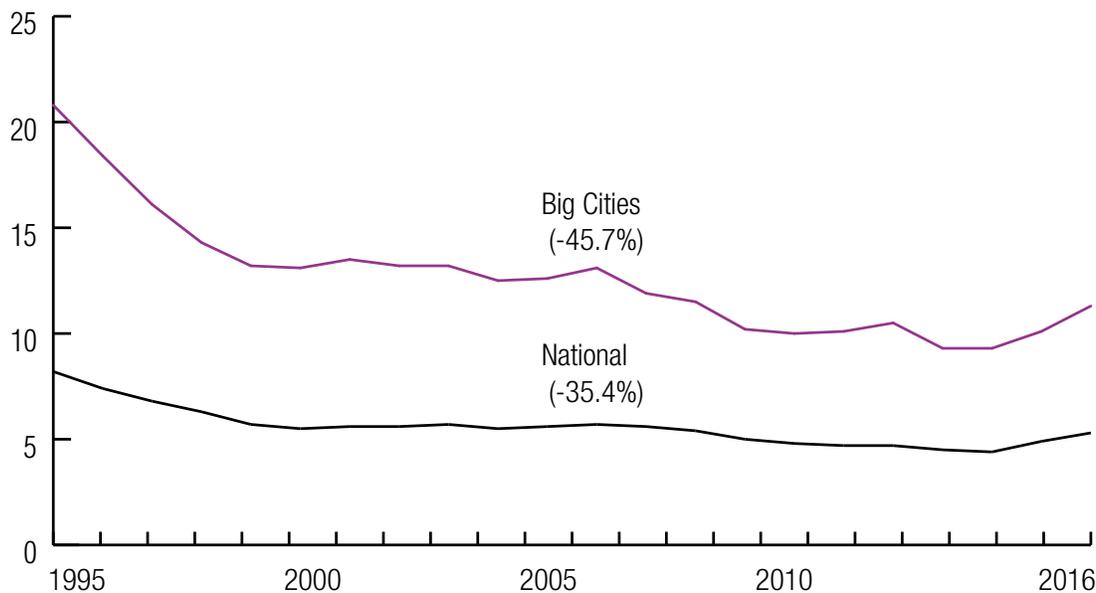
If not wholly unprecedented, the recent homicide increase in the United States was relatively large, especially in several of the nation's big cities. Because it arrived on the heels of a long-term crime drop, it is reasonable to ask whether the homicide rise erased what has been termed "the great American crime decline" since the early 1990s (Zimring 2007). As shown in Figure 5, the answer is clearly no, or at least not yet. The national homicide rate was 35.4 percent lower in 2016 than in 1995 and the

homicide rate in big cities was 45.7 percent lower. Even at the elevated rates of increase in 2015 and 2016, it would take about five more years for the U.S. national and big-city homicide rates to return to the levels of the early 1990s. Despite the recent rise in homicide rates not erasing the national decline, the abrupt increase in homicide rates over the past two years is a cause for concern.

Race and Ethnicity

A final and significant question about the homicide rise, especially for explanatory purposes, is how widespread it was across different population groups. Knowing the demographic composition of crime victims and offenders is essential for evaluating the cogency and relevance of explanations of changes in crime rates over time. For example, explanations

Figure 5. Homicides per 100,000 Population, 1995-2016



Source: UCR

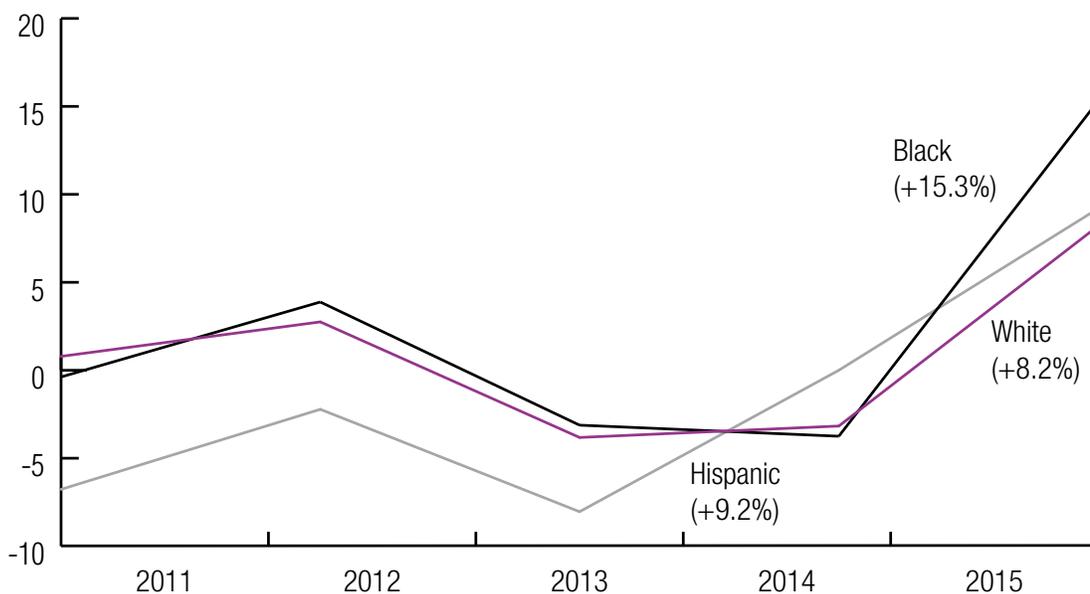
4. Orlando is omitted from the data for 2016.

that attribute the recent homicide rise to tensions between the police and African-American communities, or to less vigorous police enforcement in those communities, imply that the increase in homicide should be limited primarily to African-Americans (e.g., Mac Donald 2016). Data are available from the Centers for Disease Control and Prevention's (CDC's) National Vital Statistics System (NVSS) and the FBI's Supplementary Homicide Reports (SHR) to evaluate this presumption.

Figure 6 displays the yearly percentage change in rates of homicide victimization by race and ethnicity from 2010 through 2015.⁵ After falling slightly for a few years, the non-Hispanic black homicide victimization rate rose 15.3 percent between 2014 and 2015. But non-Hispanic white

and Hispanic victimization rates also rose at the same time, and those increases were comparatively large. For example, the growth in the non-Hispanic white victimization rate was greater than in any year since the September 11, 2001, terrorist attack. Moreover, the increase among whites was not limited to homicide victimization. As shown in Figure 7, the number of white homicide offenders also increased between 2014 and 2015.⁶ The rise in homicide victimization and offending among African-Americans is consistent with the narrative of increased tension between the police and African-American communities. The increase in other groups, especially non-Hispanic whites, fits less easily with that explanation and suggests that other factors may be implicated in the homicide rise.

Figure 6. Year Over Year Percentage Changes in Homicide Victims by Race and Ethnicity, 2011-2015

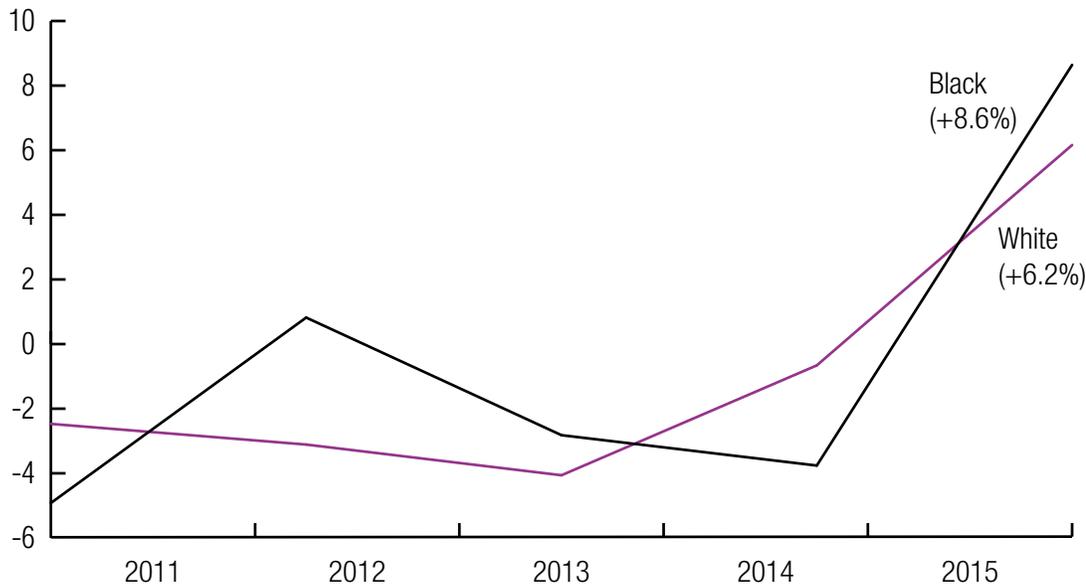


Source: NVSS

5. The figure is based on NVSS data accessed through the Web-based Injury Statistics Query and Reporting System (WISQARS). The NVSS data and the remaining data presented in this report are limited to 2015, the most recent year of data available for the analyses shown.

6. Figure 7 is based on SHR "known offender" data from the FBI. In 2015, 31.2 percent of offenders in the SHR data were of unknown race.

Figure 7. Year Over Year Percentage Changes in Known Homicide Offenders by Race, 2011-2015



Source: SHR

Explaining The Increase

The recent homicide increase in the United States was not only large, it was also relatively sudden and unforeseen. The sheer abruptness of the increase makes it especially difficult to explain. We do not offer a definitive explanation of the homicide rise. Instead, we assess a few of the leading explanations with available data and identify what we consider to be productive directions for future research. We begin by setting forth some general guidelines for assessing explanations of change over time in crime rates (see Baumer, Vélez, and Rosenfeld forthcoming, and Rosenfeld and Weisburd 2016 for related discussions).

Some changes in crime rates over time are relatively slow and continuous. Explanations of such changes typically direct attention to causal factors that are themselves subject

to gradual movement over time. Examples include crime rate changes associated with temporal variation in the age composition of a population or, except during severe recessions, in economic conditions such as inflation and unemployment (Raphael and Winter-Ebmer 2001; Rosenfeld and Levin 2016).

Other changes in crime rates are very rapid and discontinuous; they often seem to appear “out of nowhere.” These sudden and unexpected fluctuations in crime rates are usually associated with “exogenous shocks” to the community and policy conditions that otherwise keep crime rates within a relatively narrow range of variation over time.⁷ A good example is the abrupt increase in youth firearm violence associated with the crack cocaine epidemic of the late 1980s (Blumstein and Wallman 2006). Another, we suggest, is the recent upsurge in U.S. homicide rates.

7. In economics, an exogenous shock is an unexpected or unpredictable external event or condition that affects the economy (see, e.g., Black, Hashimzade, and Myles 2009).

Thus, an immediate analytical task when seeking to explain sudden increases in crime is to identify the corresponding exogenous shocks. Two plausible candidates for explaining the recent homicide rise are the heroin and synthetic opioid epidemic and widely publicized incidents of the use of force by the police against African-Americans, and ensuing protests and civil unrest in many cities. Both have precedents in contemporary American history. The crack cocaine epidemic, as noted, sparked a rise in youth violence three decades ago. Allegations of police brutality and violent confrontations between police and African-Americans precipitated widespread civil unrest in American cities during the 1960s (National Advisory Commission on Civil Disorders 1968; National Commission on the Causes and Prevention of Violence 1969). Some analysts attribute the steep crime rise beginning in the mid-1960s to a crisis of institutional legitimacy brought on, in part, by conflict over the civil rights movement and urban unrest (LaFree 1998; Roth 2009).

We regard illicit drug markets and social unrest as possible “proximate causes” (Roth 2009) of the homicide rise that act in tandem or interact with other factors that underlie the gradual movement of crime over time (Rosenfeld 2011). Some of these comparatively slow-moving factors may actually serve to limit the crime increases that might otherwise take place in response to the more immediate crime triggers. An emphasis on the role of precipitating conditions, therefore, does not imply that other contributors to crime rate changes are unimportant. On the contrary, as discussed below, future research should focus on the extent to which the effects on the homicide rise of crime triggers, such as expanding drug markets and

police-community tensions, are conditioned by the economic and social characteristics of local communities, which influence crime rates over the long run.

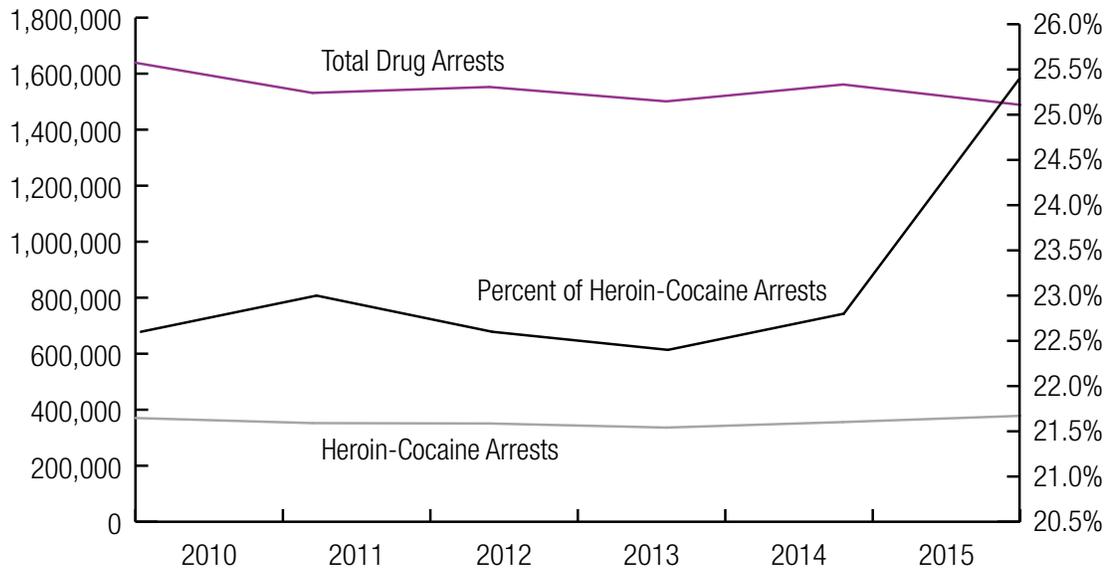
Expanding Drug Markets

Like any commodity market, legal or otherwise, the market for illicit drugs is governed by the dynamics of supply and demand. Growing demand for illicit drugs attracts more sellers into the market. Disputes inevitably arise between sellers over customers and territory and between buyers and sellers over price, purity, quantity, and other terms of trade. Because these conflicts cannot be taken to the police, courts, or other legitimate authorities for settlement, they sometimes end in violence (Goldstein 1985; Reuter 2009). The demand for heroin and synthetic opioids has grown enormously in recent years (Rosenfeld 2016). The question is whether the demand has contributed to the U.S. homicide increase by intensifying illicit drug market activity. In short, have more buyers led to more sellers and more drug market violence?

Arrests for drug law violations are one indicator of illicit drug market activity. The total number of drug arrests in the United States has declined somewhat in recent years. In contrast to the crack era, policymakers and law enforcement officials alike have viewed the heroin and synthetic opioid epidemic as more of a public health than a criminal justice problem (Cohen 2015). Arrests for sale or possession of heroin or cocaine fell by 9.2 percent, from 370,379 to 336,234, between 2010 and 2013, even as heroin use rates were rising (Jones et al. 2015).⁸ Arrests then rose by 12.5 percent, to 378,132, in 2015. The timing of the increase coincides with the 2014-2015 homicide rise (see Figure 8).

8. The FBI's Uniform Crime Reports combine heroin and cocaine in a single drug arrest indicator. National survey data show no increase in cocaine use in the United States (<https://www.drugabuse.gov/publications/drugfacts/nationwide-trends>). Therefore, we can be reasonably certain that the recent increase in heroin and cocaine arrests primarily reflects the growth in demand for heroin.

Figure 8. Drug Arrests in the United States, 2010-2015



Source: UCR

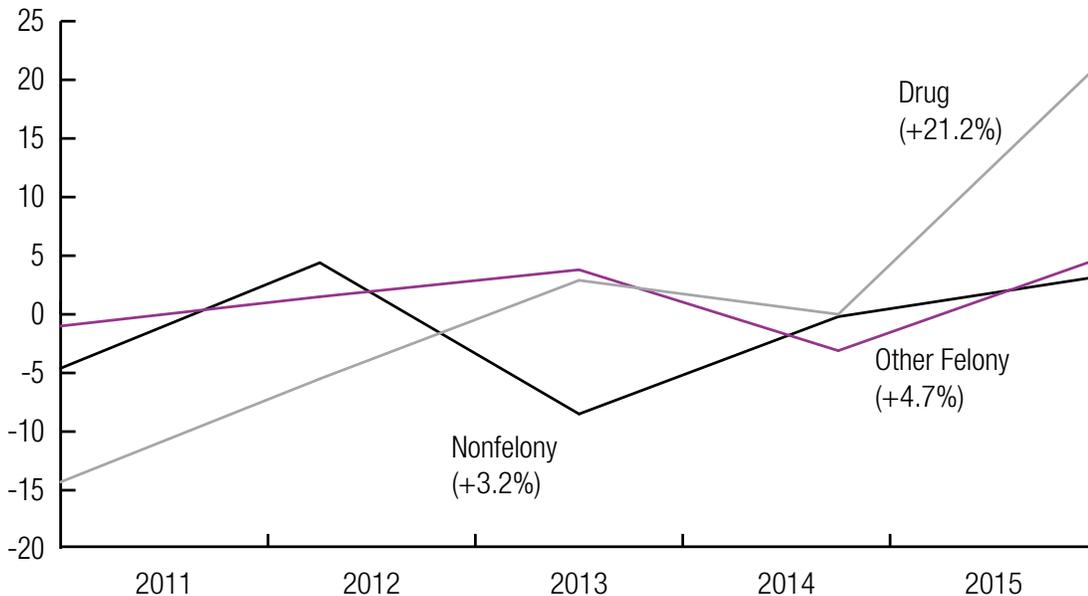
A speculative but plausible reason for the increased police attention to heroin in recent years is growing violence in and around illicit drug markets. The FBI's SHR code the circumstances (when known) of homicide incidents, including whether the homicide was associated with the violation of "narcotic drug laws." Figure 9 shows the yearly percentage change in drug-related homicides, other felony-related homicides (e.g., those connected to robberies or burglaries), and nonfelony-related homicides from 2011 to 2015. After dropping, albeit at a diminishing rate, drug-related homicides increased by 21.2 percent between 2014 and 2015. By contrast, other felony homicides increased by 4.7 percent and nonfelony homicides grew by just 3.2 percent during the same period.

We can use the SHR data to roughly gauge the contribution of drug-related homicides to the overall homicide increase between 2014 and 2015. There were a total of 8,089 homicides with known circumstances in

2015 and 7,717 in 2014, an increase of 372 incidents. The number of drug-related homicides went up by 82, from 386 in 2014 to 468 in 2015. Therefore, the increase in drug-related homicides accounted for 22 percent of the total increase ($(82/372) \times 100$).

It is important not to overstate the precision of these figures. Like all UCR crime data, they are based on the classification of homicide events by local law enforcement agencies, and crime classification criteria and procedures can differ across agencies or within the same agency over time. Even more importantly, the SHR data displayed in Figure 9 omit homicides with unknown circumstances. The circumstances of fully 39.9 percent of homicides were unknown to law enforcement officials in 2015. Drug-related homicides are less likely than those unrelated to illicit drugs to be cleared with an arrest of one or more suspects, reducing the chances that the circumstances of the homicide will become known to law

Figure 9. Year Over Year Percentage Changes in Homicide Circumstances, 2011-2015



Source: SHR

enforcement (Wellford and Cronin 1999). Consequently, the contribution of drug-related homicides to the recent homicide increase is likely to be greater than the estimate above, based only on homicides with known circumstances.

A final reason the heroin and synthetic opioid epidemic merits attention is that it may help to explain the increase in homicide among non-Hispanic whites. A key indicator of the extent of drug abuse in a population is the fatality rate from drug overdose. In 2015, the heroin-related overdose death rate was 74 percent higher among non-Hispanic whites than among non-Hispanic blacks and 135 percent higher than among Hispanics. The corresponding racial and ethnic differences in overdose fatality rates for synthetic opioids were even larger (Rudd et al. 2016). Given the disproportionate concentration of the drug epidemic in the non-Hispanic white

population, it would not be surprising if increased drug market violence were pushing up white homicide rates.

Commentators have devoted less attention to drug-market expansion as an explanation of the homicide rise than to one or another version of the Ferguson effect (but see Kennedy and Abt 2016). The sheer magnitude of the nation's heroin and synthetic opioid epidemic, the growth in drug-related homicides, and the unheralded increase in homicides among whites should prompt greater research interest in expanding drug markets as an explanation for the U.S. homicide rise.

Ferguson Effects

The dominant narrative surrounding the recent homicide rise attributes increased crime to de-policing. Dubbed the Ferguson effect, the basic idea is that, in the aftermath of controversial and heavily

publicized incidents of police use of force against minorities, particularly African-Americans, the police have pulled back from proactive enforcement strategies that can reduce crime, including making arrests and stopping and questioning suspicious people on the street. Police officers are worried about increased legal liability or having their identities disclosed on social media, according to this argument, and so avoid taking actions that would expose them to criticism during a time of heightened police-community tension and social unrest. Less policing, in turn, leads to more crime (Mac Donald 2016).

Rosenfeld (2016) proposed another, less prominent version of the Ferguson effect. This account redirects attention from de-policing to the alienation of disadvantaged minority communities from the police as a likely source of the homicide rise. In this scenario, a police “legitimacy crisis,” activated by controversial incidents of police use of force against minorities, has reduced reliance on the police for protection and increased “self-help” (Black 1983) in communities already experiencing elevated levels of violent crime. In essence, this version of the Ferguson effect attributes homicide increases not to police disengagement from certain communities but to community disengagement from the police.

As Rosenfeld (2016) pointed out, one advantage of the Ferguson effect explanation of the homicide rise, in either version, is its consistency with the timing of the increase. After dropping for two decades, U.S. homicide rates began to increase in the immediate aftermath of the killing of Michael Brown in Ferguson in the summer of 2014, the killing of 12-year-old Tamir Rice by a police officer in Cleveland, the death of Freddie Gray while being transported in a police van in Baltimore, and other controversial deadly encounters

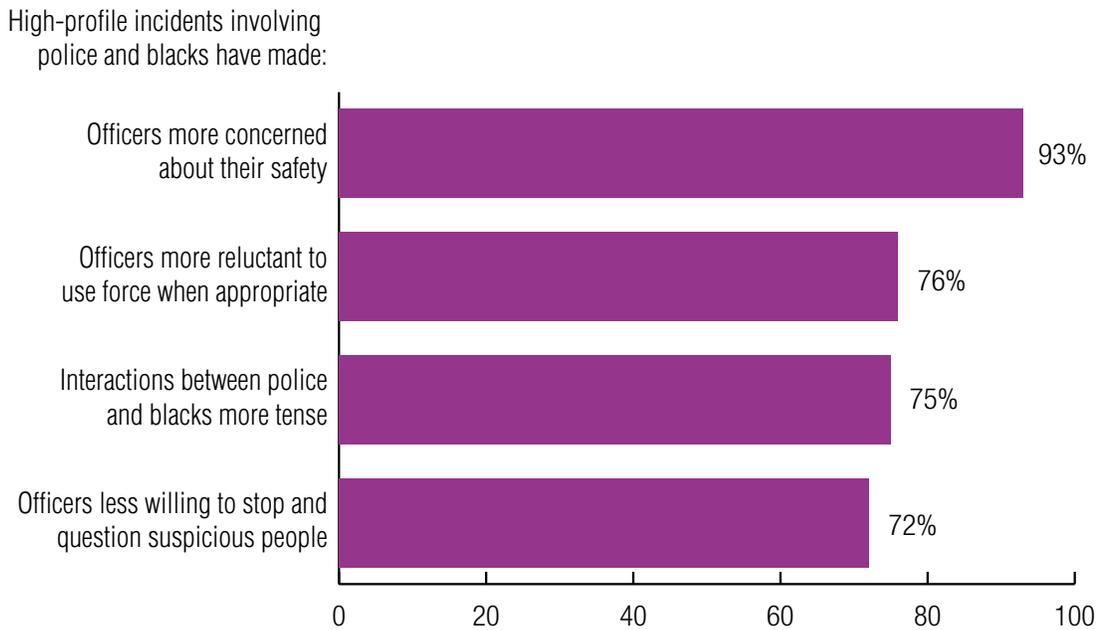
between the police and African-Americans in late 2014 and 2015 (Cleveland Plain Dealer 2014; Knezevich and Anderson 2015; New York Times 2015). But good timing is not sufficient evidence to confirm either version of the Ferguson effect. We need evidence of changes in police behavior, community behavior, or both, before we can conclude that de-policing or community alienation contributed to the homicide rise. We begin by examining some available indicators of police behavior for evidence related to the claim that changes in policing contributed to increases in homicide.

Community Unrest and De-Policing

One way to find out if the police changed their behavior in response to Ferguson and related incidents is to ask them. In 2016, the PEW Research Center conducted a national survey of nearly 8,000 police officers from departments with 100 or more officers (Morin et al. 2017). PEW asked the officers how members of their department had reacted to the recent high-profile use-of-force incidents involving the police and African-Americans. Selected survey results are presented in Figure 10.

More than 90 percent of the officers in the PEW survey said that recent encounters between the police and African-Americans had made officers in their department more concerned about their safety. Three-quarters of the officers reported that their colleagues were more reluctant to use force when appropriate and that tensions had increased between the police and African-Americans. More than 70 percent said officers were less willing to stop and question suspicious persons. Taken at face value, these survey results are consistent with the argument that police behavior has changed in response to widely publicized use-of-force incidents involving African-Americans.

Figure 10. Percentage of Police Officers Saying Each Has Happened in Their Department



Source: Morin et al. (2017)

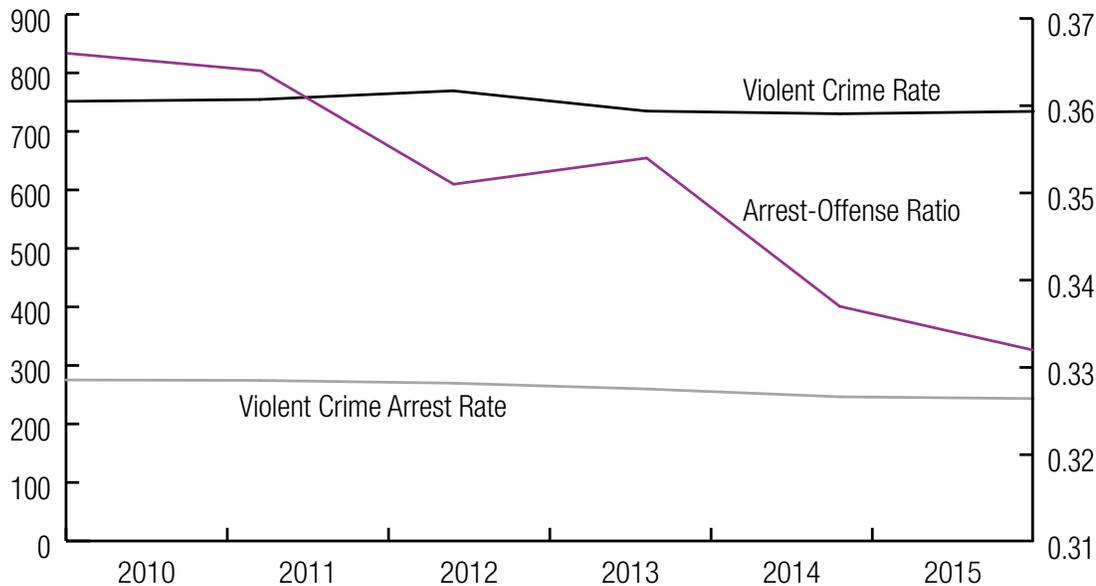
Survey data on police perceptions are a useful but incomplete indicator of police behavior. The officers in the PEW survey were asked to report on the behavior of other officers in their department. It is not known whether they would have responded similarly if they had been asked about their own behavior. In addition, if the survey had been conducted before the recent series of high-profile use-of-force incidents, sizable proportions of police officers may well have reported comparable concerns about safety, police-community tensions, and reduced enforcement — these are not new issues in American policing. In other words, the absence of a pre-Ferguson baseline makes it difficult to evaluate post-Ferguson changes in police perceptions. The most important shortcoming of data on perceptions for evidence about behavior, however, is that they may be subject to distortions, biases, faulty information, and other limitations that make them unreliable behavioral indicators. It is important, therefore, to

supplement the survey data with direct measures of police enforcement activity.

Apprehending and arresting suspects are enforcement actions that can reduce crime by taking active offenders off the street and by signaling to others that criminal behavior will be punished. By the same logic, decreases in arrests may spur increases in crime. Arrests fell in Baltimore in 2015 after the Freddie Gray incident, and in Chicago in 2016 after the delayed release of a video of a controversial police shooting there (Morgan and Pally 2016; University of Chicago Crime Lab 2017). The reduction in arrests was followed by an increase in homicide in both cities. It remains to be seen whether comparable decreases in arrests preceded increases in homicide elsewhere. Here we present available UCR data on trends in arrest rates in large cities.

All else being equal, the police will make fewer arrests as crime rates decrease and

Figure 11. Violent Crimes and Arrests for Violent Crimes per 100,000 Residents of Large Cities, 2010-2015



Source: UCR

more arrests as crime rates increase. As a result, criminologists use the ratio of arrests to offenses as an indicator of change in police enforcement activity over time. Figure 11 displays the violent crime rate and the arrest rate for violent crimes in large cities between 2010 and 2015.⁹ It also shows the arrest-offense ratio for violent crimes (arrests for violent offenses/violent offenses) in large cities during the same period. The arrest-offense ratio for violent crimes dropped, albeit modestly, between 2014 and 2015 when homicides were increasing in large U.S. cities. But the ratio was shrinking as far back as 2011, several years before Ferguson, when homicide rates were declining. That complicates the claim that the recent homicide rise resulted from diminished police enforcement, at least as reflected in aggregate arrests for violent crime.

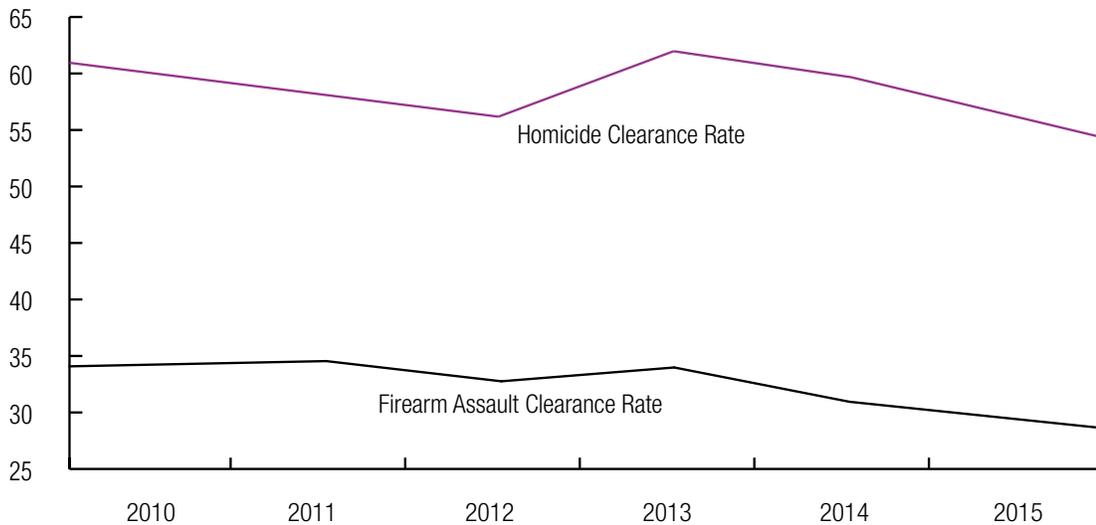
A related enforcement indicator is the arrest clearance rate, which is the

proportion of crimes that result in an arrest of one or more suspects. Some observers attribute high levels of violence in disadvantaged minority communities to low clearance rates for violent crimes (e.g., Leovy 2015). Figure 12 displays recent trends in the arrest clearance rate for homicide and aggravated assaults committed with a firearm in large cities. The arrest clearance rate for homicide hovered around 60 percent between 2010 and 2015, declining somewhat both before and after the Ferguson incident in 2014. The clearance rate for firearm assaults was fairly flat before falling from about 34 percent in 2013 to 29 percent in 2015. The latter decrease coincided with the homicide rise.

Most arrests are for relatively minor offenses. The order-maintenance or “broken windows” movement in policing is based on the assumption that arrests for minor crimes can lead to reductions

9. UCR violent crimes include murder, rape, robbery, and aggravated assault.

Figure 12. Percentage of Homicides and Firearm Assaults Cleared by Arrest in Large Cities, 2010-2015



Source: UCR

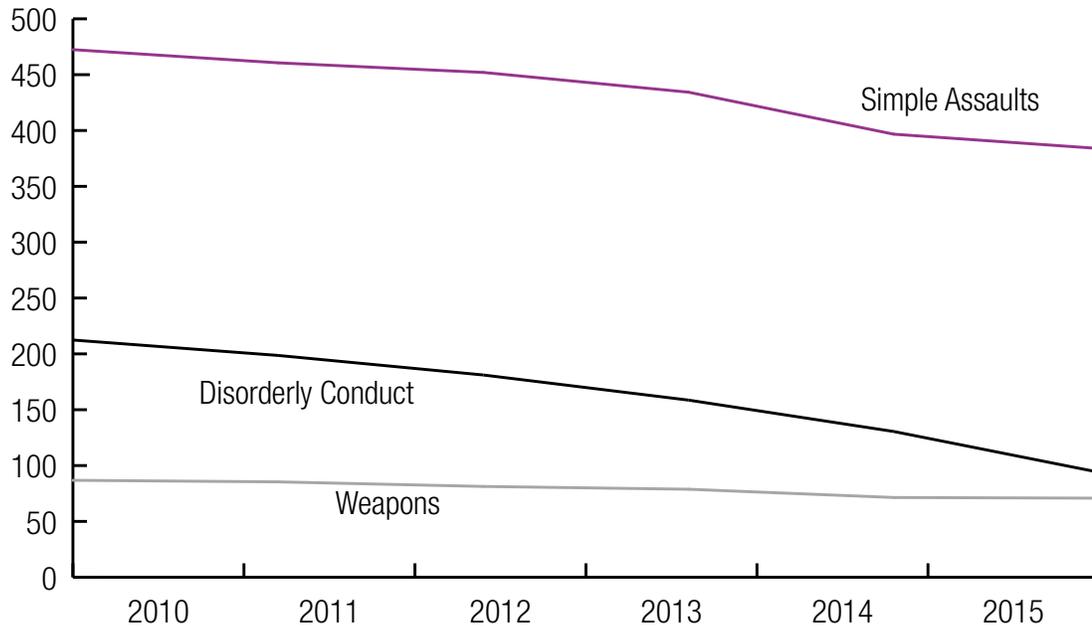
in more serious crimes (Kelling and Coles 1996; Kelling and Wilson 1982). Figure 13 shows that arrest rates for three minor offenses (simple assaults, disorderly conduct, and weapons offenses) fell in large cities between 2010 and 2015. As with the indicators of arrest for more serious offenses, these reductions occurred during the period when homicides were decreasing as well as when they increased in 2015. If the drop in arrests for minor offenses caused homicides to increase in 2015, why did it not have the same effect during the preceding four years?

In summary, the UCR arrest data for large cities provide ambiguous support, at best, for the de-policing version of the Ferguson effect. Arrests for both serious and minor offenses decreased in 2015 when homicides were increasing, but they also fell several years earlier, when homicides were decreasing. What explains the several-year lag between the enforcement changes and the homicide rise? It is possible that the timing of changes in other enforcement indicators, such as pedestrian or vehicle

stops, is more consistent with a Ferguson effect. Moreover, data for cities other than Chicago and Baltimore may yield a different picture than the aggregate data currently available on the relationship between police enforcement and homicide. A reasonable conclusion from the available data, however, is that the case for linking the homicide rise to de-policing remains open.

We now turn to the other version of the Ferguson effect, which redirects emphasis from changes in police behavior to changes in community behavior regarding the police. This explanation of the homicide rise is not as well known, although it is informed by a sizable body of theory and research in the social sciences on the relationship between crime and institutional legitimacy. We first summarize the relevant literature and, as we did with the de-policing explanation, draw on available data in a preliminary assessment of whether growing community alienation and declining police legitimacy contributed to the recent homicide rise.

Figure 13. Arrests per 100,000 Residents of Large Cities by Offense Type, 2010-2015



Source: UCR

Crime and Police Legitimacy

A long tradition of theory and research suggests that the recent homicide rise may be attributable to compromised police legitimacy. This body of scholarship has identified legitimate authority as central to inducing voluntary compliance and cooperation from followers in a variety of social settings (Beetham 2013; Milgram 1974; Tyler 1990; Weber 1968[1922]). In recent years, scholars have drawn from this rich tradition to study the legitimacy of the police and its influence on a range of outcomes, including crime.

Police legitimacy is the belief among citizens that officers deserve deference, should be obeyed, have the right to constrain their behaviors, and are honest and trustworthy (Hurd 1999; Kelman and Hamilton 1989; Tyler 1990; Tyler and Jackson 2014). When people view the police

as legitimate, they voluntarily obey legal rules and defer to police authority (Tyler and Huo 2002). Perceptions of police legitimacy stem from citizens' direct and vicarious experiences with the police. Those experiences, in turn, become the basis for the belief that officers either do or do not behave in accordance with the tenets of procedural justice. Procedural justice encompasses a set of expectations regarding how the police should treat people. Citizens expect the police to value them and their concerns, treat them with dignity and respect, uphold their rights, and use fair and unbiased procedures in their enforcement practices (Tyler 1990). Procedural justice is a key antecedent to police legitimacy (Tyler and Jackson 2014; Tyler, Fagan, and Geller 2014; Wolfe et al. 2016).

Police legitimacy is crucial to maintaining social order and controlling crime in

democratic societies. Sir Robert Peel, founder of the London police in 1829, understood this well, as his principles underscored the need for police to gain the public's approval and respect in order to garner their voluntary cooperation and obedience to the law in return (Mayhall 1985). Modern researchers concur: "When legal authority is legitimate, people more broadly help to co-police their communities. They report crime and identify criminals. They also are more willing to act as witnesses and jurors. They go to neighborhood meetings and participate in neighborhood watch. All of these behaviors help the police to do their jobs" (Tyler, Goff, and MacCoun 2015: 83).

Some studies have found police legitimacy to be a stronger crime inhibitor than deterrence, the threat of punishment (Tyler, Goff, and MacCoun 2015). It follows that perceptions of police illegitimacy may weaken the normative basis on which compliance and cooperation are attained (Reisig and Lloyd 2009; Tankebe 2009; Tyler, Schulhofer, and Huq 2010). Research has shown that people who view the law and legal authorities as illegitimate are less inclined to obey traffic laws, drug laws, and regulations against buying illegal items (Fagan and Piquero 2007; Gottfredson et al. 2007; Jackson et al. 2012; Reisig, Tankebe, and Mesko 2014). Some studies have linked compromised legitimacy to serious law violations, including violent crime (Kane 2005; Lafree 1998; Papachristos, Meares, and Fagan 2012; Roth 2009).

In addition to directly influencing criminal behavior, police illegitimacy inhibits a range of public actions that help the police fight crime. People who distrust the police would rather avoid contact with them. They are less inclined to report a crime, cooperate with the police in neighborhood problem-solving tasks, identify criminals, act as witnesses, or participate in lineups and trials (Sunshine and Tyler 2003; Tyler and Fagan 2008). Finally, people who

distrust the police are less likely to call them when they have conflicts with others and are more willing to resolve disputes on their own by means of "private vengeance" (Tyler, Goff, and MacCoun 2015; see also Anderson 1999 and Kubrin and Weitzer 2003). To the extent that distrust of the police is pervasive in a community, violent crime rates can increase (Leovy 2015).

Recent research also suggests that police illegitimacy erodes collective efficacy, the form of social cohesion that enables communities to self-regulate against violent crime. Where collective efficacy is strong, neighborhood residents abide by shared prosocial norms, participate in neighborhood organizations, share information about the neighborhood with one another, and "intervene on behalf of the common good" (Sampson, Raudenbush, and Earls 1997). People who view the police as unjust and illegitimate are prone to disengage from their communities. As a result, they are less likely to exert the kinds of informal social control that reduce crime, such as monitoring youth, questioning strangers, reporting suspicious activities, and participating in neighborhood watch activities (Kochel 2012).

However, there is reason to believe that the criminogenic effect of police illegitimacy is not universal and varies across geographic areas. Places characterized by high levels of structural disadvantage may be especially susceptible to the effect of compromised police legitimacy on violent crime. Kane (2005) found that indicators of compromised police legitimacy (police misconduct and both over- and underpolicing) led to increases in violent crime rates in highly disadvantaged New York City neighborhoods, but not in communities with less disadvantage. Similarly, a recent investigation of whether a Ferguson effect spurred crime increases in large cities found little evidence of an overall effect but found some indication of

homicide increases in cities with high levels of structural disadvantage (Pyrooz et al. 2016).

In summary, police legitimacy is undermined when people believe officers treat citizens disrespectfully, demonstrate a disregard for their humanity or rights, or engage in discriminatory or biased policing. Recent controversial incidents of police use of lethal force against African-Americans may have ignited a longstanding “reservoir of discontent,” reduced reliance on and cooperation with the police, and spurred homicide increases in some African-American communities (Rosenfeld 2016). Like the version of the Ferguson effect that attributes the homicide rise to de-policing, the variant focusing on a police legitimacy crisis has not been subjected to rigorous empirical evaluation. We discuss some preliminary evidence below and conclude with recommendations for future research on the homicide rise.

Reservoir of Discontent

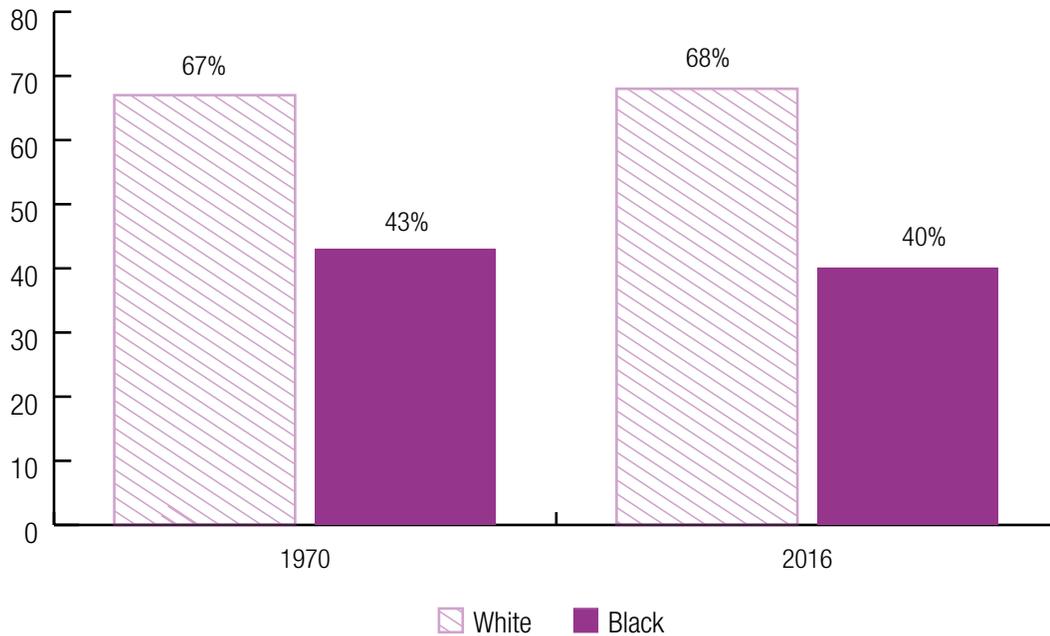
African-Americans have registered more negative views of the police than have whites since national surveys of attitudes toward the police began a half century ago (Weitzer 1999). That is hardly surprising in light of the police role in the history of racial oppression in the United States — from the slave patrols to the indifference of the police to, or their active participation in, lynchings of black citizens by white mobs during Reconstruction and Jim Crow, and their enforcement of racially discriminatory segregation laws and practices until well into the 1960s (Walker 1997; Websdale 2001). Unlike attitudes of whites, those of African-Americans toward the police generally, and their views of recent police killings in particular, have been shaped by a long history of racial subjugation and harassment that the term “procedural injustice” does not adequately capture. “Against this backdrop,” Desmond, Papachristos, and Kirk (2016: 872) have

written, “a violent episode carried out by the police is registered as proof and product of a violent heritage, rendering victim and perpetrator actors in a larger historical drama.”

Figure 14 displays the percentages of black and white Americans who had a favorable view of their local police in 1970 and 2016. Despite the 46 years separating them, the two national surveys yielded nearly identical responses. In both, roughly 60 percent of blacks and 30 percent of whites held unfavorable views of their local police, and both surveys were conducted in the aftermath of significant racial unrest triggered by confrontations between blacks and police officers. Research shows that confidence in the police generally erodes after controversial policing incidents are heavily publicized (Kaminski and Jefferis 1998; Lasley 1994; Weitzer 2002). Nonetheless, a sizable and remarkably stable racial gap in attitudes toward the police has existed for as long as such attitudes have been systematically measured (Newport 2016a). The question is how the generally negative views of the police held by African-Americans might have contributed to the increase in homicides after Ferguson.

Recent research indicates that views of the police among both blacks and whites became even more negative after the widely publicized killings by police in Ferguson, Staten Island, Cleveland, and elsewhere in 2014 and 2015. That was true at the national level (Jones 2015) and in the St. Louis area surrounding Ferguson (Kochel 2015a). Within about a year, both national and local confidence in the police returned to pre-Ferguson levels (Kochel 2015b; Newport 2016b). Prior research has found that public perceptions of the police rebound to pre-incident levels within three years after a controversial policing incident (Weitzer 2002). These results suggest that crime increases tied to shifts in police legitimacy may be temporary.

Figure 14. Percentage of Americans With Favorable View of Local Police by Race, 1970 and 2016



Source: Elkins (2016); Hindelang (1974)

Much speculation, but little empirical research, exists regarding the mechanisms linking police legitimacy, as reflected in public attitudes and perceptions, to crime rates. One study found a relationship between Google searches for phrases related to police violence (e.g., Black Lives Matter, police shootings, police brutality) and increases in monthly violent and homicide rates in U.S. cities between July 2014 and June 2016 (Gross and Mann 2017). Although this is the first study to document variation across cities in public concern with police use of force after Ferguson, it does not specify how that concern provoked increased violence. Some evidence has begun to emerge, however, connecting controversial incidents of police use of force and the public's reliance on and cooperation with the police.

Desmond et al. (2016) found that calls for police service dropped significantly

after the police beat and badly injured an unarmed black man in Milwaukee; the decline was especially large in predominantly black neighborhoods. Their study also produced some evidence that widely publicized violent encounters between police and African-Americans elsewhere in the nation also reduced calls for service in Milwaukee. The researchers concluded that the decrease in calls for police service undermined public safety. In line with this interpretation, they reported that homicides, which are not likely to be affected by a reduction in calls for service, rose sharply after the police beating in Milwaukee.

One advantage of the Desmond et al. (2016) study of the social response to perceived police misconduct is its reliance on behavioral indicators rather than opinion surveys (or internet searches) to measure police-community relations. As we noted in

our discussion of a recent national survey of police officers, surveys are a useful way of capturing collective perceptions and attitudes but they may not be a reliable indicator of social behavior. Desmond et al. (2016: 858-859) put the issue succinctly with regard to public involvement with the police: “When it comes to relying on and cooperating with the police, what one does might not resemble what one says one will do. ... People’s attitudes toward the criminal justice system might be poor, even misleading, indicators of their real-life dealings with the police.”

This insight helps to explain a final result of the Desmond et al. (2016) Milwaukee study. Calls for police service returned to the level that prevailed prior to the beating by police within about a year of the incident, although it took somewhat longer for call levels to rebound in predominantly black communities. The authors pointed out that, despite a long history of distrust and antagonism, the black community needs the police for protection against crime and violence (see also Leovy 2015). As the shock and anger associated with perceived police misconduct wear off, community residents resume “normal,” if unsatisfactory, relations with the police.

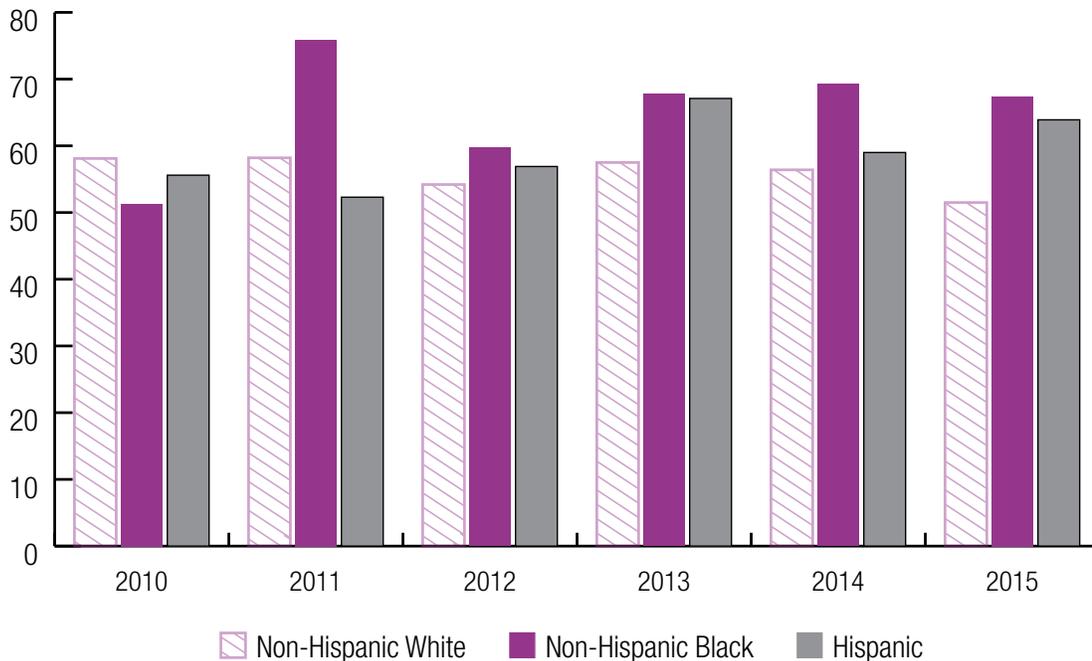
This basic fact of modern urban life also helps to explain two other facts about the complicated relationship between the black community and the police in the United States that might otherwise seem at odds with longstanding survey evidence of suspicion and mistrust. Black Americans want greater police presence on their streets than do whites, and blacks are just as likely as whites to report crimes to the police. A Gallup poll conducted during the summer of 2015, with expanded samples of blacks and Hispanics, found that 38 percent of blacks and 30 percent of Hispanics, compared with only 18 percent of non-Hispanic whites, wanted a larger police presence than currently exists in their local community. Few respondents

wanted a smaller police presence, regardless of race or ethnicity (Swift 2015).

With respect to reporting crimes to the police, studies have found that blacks are no less likely than whites to notify the police when they are victims of a crime (Baumer 2002; Baumer and Lauritsen 2010; Xie and Lauritsen 2012). National Crime Victimization Survey data do not show appreciable racial or ethnic differences in reporting violent crimes to the police in the years leading up to and including the period of unrest in many cities over police use of force against African-Americans (see Figure 15). This national result does not necessarily conflict with the evidence of community alienation from the police that Desmond et al. (2016) found in Milwaukee. City- or neighborhood-level data may be necessary to detect relatively transitory and localized changes in the relationship between urban communities and their police departments.

The picture that emerges from prior research on procedural justice, police legitimacy, public reliance on and cooperation with the police, and controversial incidents of police use of force — and the extent to which any or all of these conditions explain recent homicide increases in U.S. cities — is complex and uncertain. The relatively modest post-Ferguson decrease in public confidence in the police cannot, by itself, explain homicide increases of 25 percent or more in big cities during the past few years. We have intriguing evidence from Milwaukee that perceived police misconduct reduces public reliance on the police, but it is not yet known whether the decrease in calls for police service observed in Milwaukee occurred in other cities after Ferguson, nor the degree to which reduced reliance on the police results in increases in homicide or other crimes, even in Milwaukee. It is likely that communities with high and persisting levels of economic disadvantage and racial segregation are

Figure 15. Percentage of Serious Violent Crimes Reported to the Police by Race and Ethnicity of Victims, 2010-2015



Source: National Crime Victimization Survey

especially prone to whatever criminogenic consequences that compromised police legitimacy may have (see Desmond et al. 2016; Gross and Mann 2017; Kane 2005; Pyrooz et al. 2016). But exactly how decreases in legitimacy produce increases in violence, even in the most vulnerable communities, remains to be determined in future research.

What is certain is that African-Americans have much less confidence in the police than do whites. Compromised police legitimacy (what sociologists call “legal cynicism”) is an institutionalized feature of disadvantaged urban black communities; it helps to explain the persistence of relatively high levels of violence in those communities (Kirk and Papachristos 2011; Sampson and Bartusch 1998). But, despite a long history of mistrust, African-Americans have not given up on the police, as reflected in their continued willingness

to report crimes and their desire for more and better police protection. An important objective of future policy-relevant research is to learn how to mobilize these persisting commitments to formal social control in the service of boosting confidence in the police and reducing crime in U.S. cities.

Research Directions

This paper builds on a previous study of the recent abrupt and unexpected increase in homicide rates in U.S. big cities (Rosenfeld 2016). We offer two hypotheses to explain the homicide increase: (1) the expansion of illicit drug markets in the wake of the opioid epidemic and (2) a deterioration in police-community relations stemming from controversial incidents of police use of force. The latter hypothesis has two variants: police withdrawal from proactive enforcement activities and community

alienation from the police. We do not offer definitive conclusions regarding either of these explanations of the homicide rise. Instead, we provide some preliminary evidence intended to set the stage for future research on the homicide rise and, more generally, on crime increases brought about by exogenous shocks. In this section, we outline several recommendations for the directions that research should take.

Units of Analysis and Research Strategies

With few exceptions, the descriptive results presented in this paper apply to the nation as a whole. National-level data are helpful at the beginning stages of research; subsequent research on the homicide rise, however, should be based on cities and neighborhoods as units of analysis. As we have seen, most large cities experienced homicide increases during the past two years, but homicide declined in some cities, and in others the increases were quite modest. Variation of this kind in the outcome of interest motivates the search for factors that can help to explain it. In the present case, therefore, we should ask why some cities experienced greater increases in homicide than others. The research needed to address this question should be carried out in case studies and multivariate quantitative analyses.

Case Studies

An important first step in the research process is to conduct *strategic case studies* of the phenomenon of interest. This involves sampling on the dependent variable, that is, selecting cases to study that differ on the outcome. With respect to the recent homicide rise, an investigator might select one or two cities where homicides increased markedly, and one or two others where the increases were small or where homicide declined. For example, the investigator might choose Nashville or Denver as cases where homicides grew sharply in 2015, and Austin or Atlanta where homicides

dropped or the increase was smaller. The same could be done for the homicide changes that occurred the following year. The investigator might also focus on cities that experienced a large homicide increase in 2015 and a decline in homicide the following year (e.g., Oklahoma City), or vice versa (e.g., Memphis; see Figures 2 and 3).

The case study is an exploratory research method. It is part of the process of hypothesis discovery rather than hypothesis verification (Hanson 1971), but exploratory research is not aimless. The investigator begins, or should begin, with provisional hypotheses to orient the research. We recommend the hypotheses presented in this paper as a starting place for case studies of the recent homicide rise. The hypotheses call attention to how the cases selected for analysis should be similar to one another and how they should differ. Ideally, the cases will be identical in all relevant respects except for the outcome. That, of course, is easier said than done. As much as possible, however, the cities chosen for case studies of the homicide rise should be at least roughly comparable in demographic contours, socioeconomic characteristics, police force size, and other conditions known to be related to homicide. That way, the investigator has some confidence that the observed changes in homicide rates are not attributable to differing pre-existing conditions of the cases selected for analysis. The search then begins for explanatory factors that differ across the cases, such as differences in illicit drug markets and tensions between the police and the communities they serve.

The best way to ensure that cities are similar in pre-existing conditions that may be related to homicide is to use each city as its own control. That means studying changes over time in homicide and the hypothesized explanatory factors in one or more cities. Such within-city case studies are just as important as the between-cities analyses for gaining a sense of the cogency

of the ingoing hypotheses, for refining them, and for discovering new hypotheses.

The within-city assessment should begin by placing the current homicide change in the context of prior changes and should then focus on the timing of the current change. The explanatory events or conditions must have preceded the homicide change or taken place at about the same time. If they occurred well before homicides began to rise (or fall), it is incumbent on the investigator to explain the time lag. For example, we have noted that, at the national level, the opioid epidemic began several years before homicide rates began to rise in the big cities. But cities almost certainly have varied in the timing of the epidemic and its effect on local drug markets. That is a key reason why carefully constructed city-level case studies are essential for explaining the recent homicide rise.

Within-city analyses can also include a comparative dimension. Cities can be compared with respect to their homicide trajectories and temporal changes in selected explanatory indicators. In addition, trends in homicide and explanatory factors should be compared across neighborhoods within cities. Urban neighborhoods differ greatly in their levels of lethal violence (Peterson and Krivo 2010; Sampson 2012). The neighborhood differences in homicide in many cities far exceed homicide differences across cities. As we explain below, neighborhoods also are suitable or superior units of analysis for several of the explanatory indicators we have proposed to study the homicide rise.

Neighborhood-level case studies should follow the same research directions we have outlined for city-level studies: selection on the dependent variable, between-units comparisons, within-unit analyses, and selection to decrease pre-existing

differences. The same logic of analysis also holds. The objective of neighborhood case studies is to refine initial hypotheses and to discover new ones that can be evaluated in research based on larger samples of cities and neighborhoods.

Panel Studies

Case studies are the fundamental building blocks of social research, especially investigations of issues that lack extensive prior research and strong theoretical guidance, which is certainly true of research on large and abrupt changes in crime rates (Baumer, Vélez, and Rosenfeld forthcoming). Researchers often err by moving directly into multivariate quantitative research on such topics without having conducted strategic case studies. But it is usually necessary, if not always feasible, to move beyond case studies and conduct research on larger samples with quantitative methods.

Case studies produce indispensable, close-up knowledge of social processes that is typically gained through qualitative research methods. However, they are limited by the same features that make them so essential in social research. They provide intensive knowledge of a research problem, but they rarely can tell us how extensive the problem is or whether the cases selected as strategic observation points are representative of some meaningful population of cases. For that, quantitative methods are needed that can accommodate many representative cases. For the problem at hand, cross-section time-series methods — *panel studies* — are best.

Panel studies are ideally suited for the study of change over time in social phenomena across many social units.¹⁰ A sample of cases (the “panel”) is followed over time,

10. For econometric treatments of panel models, see Hsiao (2003) and Wooldridge (2010). See Phillips and Greenberg (2008) for a criminological application.

and changes in the outcome related to the explanatory variables are estimated. Depending on the number of observations (the number of panel units times the number of time periods), panel models can accommodate many explanatory variables. Panel models also enable the investigator to control for the influence on the outcome of unobserved variables that change over time and across the panel units. Panel studies can be used to study more or less continuous changes or abrupt, discontinuous changes in the outcome of interest. Ideally, a panel study of homicide rates would follow a sample of cities or neighborhoods over time and estimate the effects of the explanatory variables of primary interest (e.g., indicators of illicit drug markets, police activity, and police legitimacy) on homicide, controlling for observed and unobserved influences.

There are many technical challenges to panel studies, but the most important impediment the investigator must overcome concerns the validity and reliability of the explanatory variables chosen to represent the underlying causal processes of interest. Including variables in the model that are poor proxies for the corresponding theoretical concepts or are not reliably measured will produce misleading or erroneous results. We turn next to a discussion of key empirical indicators for evaluating the provisional hypotheses we have presented to explain the recent homicide rise in U.S. cities.

Key Indicators

The basic challenge to future research on the homicide rise is to locate valid and reliable indicators for the conditions, events, and processes thought to influence change over time in homicide generally, and the recent increase in particular. We have proposed, for example, that expansions in illicit drug markets resulting from the opioid epidemic have resulted

in homicide increases in the big cities, and perhaps especially among whites. To evaluate this hypothesis, investigators will need *racially disaggregated city-level homicide data* from the SHR. As an indicator of the severity of the opioid epidemic, *opioid-related overdose deaths*, by race, can be obtained from public health sources; this may require contacting city public health agencies directly.

A more difficult challenge is to find suitable indicators to measure the expansion of local drug markets. *Drug arrests* can be used, but they are a product of both police enforcement and criminal conduct. Cities in which the police department decides to focus on drug crimes may show an increase in drug arrests even if drug crimes have not increased or have decreased. There appears to be little way around this measurement dilemma, although prior research has reported strong correlations between drug arrests and indicators of drug use, such as drug-related fatalities and admissions to emergency departments for drug overdose (Rosenfeld and Decker 1999). The drug arrest indicator should be racially disaggregated to determine whether, as expected, whites have entered local drug markets in greater numbers over time as both buyers and sellers.

Finally, the key indicator of the consequences of drug market expansion for homicide is the *drug-related homicide rate*, by race, available from the SHR. Drug-related homicides should be measured as a proportion of all homicides as well as a per capita rate. As noted earlier, missing data pose a significant challenge to the reliability of this indicator. Imputation methods can be used to provide estimates of the missing data in the SHR (Fox 2004; Regoeczi and Riedel 2003). At the very least, investigators should include a measure of the proportion of missing cases in drug-related homicides as a control variable in panel models of homicide rates.

Locating valid and reliable indicators for changes in police activity, police legitimacy, and community alienation — also referred to as the Ferguson effects — poses additional measurement challenges.

One measure of police activity already discussed is the *arrest rate*. Large drops in arrests, especially for violent offenses, can precipitate increases in crime, as may have occurred in Chicago and Baltimore after controversial and deadly police-citizen encounters in those cities (Ford 2017; Morgan and Pally 2016; University of Chicago Crime Lab 2017). City-level arrest data can be obtained from the UCR.

The impact of arrests on homicide should also be examined at the neighborhood level. As noted, homicide rates vary substantially across urban neighborhoods. Arrests do as well. Commentary on police disengagement from vigorous enforcement activity (e.g., Mac Donald 2016) and surveys of police officers (Morin et al. 2017) suggest that police disengagement should be particularly pronounced in African-American communities. Therefore, if the disengagement hypothesis is correct, investigators should expect to observe a stronger relationship between arrest decreases and homicide increases in these communities than in others.

Arrests are not the only indicator of police enforcement activity. Big-city police departments require their officers to log numerous enforcement activities (sometimes termed “self-initiated” enforcement), including pedestrian checks, occupied and unoccupied vehicle checks, building checks, field interviews, and problem-solving activity. These are the kinds of activities that constitute *proactive policing*. The police disengagement hypothesis proposes that proactive enforcement should decrease in the aftermath of public criticism and unrest associated with controversial use-of-force incidents. Reductions in proactive enforcement, in turn, should be associated

with heightened levels of crime, including homicide. The relationship between proactive policing and homicide should be especially strong in African-American communities. Data on proactive policing activities will have to come directly from local police departments.

Arrests and proactive enforcement can decrease for reasons, such as budget cuts, that may have little to do with public criticism or community unrest related to police use of force. If police disengagement results from controversial incidents of police use of force, investigators should expect to observe greater disengagement in cities where those incidents have occurred and where they have sparked significant community protest and unrest. The requisite data can be obtained from press accounts and social media traffic (Gross and Mann 2017).

Locating suitable indicators for the effect on homicide of police legitimacy and community alienation from the police is an especially onerous measurement challenge (Rosenfeld 2016). Police legitimacy is revealed through measures of individual attitudes and beliefs obtained from opinion surveys. It is prohibitive to carry out representative surveys across numerous cities or neighborhoods, and it is impossible to survey past attitudes and beliefs, which would be necessary to measure change over time in police legitimacy, except through respondent recollections of doubtful reliability. For the time being, it appears that strategic case studies and one- or two-time snapshot surveys will have to suffice (e.g., Kochel 2015a, 2015b).

Two empirical indicators used to measure community alienation from the police are citizen *calls for police service* and *complaints against the police*. Both can be obtained from most large police agencies, although some departments may be unwilling to release the complaint data. If the community alienation hypothesis

is correct, investigators should expect to observe a reduction in calls for service and an increase in complaints in cities where controversial use-of-force incidents and outbreaks of community unrest have occurred, particularly in African-American communities (Desmond et al. 2016). Increases in homicide, other things being equal, should be greater in those cities and communities than in others.

These are just a few of the key indicators needed to evaluate the hypotheses presented in this paper to explain the recent homicide rise in U.S. cities. Creative researchers are sure to find others. The indicators discussed here constitute a starting point for future research on the homicide rise. Some of the indicators are available from secondary sources such as the UCR, SHR, and vital statistics. However, to locate many of the indicators, investigators will need to contact police and public health sources directly to obtain local data.

Federal Support: National Institute of Justice

This paper documents and explores potential explanations for the rapid and sudden spike in homicides and identifies directions for future research. It was produced in collaboration with NIJ, which is dedicated to improving knowledge and understanding of crime and justice issues through science. As a science agency, NIJ provides independent knowledge and tools to inform decision-making in the criminal justice community and to advance justice. NIJ supports this paper and its findings, as they were produced objectively, the implications are timely, and the issue is well aligned with the priorities of the U.S. Department of Justice (DOJ).

Given the aforementioned increases in violent crime and homicide, and the necessity to understand such spikes within

certain communities, NIJ has focused several agendas on investigating these incidents and trends. As examples of this commitment, three NIJ programs are highlighted below: (1) Drugs and Crime, an issue that may have contributed to the homicide spike; (2) Policing Strategies, which addresses proactive policing and community interaction with police; and (3) Safety, Health, and Wellness, which provides support to the law enforcement personnel who are first responders and are responsible for combating homicide, as well as supporting members of violent communities.

Drugs and Crime

As noted in this paper, drugs — particularly opioids and heroin — may be a key contributor to the increase in homicides and community instability. Like other federal agencies, NIJ has been focusing on this growing epidemic by supporting the Drugs and Crime program (see <https://www.nij.gov/topics/drugs/Pages/welcome.aspx>). This program includes many components: participation in a federal working group, collaborations across DOJ and other agencies (e.g., the Department of Health and Human Services, National Institute on Drug Abuse), intramural research, and extramural research (i.e., competitive solicitations).

In 2016, in support of DOJ's crime prevention and law enforcement objectives, NIJ released a competitive grant solicitation for research to examine the feasibility, impact, and cost efficiency of criminal justice tools, protocols, and policies designed to address drug trafficking, markets, and use, and the effects of drug legalization and decriminalization on law enforcement. Although NIJ's work in this area dates back to the late 1990s, it has recently been reintroduced as competitive research in collaboration with two of NIJ's program offices that support behavioral science and investigative forensics.

In 2017, as a result of the growing heroin and synthetic opioid epidemic and the need for research on such trends, NIJ narrowed the investigator-initiated call for proposals to focus on these two drug types. In compliance with the current Administration's priorities to combat the opioid epidemic, NIJ is committed to supporting research on crime (in particular, homicide) and to support law enforcement and prosecutors by providing information and data.

Policing Strategies

To explain the increase in homicide, this paper explores variables that include possible reductions in proactive policing and increases in community alienation from the police. NIJ is particularly interested in understanding proactive policing, other policing strategies, and officer decision-making approaches to respond to and reduce violent crime and homicides in communities. As part of its multifaceted Policing Strategies program, NIJ released two solicitations in 2017: (1) Research to Support Officer Decision-Making and (2) Understanding the Impacts of Policing Strategies and Practices. With these solicitations, NIJ may be able to further explore the hypotheses and variables discussed in this paper.

For the first solicitation, NIJ sought to study the interactions between an officer and community members, specifically the instances where the officer, the citizen, or both were under stress, with little time to make a decision that could result in death or injury. Ultimately, the objective was to provide knowledge that can be applied to support officer decision-making, thereby enhancing outcomes in police-citizen interactions. This research is particularly important as the number of homicides increases.

The goal of the second solicitation was to examine strategies, training, and

practices and to assess their impact on crime reduction and other positive or negative outcomes. NIJ intends to produce research on (1) the collateral consequences associated with a strategy or practice for individuals, communities, and police organizations; (2) the degree to which strategies or practices can be effective in reducing crime with minimal negative collateral consequences; and (3) the measures to be used to assess a policing strategy or practice, taking into consideration crime reduction and the impact of the broad spectrum of collateral consequences on the individual, the neighborhood, communities, and the police organization.

In addition to the two policing solicitations, NIJ recently published a five-year plan on policing that includes research related to homicide and violent crime, and policing responses and interaction with community members. This plan and subsequent research will complement the findings in this paper (see <https://nij.gov/about/strategic-plans/Pages/policing-strategic-research-plan.aspx>).

Safety, Health, and Wellness

With the increase in homicides and violence in communities, it is critical to provide research that supports the law enforcement personnel who are combating and responding to these issues. In 2016, NIJ produced a five-year plan to address research on Safety, Health, and Wellness in the criminal justice system. The purpose of this strategic plan is to describe NIJ's current and projected efforts to promote the safety, health, and wellness of individuals affected by or employed within the criminal justice system. This document will be of interest to researchers (academic, government, and industry); federal, state, local, and international government partners; and justice policymakers and practitioner communities (see <https://www.ncjrs.gov/pdffiles1/nij/250153.pdf>).

As part of this plan, in 2017 NIJ released its first competitive solicitation on safety, health, and wellness. The scope of the solicitation includes (1) law enforcement personnel, who combat homicide and violent crime; (2) correctional officers, who are responsible for overseeing offenders once they are detained; and (3) individuals who live in violent communities and are exposed to the violence. This solicitation supported several of the plan's objectives, which promote a common theme of research aimed at improving the physical and mental health of individuals who work in the criminal justice profession and routinely respond to violence. The research resulting from this component of the solicitation is intended to reduce stress-related mental and physical health symptoms in justice personnel and community members who are exposed to violence and homicide. Because it is well-established that high stress can have a negative impact on an individual's health, the research funded under this solicitation will support better tools and responses for

criminal justice personnel and community members who are exposed to frequent homicides and other violent crimes.

NIJ remains committed to these agendas and to supporting law enforcement and communities in reducing homicides and other violent crimes in the United States. Progress in promoting safer communities will be made by advancing the understanding of the impact of the opioid and heroin epidemic on rates of homicide and violent crime, furthering the understanding of the impact of various policing strategies on crime rates and other collateral consequences, and better addressing the safety and wellness of police officers and other criminal justice personnel who work under these high-stress conditions. The findings from this paper highlight the importance of continued research on homicide, violent crime, and changing crime trends. NIJ will continue to support such efforts to reduce violent crime and improve public safety.

Appendix. Homicides in Cities With 250,000 or More Residents, 2014-2016

	City	Population	2014	2015	Diff	% Diff	2016	Diff	% Diff
1	Aurora	353,108	11	24	13	118.2%	22	-2	-8.3%
2	Anchorage	301,010	12	26	14	116.7%	28	2	7.7%
3	Orlando	262,372	15	32	17	113.3%	84	52	162.5%*
4	Fort Wayne	258,522	12	25	13	108.3%	43	18	72.0%
5	Cleveland	389,521	63	120	57	90.5%	135	15	12.5%
6	Nashville	644,014	41	72	31	75.6%	81	9	12.5%
7	Denver	663,862	31	53	22	71.0%	57	4	7.5%
8	Baltimore	622,793	211	344	133	63.0%	318	-26	-7.6%
9	Oklahoma City	620,602	45	73	28	62.2%	70	-3	-4.1%
10	Durham	251,893	21	34	13	61.9%	NA		
11	Milwaukee	599,642	90	145	55	61.1%	141	-4	-2.8%
12	Long Beach	473,577	23	36	13	56.5%	33	-3	-8.3%
13	Washington	658,893	105	162	57	54.3%	138	-24	-14.8%
14	Sacramento	485,199	28	43	15	53.6%	41	-2	-4.7%
15	Minneapolis	407,207	31	47	16	51.6%	35	-12	-25.5%
16	Omaha	446,599	32	48	16	50.0%	29	-19	-39.6%

Appendix (continued)

	City	Population	2014	2015	Diff	% Diff	2016	Diff	% Diff
17	St. Paul	297,640	11	16	5	45.5%	19	3	18.8%
18	Louisville	677,710	56	81	25	44.6%	119	38	46.9%
19	Albuquerque	557,169	30	43	13	43.3%	61	18	41.9%
20	Kansas City	470,800	78	109	31	39.7%	129	20	18.3%
21	Henderson	277,440	3	4	1	33.3%	10	6	150.0%
22	Charlotte	856,916	47	61	14	29.8%	67	6	9.8%
23	Bakersfield	368,759	17	22	5	29.4%	32	10	45.5%
24	Anaheim	346,997	14	18	4	28.6%	7	-11	-61.1%
25	Houston	2,239,558	242	303	61	25.2%	301	-2	-0.7%
26	Colorado Sp	445,830	20	25	5	25.0%	24	-1	-4.0%
27	Mesa	464,704	13	16	3	23.1%	19	3	18.8%
28	Tampa	358,699	28	34	6	21.4%	29	-5	-14.7%
29	Tulsa	399,682	46	55	9	19.6%	72	17	30.9%
30	Portland	619,360	26	31	5	19.2%	14	-17	-54.8%
31	Fort Worth	812,238	47	56	9	19.1%	66	10	17.9%
32	St. Louis	317,419	159	188	29	18.2%	188	0	0.0%
33	San Francisco	852,469	45	53	8	17.8%	57	4	7.5%
34	Dallas	1,281,047	116	136	20	17.2%	171	35	25.7%
35	Chicago	2,722,389	411	478	67	16.3%	765	287	60.0%
36	San Diego	1,381,069	32	37	5	15.6%	50	13	35.1%
37	Greensboro	282,586	23	26	3	13.0%	NA		
38	Philadelphia	1,560,297	248	280	32	12.9%	273	-7	-2.5%
39	Newark	280,579	93	105	12	12.9%	100	-5	-4.8%
40	Jersey City	262,146	24	27	3	12.5%	24	-3	-11.1%

Appendix (continued)

	City	Population	2014	2015	Diff	% Diff	2016	Diff	% Diff
41	Virginia Beach	450,980	17	19	2	11.8%	21	2	10.5%
42	Cincinnati	298,165	60	66	6	10.0%	57	-9	-13.6%
43	New Orleans	384,320	150	164	14	9.3%	174	10	6.1%
44	Indianapolis	848,788	136	148	12	8.8%	148	0	0.0%
45	Los Angeles	3,928,864	260	282	22	8.5%	293	11	3.9%
46	Oakland	413,775	80	85	5	6.3%	85	0	0.0%
47	New York	8,491,079	333	352	19	5.7%	335	-17	-4.8%
48	Las Vegas	1,530,899	122	127	5	4.1%	158	31	24.4%
49	Wichita	388,413	26	27	1	3.8%	31	4	14.8%
50	Atlanta	456,002	93	94	1	1.1%	111	17	18.1%
51	Jacksonville	853,382	96	97	1	1.0%	106	9	9.3%
52	Stockton	302,389	49	49	0	0.0%	49	0	0.0%
53	Plano	278,480	4	4	0	0.0%	5	1	25.0%
54	Toledo	281,031	24	24	0	0.0%	37	13	54.2%
55	Chandler	254,276	1	1	0	0.0%	4	3	300.0%
56	Detroit	680,250	298	295	-3	-1.0%	303	8	2.7%
57	Phoenix	1,537,058	114	112	-2	-1.8%	146	34	30.4%
58	Memphis	656,861	140	135	-5	-3.6%	196	61	45.2%
59	San Jose	1,015,785	32	30	-2	-6.3%	47	17	56.7%
60	Raleigh	439,896	16	15	-1	-6.3%	NA		
61	Columbus	835,957	83	77	-6	-7.2%	91	14	18.2%
62	Miami	430,332	81	75	-6	-7.4%	55	-20	-26.7%
63	San Antonio	1,436,697	103	94	-9	-8.7%	149	55	58.5%
64	Seattle	668,342	26	23	-3	-11.5%	19	-4	-17.4%

Appendix (continued)

	City	Population	2014	2015	Diff	% Diff	2016	Diff	% Diff
65	Chula Vista	260,988	7	6	-1	-14.3%	1	-5	-83.3%
66	Riverside	319,504	12	10	-2	-16.7%	10	0	0.0%
67	Fresno	515,986	47	39	-8	-17.0%	39	0	0.0%
68	Pittsburgh	305,412	69	57	-12	-17.4%	57	0	0.0%
69	Tucson	527,972	38	31	-7	-18.4%	30	-1	-3.2%
70	El Paso	679,036	21	17	-4	-19.0%	17	0	0.0%
71	Lexington	310,797	20	15	-5	-25.0%	24	9	60.0%
72	St. Petersburg	253,693	19	14	-5	-26.3%	20	6	42.9%
73	Austin	912,791	32	23	-9	-28.1%	39	16	69.6%
74	Boston	655,884	53	38	-15	-28.3%	49	11	28.9%
75	Buffalo	258,703	60	41	-19	-31.7%	44	3	7.3%
76	Santa Ana	334,909	18	12	-6	-33.3%	23	11	91.7%
77	Corpus Christi	320,434	27	17	-10	-37.0%	24	7	41.2%
78	Arlington	383,204	13	8	-5	-38.5%	21	13	162.5%
79	Laredo	252,309	14	8	-6	-42.9%	12	4	50.0%
80	Lincoln	272,996	7	1	-6	-85.7%	10	9	900.0%
	Total	58,998,956	5,401	6,220	819	15.2%	6,892	672	10.8%

* Includes the 49 deaths from the mass shooting at an Orlando night club in June 2016.
Source: Uniform Crime Reports; U.S. Census Bureau

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