

CHAPTER

Why Crime Matters, and What to Do about It

by Jennifer Doleac

This paper was produced to provide policy-relevant evidence about current challenges confronting the American economy. Authors are invited to share their views about policy issues, which do not necessarily represent those of the Aspen Institute, members of the Aspen Economic Strategy Group, or their affiliated organizations.

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Why Crime Matters, and What to Do about It

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ABSTRACT

After decades of declining crime rates, the US experienced a spike in violent crime in the wake of the COVID-19 pandemic. While the most recently available data indicates that criminal activity has resumed its descent, crime continues to be a first-order problem for a large number of communities, and the costs of policing, prosecuting, and incarceration are borne by the affected and unaffected alike. The economic costs of crime in the US reach \$5-6 trillion annually by some estimates. This paper reviews research and offers policy recommendations to reduce crime through prevention, deterrence, and rehabilitation. First, investing in young children's health and education is extremely effective at reducing crime in the future. Second, policies that raise the probability that perpetrators are caught and face consequences are more effective at deterring crime than making the punishment longer or harsher. Finally, wellintentioned policies with the goal of hiding information about past criminal activity, such as Ban the Box, can have unintended negative consequences. Policymakers therefore should look to long-term investments in children, such as reducing lead exposure and expanding teenage summer jobs programs, along with efforts to detect and apprehend perpetrators today, through technology and increased policing, as evidence-based and cost-effective strategies to lower the economic costs of crime and make communities safer

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Introduction

Crime is an economic problem, not just a social problem. In this policy brief, I will summarize what we know about crime trends in the United States from the late 1980s through 2023, the economic costs of crime, and what research tells us about what works (and what doesn't) to reduce crime.

1. Recent crime trends

In broad terms, crime rates rose across the US from the 1980s through the early 1990s and then began falling. Researchers still don't fully understand what drove these increases and decreases; these changing trends were likely due to a combination of many factors. What is striking is that that both violent- and property-crime rates fell nearly continuously from the early 1990s until mid-2020.

During the COVID-19 pandemic, homicides and shootings spiked, and motor vehicle thefts increased as well. Rates for all three kinds of crime remained far below their early-1990s peaks, but these increases were jarring after decades of increasing safety. Other types of crime fell during the pandemic. While people stayed home, it was more difficult to steal property or break into homes but easier to steal cars (which were not being used regularly) (Morrison 2023).1 However, fewer people out on the streets meant fewer potential witnesses, and this drop in witnesses appears to have spurred an increase in violence.

Figures 1 and 2 show aggregate violent- and property-crime rates from 1987 through 2022, based on the FBI's National Incident-Based Reporting System (NIBRS) data.² The 2020 crime changes are barely visible in these aggregated data; in figures A.1 through A.8, which show separate figures by crime type, it is clear that the pandemic affected only a few specific types of crime (as described above).3

The higher rates of homicides and shootings continued through 2021-2022, but by late 2023 had fallen back to pre-2020 levels in most places (Asher 2024d). Early data from 2024 suggest that homicide rates have continued to fall in the first half of this year (Asher 2024c).4 Figure 3 shows the trend in the murder rate over time, using data from AH Datalytics, the best source of up-to-date homicide data.

¹ Car thefts also rose due to the discovery (and subsequent viral TikTok videos) that Kia and Hyundai cars could easily be hotwired with a USB drive.

² Violent crimes include homicide, rape, aggravated assault (physical assault with an aggravating factor, such as a firearm), and robbery (theft by physical force or threat of violence). Property crimes include burglary (breaking into a building to steal something), larceny (theft), motor vehicle theft, and arson. These offenses are all defined by the FBI as part 1 crimes and are typically charged as felonies.

³ Nonlethal shootings are often recorded as aggravated assaults.

⁴ Data from the first few months of 2024 show continued crime declines; see Asher 2024d.

Violent crime rate per 100k ECONOMIC STRATEGY GROUP Year

Figure 1. US violent-crime rate per 100,000 residents by year, 1987-2022

Source: "Trend of Violent Crime from 1987 to 2022," FBI Crime Data Explorer, accessed June 27, 2024, https:// cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend

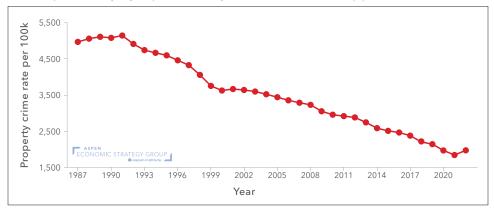


Figure 2. US property-crime rate per 100,000 residents by year, 1987-2022

Source: "Trend of Property Crime from 1987 to 2022," FBI Crime Data Explorer, accessed June 27, 2024, https:// cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend.



Figure 3. US murder rate per 100,000 residents by year, 1960-2023

Source: Asher 2024b, using data from AH Datalytics.

Crime rates vary significantly across the US. Table A1 shows the 2023 murder rate across the 50 largest US cities tracked by AH Datalytics. Even among these large cities, murder rates range from a low of 3.0 per 100,000 residents in Miami-Dade, FL, to a high of 54.9 per 100,000 residents in Memphis, TN.

Less serious offenses are much more difficult to track nationwide (more on this point below). For example, carjackings are typically not reported separately—they are included as a subset of robberies. Jeff Asher from AH Datalytics dug into the available data (Asher 2024a). He found that carjacking rates are low relative to historical levels but rose in 2022. Based on data from 30 cities (the only cities that publish carjacking data separately), it appears that carjacking rates fell again in 2023 in 24 of the 30 cities. Washington, DC, was an outlier, with a 98 percent increase from 2022 to 2023.

On average, urban areas have more crime than suburban areas, and suburban areas have more crime than rural areas. This trend holds true for both violent and property offenses. Table 1 shows total violent crime and total property crime, as reported to the National Crime Victimization Survey (NCVS).

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Total violent crimes per 1,000 persons age 12 or older						
	2019	2020	2021	2022		
Urban	21.1	19.0	24.5	33.4		
Suburban	22.3	16.8	16.5	23.9		
Rural	16.3	13.4	11.1	15.4		
Total property crimes per 1,000 households						
	2019	2020	2021	2022		
Urban	153.0	158.9	157.5	176.1		
Suburban	100.8	90.5	86.8	98.9		
Rural	68.1	65.5	57.7	61.7		

Table 1. Crime victimization rates by urban/suburban/rural classification.

Note: Violent-crime victimization rates do not include homicides (as the data are self-reported from crime victims). Source: Morgan and Thompson 2021; Thompson and Tapp 2023.

Within places, crime tends to be extremely concentrated in particular neighborhoods. So, even though crime rates are much lower now than they were in the mid-1990s, and even though most cities are quite safe on average, crime continues to be a firstorder problem for a large number of communities. High crime rates tend to overlap heavily with poverty and are geographically concentrated in similar ways. And, of course, taxpayers in affected and unaffected communities alike pay for the additional policing, prosecution, and incarceration that are necessary when crime is higher.

1.1 Challenges to understanding crime trends

While understanding these broad trends is helpful, there is a lot we don't know about the incidence of crime in the US. The current data infrastructure provides far less information—and in a less timely manner—than US residents are used to

having about almost any other aspect of the economy.

Currently, the FBI collects monthly data on reported crime from local police agencies and aggregates those data into the National Incident-Based Reporting System (NIBRS). Not all agencies report each month, quarter, or year, which creates some complications in analyzing the data and understanding what is going on across the country. These data are also available only with a large lag. As of May 2024, the FBI has only released data for 2022. (For this reason, most of the figures above only go through 2022.) But NIBRS is

"Taxpayers in affected and unaffected communities alike pay for the additional policing, prosecution, and incarceration that are necessary when crime is higher." currently the best source of data on reported crime across the country, as it includes a large number of agencies and standardizes the offense definitions.5

The next-best source of reported crime data is from individual police departments. Researchers and journalists typically need to go to such departments for more detailed information on specific crime types, including the geographic location of any given offense—often the block or intersection where the offense occurred. (NIBRS data include date and time but provide no geographic information aside from the agency to which the crime was reported.) Police agency data are typically available much sooner than NIBRS data are. The downside, of course, is that to do any analysis or comparison across places, one needs to collect data from all the relevant agencies, one by one.

There are some ongoing attempts to improve upon this status quo. AH Datalytics, a small consulting firm based in New Orleans, collects homicide data from large police departments across the country; its resulting "year-to-date murder dashboard" is now the best source of timely data on homicide trends in the US (AH Datalytics n.d.c.). Based on the success of this project, Arnold Ventures has funded AH Datalytics to expand this work to include other crime types and a larger number of agencies (AH Datalytics n.d.a.). The hope is to eventually hand off the resulting "Real-Time Crime Index" to the federal government for maintenance.

So, one challenge to understanding crime trends is that our disaggregated system means that we often have an incomplete or substantially delayed picture of what types of crime have been reported to police across the country. Another challenge is that not all crime that occurs is reported to police. Reported crime data necessarily miss this unreported crime. The share of crime that goes unreported varies with offense type and can be sensitive to other factors and trends.

The NCVS is the best source we have on the share of crime that is reported to police. Because the NCVS surveys crime victims, homicide is not included in its data; researchers typically assume that homicides are reported at very high rates. Based on the most recent data available (2022), 41.5 percent of violent-crime victims and 31.8 percent of property-crime victims reported the relevant offense to police.

These rates vary substantially by specific crime type (Thompson and Tapp 2023).6 Note that motor vehicle theft is reported at very high rates, in part because insurance companies require a police report to process a claim. For this reason, homicide

⁵ For a list of the offenses tracked by NIBRS, along with the FBI's definitions of these offenses, see NIBRS 2019.

⁶ In 2022, the percent of victimizations reported to police was: 21 percent for rape/sexual assault, 64 percent for robbery, 50 percent for aggravated assault, 37 percent for simple assault, 45 percent for burglary, 81 percent for motor vehicle theft, and 26 percent for other theft (NCVS 2022).

and motor vehicle theft are often the focus of crime trend analyses, when there are concerns that changes in reporting might confound changes in the underlying incidence of crime

Finally, minor offenses where there is no clear victim (for example, drug possession, trespassing, disorderly conduct, and public intoxication) are typically reported only when a police officer observes the behavior and makes an arrest. So, trends in these offenses are considered very sensitive to changes in policing (patrol patterns, hiring policies, or enforcement practices) as well as to the likelihood that officers will make an arrest (Lopez, Boxerman, and Cundiff 2023).7

2. Economic costs of crime

Crime's effect on the economy must be considered via two important channels: the indirect effects of fear for our personal safety and property, and the direct effects of crime on victims. I will discuss what we know about each of these channels.

Crime affects community members even when they are not directly victimized. For example, fear of crime can affect foot traffic, property values, and school attendance (if parents think it's not safe to walk to school, they might keep their children at home). In general, high levels of crime reduce residents' quality of life and have detrimental effects on neighborhoods (Lacoe, Bostic, and Acolin 2018). Dustmann and Fasani (2016) found that crime causes "considerable mental distress for residents." Effects are driven by property crime, are larger for women, and manifest mostly as depression and anxiety. They estimate that an increase in local crime causes two to four times as much mental distress as an equivalent decrease in local employment.

Cornaglia, Feldman, and Leigh (2014) estimate that, in terms of effects on mental well-being, the "society-wide impact of increasing the crime rate by one victim is about 80 times more than the direct impact on the victim." Fe and Sanfelice (2022) used mobile-phone data to track changes in visits to local Chicago businesses after a crime was committed. They found that one additional crime (mostly theft, in their data) committed on a nearby street (within the same census block group) resulted in a 12 percent reduction in consumer visits to local businesses over the subsequent month. Lacoe, Bostic, and Acolin (2018) looked at how crime affects local private investment. In Chicago and Los Angeles, the number of new building permits

⁷ There has been substantial recent interest in shoplifting, which is also sensitive to changes in reporting. The Council on Criminal Justice released a report in late 2023 on reported shoplifting trends in major cities, but if stores have stopped reporting shoplifting to police (perhaps because they expect limited enforcement actions), then these data will underestimate the true amount of shoplifting.

decreased on blocks where crime was rising. The effect was not symmetrical—that is, investment/building did not pick back up when crime fell—suggesting that the negative effects of crime on local economic outcomes are difficult to undo.

These indirect or spillover effects are important, but in many ways they are more difficult to quantify than the direct costs to crime victims are. These victim costs are both tangible and intangible (McCollister, French, and Fang 2010).8

Tangible costs include medical expenses, cash losses, property theft/damage, lost earnings due to injury, and risk-of-homicide estimates (the probability that the crime might have resulted in death, multiplied by the mean present value of lifetime earnings).

Intangible costs include pain and suffering (as estimated by jury awards) and a corrected risk-of-homicide cost (adding estimated intangible costs of premature death, above the lost earnings included in victim costs).

The estimated victim costs associated with various serious offenses are presented in table 2; each value is per criminal offense. Combining tangible and intangible costs, Anderson (2021) estimates that the aggregate cost of crime in the United States is \$4.7–5.8 trillion each year, including transfers from victims to criminals (for example, the cost of stolen property).9

So, crime is costly, even in a relatively safe country like the United States. To reduce these costs, the US spends a lot of money to prevent and punish criminal behavior.

2.1 The US criminal justice system and its costs

The criminal justice system in the United States is extremely disaggregated. A simplified version looks something like this: There is a federal system of courts and prisons, with the Federal Bureau of Investigation (FBI) handling enforcement of federal laws. But the vast majority of law enforcement and punishment is conducted at the state and local levels, and almost all criminal behavior that we usually think about (murder, robbery, burglary, shoplifting) is governed by state law (with the definitions of these crimes varying slightly from state to state).

⁸ This discussion is based on McCollister, French, and Fang 2010, a key citation in a large literature focused on estimating the social costs of crime. Other citations come up with slightly different estimates, but their lines of thinking and processes are similar. McCollister, French, and Fang's (2010) analysis uses a combination of approaches to estimate costs of crime. A "cost of illness" approach is used to estimate tangible costs, including the victim's medical expenses, lost earnings, and property damage or loss. A "jury compensation" approach is used to estimate intangible costs, including pain and suffering, these estimates reflect the difference between jury awards in personal-injury cases and any direct economic losses experienced by the associated victim.

⁹ Excluding these transfers—which are not completely lost to the economy, as the perpetrator now owns/enjoys them— Anderson (2021) estimates that the annual cost of crime is \$2.9-\$3.9 trillion.

Tangible victim costs Intangible victim costs Total victim costs Murder \$1,070,137 \$12,249,342 \$13,319,479 Rape / sexual assault \$8,062 \$289,681 \$297,743 Aggravated assault \$12,624 \$137,878 \$150,502 Robbery \$4,787 \$32,756 \$37,543 Motor vehicle theft \$380 \$8,871 \$9,251 Arson \$16,617 \$7,448 \$24,065 Household burglary \$1,976 \$466 \$2,442 \$696 Larceny / theft \$711 \$15

Table 2. Total costs of crime, to crime victims

Source: Estimates are from McCollister, French, and Fang 2010, adjusted to 2024 dollars.

Police departments operate at the local (city or county) level, with the exception of state troopers (who enforce the law on state highways). Courts operate at the local level, as do related court personnel such as prosecutors, public defenders, and judges (these offices may be elected or appointed). Jails also operate at the local level; they detain people who are awaiting trial, as well as those sentenced to short periods of incarceration (typically less than a year) and those awaiting transfer to prison for longer sentences. Prisons are operated at the state level.

Community supervision, which includes probation, parole, and post-release supervision (all very similar in practice, but involving people with different sentences), may be operated at the state or local level. To make things even more confusing, all these different agencies have their own data systems (which might be a system of paper files), and these data systems typically do not speak to one another.

In 2021, state and local governments spent 7.5 percent of their overall budgets on the criminal justice system (3.7 percent on police, 2.4 percent on corrections, and 1.4 percent on courts) (Urban Institute n.d.). This percentage amounts to \$135 billion spent on police, \$87 billion on corrections, and \$52 billion on courts. More than 95 percent of this spending is on personnel costs, with the remaining 5 percent being on capital investments.

The federal government also spends about \$58 billion each year, about 1.5 percent of its overall budget (as of 2017, the most recent year for which data are available) (Buehler 2021). This total includes \$33 billion for police (federal as well as local, through grants programs such as COPS¹⁰), \$17 billion for courts, and \$8 billion for corrections.

¹⁰ The Office of Community Oriented Policing Services (COPS) provides substantial federal funding to local police $departments. \ See \ https://cops.usdoj.gov/grants \ for \ mor \ information.$

In 2017, nearly 2.5 million government employees worked in the criminal justice system; 58 percent were employed by local governments, 30 percent were employed by state governments, and the remainder were employed by the federal government. At the state and local levels, criminal justice system employment accounted for 12.4 percent of the entire government workforce (Buehler 2021). Together, crime control efforts make up a meaningful share of the US economy.

This money could be spent much more efficiently if we invested in interventions with a proven impact. 11 There are many downsides to the disaggregated US criminal justice system, but one upside is the scope for innovation. There are lots of different agencies, all trying different approaches to public safety. For example, there are between 12,000 and 18,000 police departments (depending on whether you include agencies like transit or campus police), and they all have different practices for hiring, training, and enforcement of the law.

This variety—combined with myriad policy and practice changes implemented at the state and local levels each year—makes it much easier to find solutions to existing policy challenges than it would be if all decisions and policies were centralized. The biggest risk we face in this system is that we become wed to potential solutions before we know whether they work. A better strategy is to lean into the experimental approach that our laboratory of democracy has created. By doing so, we will figure out what works well enough to scale.

3. Reasons for criminal justice intervention

The criminal justice system is one tool available to us to prevent crime and improve public safety. As we think about the roles that various criminal justice actors play in the enforcement of the law—and how we might improve upon the status quo—it is useful to step back and think through what the government's goals are when it punishes someone.

Incapacitation: When a court (led by a judge or jury, representing their community) puts someone in jail or prison, it physically prevents that person from committing crime in the community. The reduction in crime that results is referred to as an incapacitation effect.

¹¹ Spending on the criminal justice system—like any government spending—could have indirect economic benefits. For instance, prisons can be a steady source of employment, especially valuable in rural areas that don't have other large employers nearby. Chirakijja (2022) found that prisons do "bring substantial and persistent gains in public employment," but that there is little spillover benefit to the local private economy. In addition, when prisons are built in an area, local property values tend to fall. So, if it weren't for the need to control crime, these public dollars could likely be invested in a more productive way.

Specific deterrence: Courts may hope that the experience of the punishment is unpleasant enough that a person will want to avoid experiencing it again—and so commits less crime in the future. If this outcome happens, the resulting reduction in crime is referred to as a specific deterrent effect.

General deterrence: Courts may also hope that seeing other people face punishment for their crimes will cause all of us to want to avoid that punishment and thus avoid breaking the law. If this broader reduction in criminal behavior happens among the general population, it is referred to as a general deterrent effect.

Rehabilitation: Prisons offer a lot of programming that aims to help put people on a better path when they get out. Programs such as group therapy, drug treatment, job training, and education classes could all have a rehabilitative effect, changing someone's trajectory and reducing criminal behavior after release. On the flip side, the experience of prison might change someone's trajectory for the worse. This outcome is not intentional, but it is possible. Being surrounded by other high-risk people can have a negative influence on behavior, and being incarcerated in violent facilities may cause emotional trauma that makes it difficult to reintegrate into society after release. If someone's trajectory worsens after release, this outcome is called a criminogenic effect of incarceration.

Retribution: Finally, courts punish people because the judge or jury feels the defendant deserves consequences for their bad behavior. Even if we learned that prison increased crime rather than reducing it (which could happen over the longer term if the criminogenic effects of prison cancelled out any incapacitation effects), a judge or jury might still think it worthwhile to put someone in prison on the grounds that the person should experience hardship. The amount of retribution (or mercy) someone deserves is a moral question, not an empirical one. Since I am focused here on what research evidence says about what works to improve public safety, I will have little to say about retribution. But it is important to recognize that the issue is one of many in the mix and to be able to distinguish public-safety goals from a desire for retribution.

4. What works to reduce crime

As noted above, various elements of the criminal justice system (police, courts, corrections) are important tools in our crime-reduction tool kit. There are also other tools available, such as improving access to education, availability of jobs, or even air quality. While we're still learning what works and what doesn't, the evidence that already exists points us in clear directions.

How do we figure out what works? Social scientists who study the causal effects of policies and programs on crime try to find contexts that approximate controlled experiments. The key is having a comparison group that tells us what would have happened without the policy or program we're studying. Sometimes it is possible to randomly assign some people or places to receive a treatment, and others not, for a classic randomized controlled trial (RCT). But in many contexts, it is infeasible or unethical to randomly assign people: for instance, we cannot randomly assign people to go to prison.

However, researchers have found and made use of lots of randomness in the system that splits otherwise-similar people into treatment and control groups, by chance. (For instance, eligibility cutoffs sort otherwise-similar people into different

"Increasing the probability that perpetrators are caught and face consequences has a much bigger deterrent effect on crime than does making the punishment longer or harsher"

programs, and court cases are randomly assigned to judges who have different preferences regarding incarceration.) These "natural experiments" provide much of the evidence we have about what works and what doesn't

A primary takeaway from this literature is that increasing the probability that perpetrators are caught and face consequences has a much bigger deterrent effect on crime than does making the punishment longer or harsher. (This insight is important, as "clearance rates"—a proxy for the share of reported offenses that are solved12—are surprisingly low [AH Datalytics n.d.b.]). There is lots

of room for improvement here. 13 Interventions that help prevent someone's first criminal record are also extremely effective. Pulling someone out of the system once they're in it is much more difficult, though far from impossible.

Below, I describe several interventions that are supported by strong evidence. I've divided these interventions into three buckets: ways to prevent crime (helping people avoid a first criminal act), ways to deter crime (in real time), and ways to rehabilitate offenders (after they're in contact with the criminal justice system). These categories overlap slightly—for instance, access to mental health care can

¹² This proxy is imperfect. In practice, it is computed as the number of arrests divided by the number of reported crimes in a given year. Because arrests might be made in a subsequent year, it is not uncommon to see clearance rates over 100 percent (e.g., if there are two murders in 2021 and two murders in 2022, and the police department makes arrests in all four murders in 2022, the clearance rate in 2022 would be 200 percent). Police departments track arrests rather than charges or convictions (which may be a better proxy for identifying cases that are "solved") because the latter information lives in court databases, which are typically not accessible to police departments.

¹³ For information on one approach to increasing clearance rates, see Newburn's (2024) summary of the recently introduced VICTIM Act.

both prevent someone from ever engaging in criminal behavior and help rehabilitate past offenders—but they provide a sense of where these interventions are usually targeted.

Preventing someone's first interaction with the criminal justice system:

Provide summer jobs for teens: Multiple randomized controlled trials (across Chicago, New York City, and Boston) have found that the offer of a summer job for high-risk youth reduces future violent-crime arrests and even mortality due to gun violence (Doleac 2020a). Effects last long after the job ends and do not appear to be due to the earnings or staying busy during those summer months. Instead, the mechanism appears to be exposing teens to career paths and future options they did not know about, as well as mentorship from their supervisors. Focusing on providing summer jobs for teens is a cost-effective approach to preventing crime that deserves more funding.

Provide more and higher-quality education: Policy changes that raise the schoolleaving age (Bell, Costa, and Machin 2022) and interventions that increase the quality of education that young people receive (Deming 2011) both reduce future criminal justice involvement. Keeping kids in school for more years has an incapacitation effect—essentially, we are keeping them busy when they would otherwise have been getting into trouble. Education investments also improve the noncriminal options available to teens and young adults, thereby increasing the opportunity costs of criminal activity that might lead to punishment.

So, investments in education are a strong preventative measure that reduce crime rates. Recent research highlights that rating school quality solely based on test scores can miss important quality factors that are important for outcomes such as criminal justice involvement (Doleac 2022c). It is therefore important to consider multiple dimensions of quality when investing in education.

Provide cognitive behavioral therapy for high-risk groups: Cognitive behavioral therapy (CBT) is a form of therapy that pushes people to think more deliberately about the costs and benefits of their actions and to question their assumptions and mental shortcuts so as to avoid "thinking traps" or "cognitive mistakes."

It has been rigorously evaluated in several settings, showing meaningful benefits. For example, a randomized controlled trial of the Becoming a Man program in Chicago found reductions in violent arrests and recidivism for participants in local schools and juvenile detention facilities (Heller et al. 2017). The Parcours program in prisons throughout Quebec also reduces recidivism (Arbour 2022; Doleac 2024a).

And an RCT of the READI (Rapid Employment and Development Initiative) program which provided men at high risk of gun violence in Chicago with the offer of jobs plus CBT—found evidence of substantial social benefits (while some less-serious crimes increased, more-serious offenses such as homicides and shootings fell) (Bhatt et al. 2024; Doleac 2023a). A CBT-inspired training program for police officers also shows tremendous promise: an RCT in Chicago found less use of force alongside fewer injuries of officers (Dube, MacArthur, and Shah 2024; Doleac 2024b). Finding ways to expand these effective programs would likely yield big crime-reduction benefits.

Reduce exposure to lead for young children: Extensive, high-quality evidence demonstrates that exposure to lead at a young age has large, detrimental effects

"Policymakers' and voters' focus on the short run means we have not invested in this evidence-based crime reduction strategy."

on life outcomes, including educational attainment and criminal justice involvement (such as violentcrime arrests) (Doleac 2021c). The mechanism appears to be that lead mimics calcium in the brain and thus affects brain development, hampering impulse control and causing learning difficulties. Both reduced impulse control and lower educational attainment likely explain the increase in criminal behavior.

A strong scientific consensus exists that removing lead from the environment would have long-term benefits that easily pass a cost-benefit analysis—including reductions in crime. However, these benefits will not be

realized until fifteen or more years after the intervention. Policymakers' and voters' focus on the short run means we have not invested in this evidence-based crime reduction strategy.

Reduce exposure to air pollution for high-risk groups: There is substantial scientific evidence on how exposure to air pollution negatively affects animals' brain functioning, including increasing aggression. In line with this finding, recent, strong evidence suggests that exposure to air pollution has real-time effects on violent crime. The evidence includes studies looking at what happens when wind blows pollution from a highway one way versus the other way (variation that is unrelated to underlying crime trends). When pollution exposure in a neighborhood increases (due to these unexpected changes in wind direction), violent crime goes up (Herrnstadt et al. 2021; Doleac 2020b). Mitigating this exposure (for instance, through better air filtration in homes and schools) would have meaningful crimereduction benefits

Deterring crime in the community:

Hire more police: The most traditional approach to increasing the probability that perpetrators are caught is to put more police on the street. Indeed, a long literature shows that hiring more police officers and increasing police presence in communities both have large deterrent effects on crime—especially violent crime like homicide. Based on the fiscal costs of police and the estimated crime-reduction benefits of additional police, most US cities are substantially under-policed (Chalfin and McCrary 2018). That said, concern is warranted about the social costs of policing particularly costs incurred by the unnecessary escalation of incidents to arrests or use of force (Ang 2021).

At this point, the policy frontier is finding ways to capture the public-safety benefits that come with policing, while mitigating the costs—perhaps through updated training (as with procedural justice training; see Owens et al. 2018), via a recently piloted training program based on cognitive behavioral therapy (Dube, MacArthur, and Shah 2024; Doleac 2024b), or simply through updated management practices (as with, for example, a Police Leadership Academy now being piloted by the University of Chicago Crime Lab; see University of Chicago Crime Lab n.d.). But putting more police on the streets remains an effective, evidence-based way to reduce crime relatively quickly.

Use technology to increase detection of perpetrators: Technology provides a way to increase detection of offenders—and thus deter crime—at much lower financial cost than hiring more police officers. For instance, several studies show that surveillance cameras reduce crime (see, for example, Gómez, Mejía, and Tobón 2021; Priks 2015). Using the staggered rollout of cameras across places in cities, they estimate big reductions in violent offenses (homicide, assault) and property offenses (robbery, theft).

Adding known offenders to law enforcement DNA databases increases the probability that repeat offenders will be caught and dramatically reduces recidivism (Anker, Doleac, and Landersø 2021; Doleac 2017). Blood-alcohol-content monitors quickly detect and deter the consumption of alcohol when it is prohibited (for example, as a condition of community supervision); this deterrence in turn reduces alcoholrelated offenses such as DUIs and domestic violence (Kilmer et al. 2013).

These technologies are extremely cost-effective based on the financial costs alone, but it is worth considering potential privacy costs, especially as new tools are developed. The Policing Project at New York University regularly conducts "privacy audits" of law enforcement tools like these, to highlight potential privacy costs and ways to mitigate those costs (often there are straightforward ways to do so, for example by adjusting data storage practices).

But the privacy costs of non-technological options are not zero. Putting cameras on every street corner may have fewer social costs than putting police officers in the same places. And standard police investigations often require digging into victims' and suspects' private lives (investigating, for example, whom they recently matched with on dating apps); many people would consider the use of DNA databases to match crime scene evidence with known offenders' DNA to be far less invasive. Regardless, as more tools become available with which to detect perpetrators, it will be important to compare the costs (financial, privacy) of these technologies with their crime-reduction benefits, which are often large.

Rehabilitating people with past criminal justice involvement:

Err toward leniency in the prosecution of first-time defendants: We know that the probability of detection matters for crime prevention, but how large do the consequences need to be? Putting a criminal offense on someone's record can make it more difficult for them to later find a job and housing, and these challenges in turn may make it difficult for them to avoid criminal activity in the future. Strong research suggests that erring toward leniency for first-time offenders—giving them a second chance to avoid a first criminal record—dramatically reduces recidivism.

Nonviolent misdemeanor defendants who were randomly assigned to more lenient prosecutors—that is, those who were more likely to drop their charges—were 50 percent less likely to show up back in court with new charges (Agan, Doleac, and Harvey 2023; Doleac 2021b). Similarly, nonviolent felony defendants who got lucky and happened to have their cases heard when they were more likely to receive a "deferred adjudication" were also 50 percent less likely to show up back in court with new charges (Mueller-Smith and Schnepel 2021). (With a deferred adjudication, defendants' charges are dropped if they successfully complete a probationary period with no misconduct or new crime.)

In both contexts, the effects were much larger for first-time defendants. It appears that at the time of that first charge, defendants are at a fork in the road. We can choose to pull them into the criminal justice system (by giving them a criminal record) or send them on their way. If we choose the latter path, a large share will course-correct on their own and avoid future crime.

Such a scenario doesn't mean the initial crime carried no consequences: in most of these cases, the person was arrested and had to show up in court (perhaps missing work to do so). My interpretation of these findings is that, for a large share of people, such consequences alone constitute enough of a punishment and wake-up call. Erring toward leniency at that early stage has important crime-reduction benefits without incurring any additional spending.

Use electronic monitoring as an alternative to incarceration: Outside the US, electronic monitoring (EM) is widely used as an alternative to incarceration—either in place of short prison sentences or as a means of early release from prison. People placed on EM are typically confined to their homes with limited opportunities to leave only for court-approved purposes such as work, school, and medical appointments. A GPS monitor tracks their whereabouts. This kind of monitoring provides much of the public-safety benefit of incarceration (incapacitation), while minimizing incarceration's negative effects (being locked up with other high-risk people, disrupting work or schooling). But if EM is viewed as less unpleasant than prison, its use could have less of a deterrent effect.

Research on the net effects of EM in Australia (Williams and Weatherburn 2022), the UK (Marie, Moreton, and Goncalves 2011), France (Henneguelle, Monnery, and Kensey 2016), and Sweden (Grenet, Grönqvist, and Niknami 2024) find big benefits of this tool: in all these contexts, replacing time in prison with time on EM reduces recidivism (Doleac 2022b). A recent study in Chicago finds similar effects in the pretrial context (using EM as an alternative to pretrial detention), which suggests that the benefits we've seen in other countries are likely to apply in the US as well (Rivera 2023). EM is also far cheaper than incarceration, making this policy shift a win-win: less crime for less money.

Improve access to mental health care: Sometimes criminal behavior is the result of untreated mental illness. What if we made it easier for those at risk of committing crime to access the care they need? A large and growing number of studies provide compelling evidence that expanding access to mental health care does indeed reduce recidivism and local crime rates (Doleac 2018).

Many of these studies consider the effects of Medicaid expansions that made lowincome adults without dependent children eligible for that program. Another study looks at what happens to South Carolina residents who are kicked off Medicaid at age nineteen (it is more difficult to qualify for the program as an adult than as a child); incarceration rates immediately increase, and this effect is largest for those who had relied on Medicaid for medications related to mental illness (Jácome 2022; Doleac 2021d).

Other lower-touch interventions are also effective. For instance, a program in Johnson County, Kansas, contacted people who screened as being at high risk of mental illness, after they were released from jail, and offered to make them appointments at a local mental health treatment center. That program reduced recidivism by 17 percent (Batistich, Evans, and Phillips 2023; Doleac 2022a)! Making mental health care affordable and easier to access (including via "warm hand-offs," as in the Johnson County context) is a smart crime-reduction strategy.

Repeal bans on public benefits: People with criminal records are barred from receiving various state and federal public benefits, such as food stamps and other forms of welfare. The motivation for this restriction is mainly retributive: policymakers didn't want tax dollars supporting people who'd broken the law. There are several studies that measure the effects of these restrictions on recidivism and on the next generation (the kids of those who are ineligible).

Most studies find that ineligibility for public benefits increases recidivism (Yang 2017; Tuttle 2019; Doleac 2021a). One recent study that did not find direct recidivism effects of eligibility bans on those with criminal records nevertheless found that such bans increased the future criminal activity of the children who lived in those households (Mueller-Smith et al. 2023). (This finding is consistent with a much larger body of evidence showing that access to resources like food stamps in childhood reduces future criminal behavior, among other beneficial effects; see Bailey et al. 2023). At this point, it seems clear that these public-benefit restrictions have big public-safety costs. Repealing them would reduce crime rates—probably in the near term and certainly in the longer term.

5. What doesn't work

Strong evidence also suggests that some popular policies do not work. These ineffective interventions include:

Pretrial detention for low-risk defendants: The ability to incarcerate people who pose an active public-safety threat while they await trial is an important way that law enforcement protects the community. But in recent decades courts have gone too far. Extensive evidence now shows that people on the margin of being detained pretrial (that is, people for whom different judges or bail magistrates might have made different decisions, because it was not clear whether they should be held) are put on a substantially worse trajectory if they are kept in jail (Leslie and Pope 2017; Dobbie, Goldin, and Yang 2018; Stevenson 2018). This finding means we should err toward releasing more people.

Prosecutors often use pretrial detention as a bargaining chip, to push people to plead guilty in exchange for their freedom. ("Sure, you can have your day in court, but it won't be for a couple more months, and you'll stay in jail until then.") This approach helps courts manage a large flow of cases, but it comes at a cost: Spending even a few days in jail increases the likelihood of a conviction in the current case (perhaps as intended), reduces defendants' long-run employment and earnings (because they now have a criminal record), and increases future recidivism in a way that fully cancels out any short-run incapacitation effect—thereby producing a net loss to

society. Meanwhile, the public is worried that too many dangerous people are simply booked and released.

Pretrial systems that focus on risk (with data-driven risk assessments, for example) can help courts discern who is worth locking up and who should be released. It is worth considering fully-automated release mechanisms for low-risk defendants facing minor charges. In Kentucky, such a system dramatically reduced pretrial detention with no harmful effects on public safety and only a small increase in failures to appear in court (Albright 2022).

Current evidence shows that cash bail is not an effective incentive to get people to show up for their court hearings (Ouss and Stevenson 2023). Its use enables highrisk defendants to buy their release, while keeping low-risk people without financial resources in jail. It should be eliminated in favor of a fully risk-based system where courts simply decide whether to detain someone or not (with or without the use of formal risk assessment instruments).

Long prison sentences: Prison has a strong incapacitation effect when the people who are locked up would otherwise be committing crime in the community. However, lots of evidence suggests that people "age out" of crime relatively quickly—most people stop committing crime by their early to mid-twenties (Doleac 2023b). Because of this trend, the incapacitation benefits of prison sentences diminish rapidly. In addition, most people on the margin of committing crime are not thinking very far ahead, and so lengthening prison sentences offers little to no deterrent effect.

Combined with the high cost of incarceration (roughly \$100 per person per day), this state of affairs means that, while imposing some prison time on offenders can have a large public-safety benefit, long prison sentences will rarely pass a cost-benefit test (see Raphael and Stoll 2014). (There are exceptions, of course—consider a serial murderer who defies rehabilitation efforts—but these exceptions are rare and serve mostly to prove the rule.) The sole argument in favor of long prison sentences is a desire for retribution. If your concern is public safety, long sentences provide little value, and our tax dollars are much better spent on other things.

Intensive community supervision: In several contexts, people are placed on "community supervision" instead of being locked up in jail or prison. This kind of supervision includes pretrial release (instead of detention), probation (instead of a prison sentence), parole (early release from prison), and post-release supervision (supervision after a prison sentence is completed). Community supervision works very similarly in all cases: it requires that supervisees meet regularly with case managers and follow strict rules, such as adhering to a curfew (being home by a certain time each night), abstaining from drug or alcohol use, avoiding contact with people with felony records, and so on.

The reason for these rules is to provide clear guidance that might help someone avoid risky situations and (if rules are broken) to flag people who are at high risk of committing more crime. "Technical violations" of these rules often mean supervision is revoked and the person is sent to jail or prison. Many studies have examined the efficacy of more-intensive versus less-intensive supervision (that is, supervision that imposes more or fewer rules), including several randomized trials.

These studies find no public-safety benefit to more-intensive supervision. With more rules, people often rack up more technical violations and thus more days in jail or prison, but they do not become any less likely to engage in future criminal behavior (Doleac and LaForest 2022). A North Carolina policy change that completely eliminated incarceration as a punishment for all technical violations found some tradeoffs, but it still passed a cost-benefit test under reasonable assumptions (Rose 2021b). In Kansas, lawmakers eliminated and then reinstated post-release supervision; a study of these policy changes found that post-release supervision had no impact on reoffending (Sakoda 2023).

The punchline of all these studies is that community supervision—at least as it is currently designed—adds little value. We could make community supervision much less intensive in most cases with no harm to public safety. And then we might invest the money we're saving into other, more effective strategies.

Truth-in-sentencing policies: Traditionally, most people sent to prison are eligible for parole after serving a portion of their sentence. A parole board considers an offender's behavior while incarcerated, as well as what programs they've completed and other evidence that they've been rehabilitated. If the board determines that the offender is sufficiently low-risk, it will release them from prison, and they'll serve the remainder of their sentence in the community. People across the political spectrum have, historically, disliked this system—some thought early releases were too lenient, and others thought that parole board decisions were too arbitrary and biased.

As a result, "truth-in-sentencing" policies became popular; these policies require that people serve most or all of their sentences with no opportunity for traditional parole. We now know that these policies have been counterproductive: because they remove the possibility of an early release, they remove the incentive to invest in rehabilitation and good behavior.

In practice, we see that truth-in-sentencing policies often have little effect on total time served, because judges adjust their sentences when they know there's no possibility for early release (Macdonald 2024). But the way people use their time in prison changes: they commit more violent infractions in prison and participate in less programming like GED classes. And these changes have consequences. After release, recidivism rates are higher for those sentenced under truth-in-sentencing than they are for those subject to traditional parole rules (Macdonald 2024). Regardless of your views on how long sentences should be, eligibility for parole is the smart-on-crime approach to deciding when someone should be released. It's time to abandon truthin-sentencing policies.

Transitional jobs programs for people recently released from prison: One of the biggest challenges people face when they leave prison is finding a job. Without one, it is difficult to build a stable life and avoid future criminal activity. Unfortunately, employers are often reluctant to hire people with criminal records. One reason for this reluctance might be that people who have been involved in the criminal justice system often do not have the soft skills that employers are looking for—for example, the ability to show up on time and work well with others. Transitional jobs programs aim to address this gap, offering people a temporary job (typically for six months) where they can gain experience and practice those soft skills.

The programs then focus on helping participants transition into regular privatesector jobs. There have been several randomized trials of transitional jobs programs

for people who were recently released from prison, and they have been mostly disappointing (Doleac 2023b). People do show up when offered these jobs, but they show little to no reduction in recidivism during the program. Even worse, once the temporary job ends, employment rates are equal between the treatment and control groups. These programs are a reminder that good intentions are not enough—many programs that sound like great ideas are not effective in practice.

"These programs are a reminder that good intentions are not enough many programs that sound like great ideas are not effective in practice."

Wraparound services for people recently released from prison: People coming out of prison face many challenges: limited education, limited work experience, difficulty finding a safe place to live, untreated mental illness, substance use disorders, emotional trauma from living in violent environments (including prison), and even smaller issues like not having a valid photo ID. Addressing any one of these problems often doesn't feel like enough. As a result, many programs that aim to help this population rapidly expand to add more components to address as many of these issues as possible. These holistic, "wraparound-service" programs are extremely common—and they often include evidence-based components (like CBT).

But unfortunately, studies show that these programs are not effective at reducing recidivism (Doleac 2019). It's not clear why. It might be that trying to do everything at once means it's impossible to do any of it well. It could also be that holding someone's hand through all these challenges limits their ability to achieve wins on their own and reduces their sense of agency. Whatever the reason, these wraparound service programs—while well-intentioned!—should be viewed with skepticism. Our resources will likely have a larger impact if we invest in more-targeted strategies.

Ban the Box policies to help people with criminal records find jobs: Many people with criminal records would make great employees but can't even get a job interview because of their criminal record. Ban the Box (BTB) policies aim to help people with records get their foot in the door, banning employers from asking about criminal records until late in the hiring process (often after a conditional job offer has been made). The policy does not change employers' reluctance to hire people with criminal records, but it pushes them to make interview (and even conditional-offer) decisions with less information. It turns out that when employers can't ask who has a record, they try to guess. And then they rely on the more limited information they do have—race, age, education levels—to try to infer who is likely to have a recent criminal record that employers might be worried about (Doleac 2016).

A prominent field experiment showed that when BTB goes into effect, racial gaps at the interview stage widen (Agan and Starr 2018). Another study found that, on average, BTB reduced employment for young Black men with limited education (the group most likely to be helped by BTB if it was effective) by 5 percent (Doleac and Hansen 2020). Together, these studies show that young Black men without criminal records are hurt by these policies—when forbidden to ask, employers assume these men have criminal records.

Other studies have shown that BTB also doesn't help people with criminal records get jobs, likely because they are still rejected when employers are finally able to do a background check at the end of the process (Rose 2021a). All told, the substantial literature on BTB provides another cautionary tale: well-intentioned policies sometimes do more harm than good. Unfortunately, these policies are still popular and widely implemented across the US (Donvan, Avery, and Doleac 2024). Approaches that provide more information about job seekers (enabling employers to identify those who are a good match for the job) or that directly address employers' concerns (for example, by shifting any liability risk from employers to the courts or government) are likely to be much more effective.

6. Popular policies with too little evidence to support them

Finally, many other initiatives and innovative ideas exist for which there is at this point only limited evidence of efficacy. I'll highlight just a couple of high-profile examples:

Community violence interruption: Community violence interruption (CVI) programs are community-based strategies aimed at reducing violence, typically without the involvement of law enforcement. Program employees work to build trust in the community and mediate conflict. Some studies of CVI programs exist, but they generally do not have strong research designs and are frequently oversold in public conversations. These studies do not include plausible comparison groups that would enable researchers to determine whether the programs are effective. At this point, it is reasonable to say these programs are promising, but they are not evidence-based (Pugliese et al. 2022). (An exception is the READI program, described above in the section on cognitive behavioral therapy. That RCT provides a model for how other such programs could be rigorously evaluated.)

Clean Slate policies to help people with criminal records find jobs: Based on the same motivations as Ban the Box (BTB) policies (described above), Clean Slate policies facilitate the sealing of criminal records, hiding them from the view of employers, landlords, and the general public. Early forms of this policy aimed to make record sealing automatic when people's records were eligible based on state law. (The current default is a long, bureaucratic process that fewer than 10 percent of eligible people make it through.)

More-recent policy changes expand who is eligible for record sealing. The primary goal is increasing employment for people with criminal records. The real-world effects of such policies remain an empirical question; so far there are three relevant studies on the matter. One study considers the effect of Fair Credit Reporting Act (FCRA) rules that seal non-conviction records after seven years, a Maryland FCRA policy that seals conviction records after seven years, and a much-anticipated Pennsylvania Clean Slate law that sealed all non-conviction records immediately upon going into effect. That study finds no effect of any of those record sealing policies on employment (Agan et al. 2024).

A study from New Zealand looks at the effects of sealing convictions after seven years in that country and similarly finds no effect on employment (Dasgupta, Ghimire, and Plum 2021). Finally, a related study looking at the effect of downgrading felony convictions to misdemeanors in California found no effect on employment (Agan et al. 2023).

One reason that these policies have no impact could be that the damage from these records was already done by the time they were sealed. It is possible that other forms of these policies, without these long waiting periods, would have more beneficial effects, but it is also possible that sealing records sooner, when employers still care about them, would have BTB-style unintended consequences (that is, employers might rely on race as a proxy for recent conviction, as they did before

criminal records became easier to access in the late 1990s and early in the first decade of the 2000s).14

Currently, no compelling evidence exists that these policies are effective, but policies are rapidly changing. More research is needed to inform continued expansion of these policies in the US. Given the effects of BTB policies, it would be smart to be humble about Clean Slate's likely impacts.

Interventions that are effective at reducing crime:

Prevention

- Providing summer jobs for teens
- Providing more and higher-quality education
- Providing cognitive behavioral therapy for high-risk groups
- Reducing exposure to lead for young children
- Reducing exposure to air pollution for high-risk groups

Deterrence

- Hiring more police
- Using technology to increase detection of perpetrators

Rehabilitation

- Erring toward leniency in the prosecution of first-time offenders
- Using electronic monitoring as an alternative to incarceration
- · Increasing access to mental health care
- Repealing bans on public benefits

Interventions that are ineffective:

- Pretrial detention for low-risk defendants
- Long prison sentences
- Intensive community supervision
- Truth-in-sentencing policies
- Transitional jobs programs for people recently released from prison
- Wraparound services for people recently released from prison
- Ban the Box policies to help people with criminal records find jobs

Interventions with insufficient evidence on efficacy:

- Community violence interruption
- Clean Slate policies to help people with criminal records find jobs

¹⁴ See the literature review in Doleac and Hansen 2020 for citations; for more on potential problems with Clean Slate, see Doleac and Lageson 2020.

7. Conclusion

Even in a relatively safe country like the US, crime continues to ravage communities, with substantial economic costs that are borne by all of us. But we can use a variety of evidence-based, cost-effective strategies to lower these costs and make communities safer. The strategies summarized above offer a lengthy menu of options, any of which would be worth additional investment. But the three I think could move the needle the most are:

- 1. Increasing use of technology to detect and deter crime
- 2. Increasing access to mental health care for high-risk populations
- 3. Reducing young children's exposure to lead

An overarching, evergreen issue is also how to improve data quality. Better data facilitates more and better research on what works, and the data systems in the various criminal justice agencies across the US are outdated and do not speak to one another. This state of affairs substantially hampers progress. We should all be pushing our local agencies to make their data available—publicly whenever possible, and to researchers only when the data are more sensitive.

The Real-Time Crime Index, mentioned above, promises to improve the availability of timely data on reported crime. Another resource, the Criminal Justice Administrative Records System (CJARS), links administrative criminal records from local and state agencies with records from other agencies and with US Census Bureau's data holdings (including surveys like the Current Population Survey and administrative data like Social Security Administration records). 15 CJARS data are available to researchers in secure data centers and have already been a game-changer. Expanding investment in resources like these would be extremely helpful.

More broadly, in order to make meaningful progress as quickly as possible, we should change the way we approach policy problems in this space. These problems are challenging and multifaceted, and different people will often have different views about how to solve them. We must try new approaches, but we must also be humble. Most of our good ideas won't work as well as we'd hoped, many won't work at all, and some will even backfire. Instead of assuming our good ideas will be effective, we should assume they will fail, and we should aim to fail fast so that we can rapidly begin iterating new approaches. As voters and citizens, we should demand that policymakers provide rigorous evidence that their proposed solutions are having the effects they'd hoped for.

¹⁵ CJARS can be accessed via https://cjars.org.

I am an optimist. I believe we will continue to find new solutions to our most pressing public-safety challenges. But we owe it to ourselves—and, especially, to the communities hit hardest by crime—to make sure the solutions we're investing in actually work.

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Appendix

10 Homicide rate per 100k 9 8 7 6 ECONOMIC STRATEGY GROUP 4 1987 1990 1993 1996 1999 2002 2005 2008 2011 2014 2017 2020 Year

Figure A.1. US homicide rates per 100,000 residents by year, 1987–2022

Source: "Trend of Homicide from 1987 to 2022," FBI Crime Data Explorer, accessed June 27, 2024, https://cde. ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend.

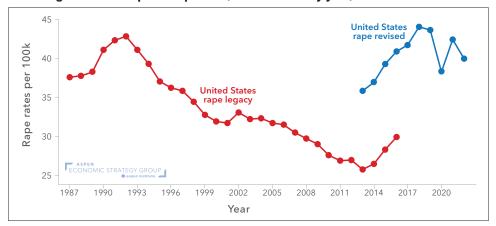


Figure A.2. US rape rates per 100,000 residents by year, from 1987–2022

Source: "Trend of Rape from 1987 to 2022," FBI Crime Data Explorer, accessed June 27, 2024, https://cde.ucr.cjis. gov/LATEST/webapp/#/pages/explorer/crime/crime-trend

Note: The FBI's definition of rape expanded in 2013 to include non-vaginal penetration.

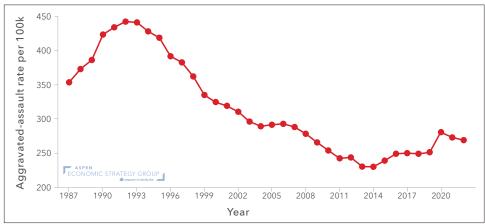


Figure A.3. US aggravated-assault rates per 100,000 residents by year, 1987-2022

Source: "Trend of Aggravated Assault from 1987 to 2022," FBI Crime Data Explorer, accessed June 27, 2024, https://cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend.

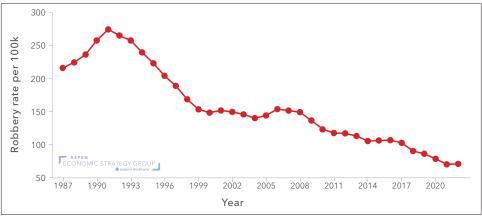


Figure A.4. US robbery rates per 100,000 residents by year, 1987-2022

Source: "Trend of Robbery from 1987 to 2022," FBI Crime Data Explorer, accessed June 27, 2024, https://cde.ucr. cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend.

1,400 Burglary rate per 100k 1,200 1,000 800 600 400 200 1987 1990 1993 1996 1999 2002 2005 2008 2011 2014 2017 2020 Year

Figure A.5. US burglary rates per 100,000 residents by year, 1987–2022

Source: "Trend of Burglary from 1987 to 2022," FBI Crime Data Explorer, accessed June 27, 2024, https://cde.ucr. cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend.

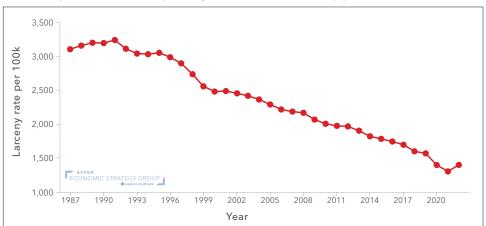


Figure A.6. US larceny rates per 100,000 residents by year, 1987-2022

Source: "Trend of Larceny from 1987 to 2022," FBI Crime Data Explorer, accessed June 27, 2024, https://cde.ucr. cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend.

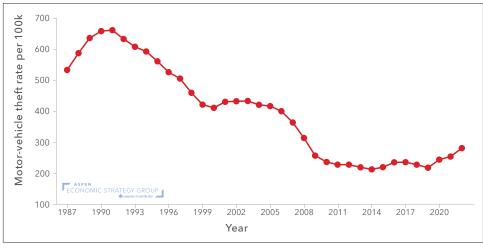


Figure A.7. US motor-vehicle theft rates per 100,000 residents by year, 1987-2022

Source: "Trend of Motor Vehicle Theft from 1987 to 2022," FBI Crime Data Explorer, accessed June 27, 2024, https://cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend.



Figure A.8. US arson rates per 100,000 residents by year, 1987–2022

Source: "Trend of Arson from 1987 to 2022," FBI Crime Data Explorer, accessed June 27, 2024, https://cde.ucr. cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend.

Table A1. Murder per 100,000 residents in the 50 largest cities tracked by AH Datalytics, 2023

Memphis, TN	54.9	Tucson, AZ	10.6
Baltimore, MD	45.4	Charlotte, NC	10.6
Washington, DC	40.8	Tampa, FL	10.0
Detroit, MI	40.6	Wichita, KS	9.3
Kansas City, MO	35.7	Fort Worth, TX	9.2
Milwaukee, WI	30.0	Los Angeles, CA	8.6
Atlanta, GA	26.6	Seattle, WA	8.4
Oakland, CA	26.6	Sacramento, CA	7.2
Philadelphia, PA	24.8	Raleigh, NC	6.9
Louisville, KY	24.0	Austin, TX	6.9
Chicago, IL	23.2	San Francisco, CA	6.7
Las Vegas, NV	20.1	Fresno, CA	6.4
Indianapolis, IN	19.4	Colorado Springs, CO	6.2
Dallas, TX	18.9	Bakersfield, CA	6.1
Albuquerque, NM	17.3	Oklahoma City, OK	6.0
Minneapolis, MN	16.9	Omaha, NE	5.8
Columbus, OH	16.4	Long Beach, CA	5.8
Nashville, TN	15.7	Boston, MA	5.7
Houston, TX	14.7	El Paso, TX	5.6
Jacksonville, FL	13.0	Mesa, AZ	5.1
Phoenix, AZ	12.0	Virginia Beach, VA	5.0
Tulsa, OK	11.7	New York, NY	4.6
Portland, OR	11.7	San Jose, CA	3.7
San Antonio, TX	11.2	San Diego, CA	3.2
Denver, CO	10.7	Miami-Dade, FL	3.0

Source: Author's calculations based on murder counts from AH Datalytics n.d.c. and 2022 population estimates from the US Census Bureau.