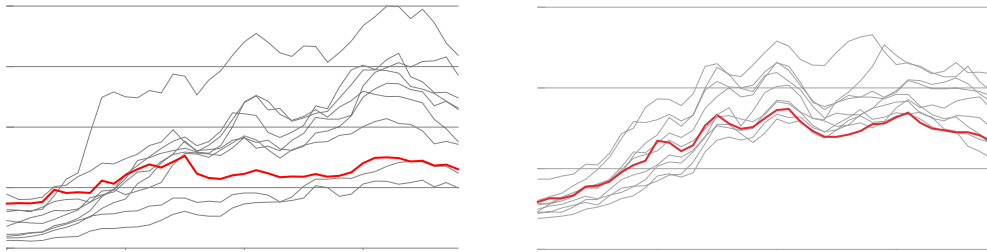


Crime in Virginia: The 40-Year Picture of Where We Are Now



..... prepared by

VisualResearch, Inc.
Post Office Box 1025
Midlothian, Virginia 23113
tel 804 794.3144
www.vis-res.com

..... for

The Virginia Department of Criminal Justice Services
805 East Broad Street
Richmond, Virginia 23219
tel 804 786.4000
www.dcjs.state.va.us

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Disclaimer

This report was prepared by VisualResearch, Inc. for the Virginia Department of Criminal Justice Services (DCJS). Opinions or points of view expressed in this document do not necessarily reflect the official position of DCJS or the state of Virginia.

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Overview

Why this report?

The incidence and fear of crime are important determinants of how people conduct their lives. Where we live, how we spend our leisure time, and how we view our communities, our state, and our country are shaped by how safe we feel.

Crime occurs in all neighborhoods and in every state. How have Virginia's crime rates been changing over time, and how does Virginia compare to other states and the nation as a whole?

This report describes what the available data tell us about crime in Virginia. The story is told over time, from as far back as 1960, to give a more complete picture of where we are today. The story is also told by comparing crime rates in Virginia with crime rates in other, similar states. Nine states, similar to Virginia, were selected as a comparison group. The resulting data tell how other states with similar populations, often in close proximity, and sharing similar social or government philosophies, compare to Virginia in terms of crime levels and trends.

This long-term, comparative perspective allows us to assess our current condition in a more balanced way, to help ensure that public opinion and policy decisions reflect a broader context, rather than react to sudden or temporary changes in crime, a blip of bad or good news.

Summary of the key findings:

This report highlights several key findings:

The review of historical and current crime rates nationwide shows that:

- Virginia's crime rate ranked 36th in the nation in 1998.
- Viewed geographically, Virginia is in the lowest crime-rate category for four of seven key offenses.
- Virginia's crime rate has been lower than the average for the nation since 1960—and the gap is widening.
- Violent crime rates in Virginia used to be high, but now are low; property crime rates in Virginia are also relatively low.
- Drug-arrest rates in Virginia are lower than the U.S. average; the share of drug arrests involving marijuana possession has risen, while the proportion involving cocaine and heroin has fallen.

The review of the factors related to crime-rate changes for Virginia and nine similar states shows that:

- Incarceration rates, the proportion of the population age 15-24, poverty levels, and unemployment rates were all associated with changes in the crime rate.
- Other factors including adult population, population density, per capita education expenditures,

Aid to Families and Dependant Children (AFDC/TANF), divorce rates, and per capita justice expenditures, were not consistently associated with crime rates.

- Over the last 30 years, a 10-percent increase in the incarceration rate has been associated with a 1.3-percent drop in violent crime rates and a 1-percent drop in property crime rates.
- Over the last 30 years, a 10-percent increase in the 15-24-year-old age group has been associated with a 6.5-percent increase in property crime rates.
- Increases in the poverty rate tend to be associated with increases in violent crime rates and decreases in property crime rates.

What the research looked at

This analysis had two purposes. First, to compare the level of crime in Virginia to a representative group of similarly situated states. This included examining crime rate trends as far back in time as possible, while still maintaining data integrity and comparability. Second, to determine what social, demographic, and criminal justice factors are associated with changes in the crime rate. The types of factors examined include economic conditions, education, population structures, and other social and cultural conditions.

Where the data came from

Crime rate data came from the Federal Bureau of Investigation’s Uniform Crime Reporting Program (UCR). The purpose of the UCR Program is to “provide a reliable set of criminal justice statistics for law enforcement administration, operation, and management.” The UCR measures reported crimes and arrests and has been collecting data from localities and states since 1930. In 1998, the UCR program compiled information from 17,000 law enforcement agencies, covering 96 percent of the U.S. resident population.¹

The specific justice system laws and policies presented in the section “*Criminal justice initiatives to reduce crime*” were obtained from the *Crime and Justice Atlas, 1998* and from interviews with various officials in five comparison states.² Data used in the section “*Factors associated with crime in Virginia and the comparison states*” came from a number of public and private sources (the specific sources are explained in the “*More about the analysis and data*” section).

¹ Because not all police agencies contribute yearly data, the FBI estimates reported crimes to 100% state-level coverage (however, most states examined here had more than 90% actual data for 1998). Other sources for crime data exist, most notably the *National Crime Victimization Study* (NCVS). The NCVS is a self-report survey conducted by the U.S. Bureau of the Census on a national representative sample of households. However, NCVS data cannot be analyzed on state or local levels, and serve a different purpose than the UCR. For these reasons, UCR data is the best choice for examining state-level crime in a comparable way over the last 40 years.

² Information from the *Crime and Justice Atlas, 1998* was originally obtained through a survey of state Statistical Analysis Center (SAC) directors. This information was supplemented by conducting interviews of sentencing commissions, corrections agencies, and other public and private research groups.

How the comparison states were selected

This report was prepared by VisualResearch, Inc., for the Virginia Department of Criminal Justice Services (DCJS). VisualResearch, Inc., planned and executed this report and developed the methods for analyzing the data and objectively presenting the results. The presentation of this material evolved during numerous meetings with DCJS; however, the selection of comparison states and all data collection, design of charts and graphs, and interpretation of the results were conducted independently by VisualResearch, Inc.

Comparing crime rates in Virginia to those of other states required choosing a group of comparison states carefully in order to have a valid sample. Any comparative analysis of this type is only useful if states are selected in a neutral way. Rather than solely using geographical location or population size, nine comparison states (in addition to Virginia) were selected using the following procedures:

- Focusing on the 24 states with populations over 4 million residents (states with fewer than 4 million residents were deemed too dissimilar to Virginia, with its population of 6.8 million)
- Drawing on key state characteristics compiled by the U.S. Bureau of the Census that are useful for differentiating and sorting states: resident population, population residing in metropolitan centers, general revenue per capita, population below the poverty line, and prisoners per 100,000 population.
- Incorporating the above census data with two measures of citizen and government philosophies. These additional measures help further establish a relationship between criminal justice policy and state political and social cultures.³

The 9 states selected for comparison with Virginia were Georgia, Maryland, Massachusetts, Minnesota, New Jersey, North Carolina, Tennessee, Washington, and Wisconsin. For more information on the methodology used to select the comparison states, see “More about the Analysis and Data” at the end of the report.

Characteristics of Virginia and comparison states

Location		Population, 1999	Persons per square mile	1998 overall crime rank within:	
				50 states	10 states here
Georgia	South Atlantic	7,788,240	132	9	2
Maryland	South Atlantic	5,171,634	526	10	3
Massachusetts	New England	6,175,169	789	42	10 (lowest crime rate)
Minnesota	West North Central	4,775,508	60	32	6
New Jersey	Mid Atlantic	8,143,412	1,090	37	8
North Carolina	South Atlantic	7,650,789	157	13	4
Tennessee	East South Central	5,483,535	133	16	5
Virginia	South Atlantic	6,872,912	173	36	7
Washington	Pacific	5,756,361	87	5	1 (highest crime rate)
Wisconsin	East North Central	5,250,446	96	39	9

Statistical Abstract of the United States, 1999; U.S. Census Bureau. Crime in the United States 1998, Federal Bureau of Investigation.

³ Taken from Measuring Citizen and Government Ideology in the American States, 1960-93. American Journal of Political Science. This research defines a citizen ideology – the score on a liberal-conservative continuum of the active electorate in a state, and a government ideology – the score on the same continuum for the elected public officials in a state, weighted according to the power they have over public policy decisions.

Virginia Crime Rates: Key Findings

Virginia's crime rate ranked 36th in the nation in 1998

Rank	State	Index Crime Rate
1	Florida	6,890
2	New Mexico	6,720
3	Arizona	6,580
4	Louisiana	6,100
5	Washington	5,870
6	South Carolina	5,780
7	Oregon	5,650
8	Utah	5,510
9	Georgia	5,460
10	Maryland	5,370
11	Delaware	5,360
12	Hawaii	5,330
13	North Carolina	5,320
14	Nevada	5,280
15	Texas	5,110
16	Tennessee	5,030
17	Oklahoma	5,000
18	Illinois	4,870
19	Kansas	4,860
20	Missouri	4,830
21	Alaska	4,780
22	Michigan	4,680
23	Alabama	4,600
24	Colorado	4,490
25	Nebraska	4,410
26	Mississippi	4,380
27	California	4,340
28	Ohio	4,330
29	Arkansas	4,280
30	Indiana	4,170
31	Montana	4,070
32	Minnesota	4,050
33	Wyoming	3,810
34	Connecticut	3,790
35	Idaho	3,710
36	Virginia	3,660
37	New Jersey	3,650
38	New York	3,590
39	Wisconsin	3,540
40	Rhode Island	3,520
41	Iowa	3,500
42	Massachusetts	3,440
43	Pennsylvania	3,270
44	Vermont	3,140
45	Maine	3,040
46	Kentucky	2,890
47	North Dakota	2,680
48	South Dakota	2,620
49	West Virginia	2,550
50	New Hampshire	2,420
	District of Columbia	8,840

In 1998, two-thirds of the states had a higher index crime rate than Virginia. The index crime rate, calculated by the Federal Bureau of Investigation (FBI), is the most widely used measure of reported crime.⁴

Lower crime rates did not show a strong correlation with either low population or geographic area. Among the 14 states with lower crime rates than Virginia, some had large populations, like New York and Pennsylvania, while others had relatively few residents, such as North Dakota, Vermont, and New Hampshire.

Low-crime-rate states are not typically found in the South. The lowest crime-rate rankings for Southern states were Kentucky (46th), Virginia (36th), Arkansas (29th), and Mississippi (26th). The four highest rankings were occupied by two Southwest states—New Mexico and Arizona—and two Southern states—Florida and Louisiana. Unlike the rate in some states, Virginia's index crime rate is not driven by a particularly low or high rate of violent or property crime.

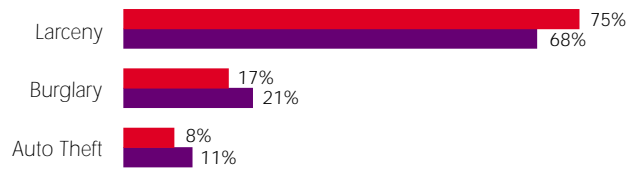
⁴ The *Index Crime Rate* is defined as the number of Part I crimes reported to police per 100,000 population. Part I crimes include murder, rape, robbery, aggravated assault, burglary, larceny, and motor vehicle theft (arson, a Part I crime, is typically excluded when calculating crime rates). Part I crimes are used to calculate the *Violent Crime Rate* using murder, rape, robbery, and aggravated assault figures; and *Property Crime Rates* using burglary, larceny, motor vehicle theft figures. Part I crimes are counted as part of the *Uniform Crime Reporting Program (UCR)* Administered by the Federal Bureau of Investigation (FBI).

Crime in the United States 1998, Federal Bureau of Investigation.

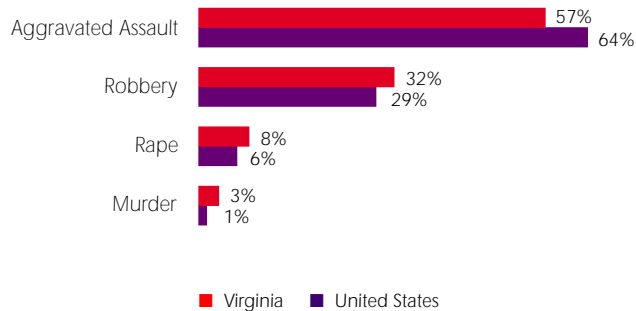
The vast majority of reported crime involves property crime, and most property crime involves larceny. In Virginia, larceny accounts for 75 percent of property crime, compared to 68 percent for the United States as a whole. Property crime in Virginia is less likely to involve burglary and motor vehicle theft than it is in the United States overall. Of violent crimes reported to the police in Virginia, 57 percent involve a felony-level assault, compared to 64 percent for the United States.

In 1998, roughly 90% of reported crime in Virginia involved property offenses

Of violent crime most involves assault and robbery



Of property crime, most involves larceny ...



Crime in the United States, 1998, Federal Bureau of Investigation;
Crime in Virginia, Uniform Crime Reporting Section, Virginia
 Department of State Police, 1998.

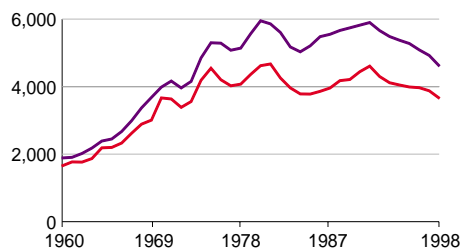
Virginia's crime rate has been lower than the average for the nation since 1960 – and the gap is widening

Compared to the index crime rate in the U.S. as a whole, the crime rate in Virginia had been relatively low since the 1960s. Beginning in the mid-1970s, Virginia crime rates began to noticeably subside and have since stabilized over the last quarter of the century. The crime rate began to plateau at a time of accelerated economic growth in Virginia, especially in the Northern Virginia area.⁵ Also, the 1970s was the time when large sums of federal dollars began flowing to the states through the Law Enforcement Assistance Administration (LEAA) to begin or strengthen state and local crime prevention initiatives.⁶ The U.S. rates were continuing to increase until the beginning of the 1990s, before turning downward over the last several years.

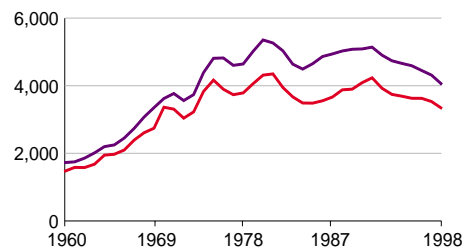
As crime rates leveled in Virginia from the mid-1970s and the 1980s, they were climbing for the country as a whole. This increase is most visible for violent offenses, with the steepest increases coming during the mid-1980s into the early 1990s. The U.S. has since enjoyed a downturn in violent crime—dropping 25 percent from 1991 to 1998. In comparison, Virginia's total index crime rate dropped 21 percent since 1991, while the violent crime rate dropped 13 percent.

Crime Rates (per 100,000 persons)

Total Index

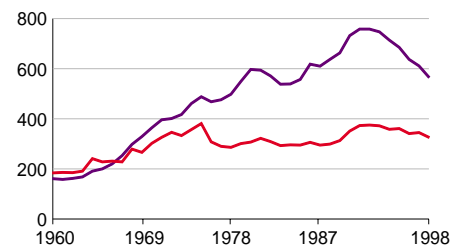


Property Crime



Crime in the United States, United States Department of Justice, Federal Bureau of Investigation, 1960-1998

Violent Crime



— Virginia
— United States

⁵ In the late 1960s and 1970s, population and economic growth accelerated in Virginia's more urban corridors, especially in Northern Virginia where "Edge Cities" began cropping up. Tyson's Corner, Reston, and Dulles are examples of these new self-contained cities, where residents both work and reside (see Joel Garreau, *Edge City: Life on the New Frontier*). As economic expansion accelerated, so did affluence and the relocation of business and residences. Within the state, this phenomenon has been unique to Northern Virginia, although other areas in Richmond and Tidewater are getting closer to having their own "Edge Cities."

⁶ The Omnibus Crime Control and Safe Streets Act of 1968 was the initiative that appropriated millions of federal dollars through block grants to the states. States applied for the federal funds by submitting a comprehensive criminal justice plan and were given money based on a formula that accounted for state population differences.

Virginia is in the lowest crime-rate category for 4 of 7 key offenses

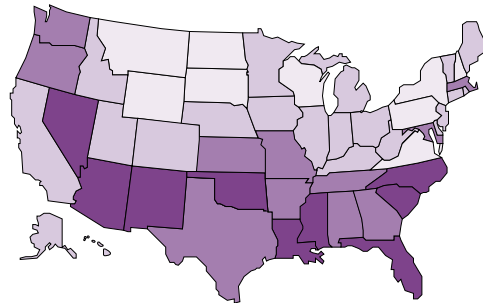
The maps show Virginia is in the lowest crime-rate category for rape, assault, burglary, and motor vehicle theft; and in the second-lowest category for murder, robbery, and larceny.⁷ Although Virginia is considered a Southern state, the Commonwealth tends to have lower rates of crime than other states in the South, especially those in the deep South.⁸

Virginia stands out here most notably for burglary—all of Virginia's neighboring states had higher burglary-rate levels. Overall, only a few regional crime-rate groupings are readily apparent. Perhaps most notable, murder rates tend to be higher in the Southeast, and burglary rates appear higher in states that stretch across the entire southern portion of the country.

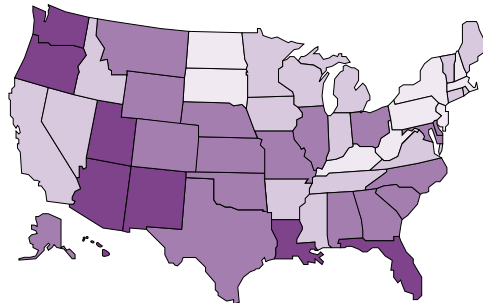
Crime Rates per 100,000 population, 1998

Property Crimes

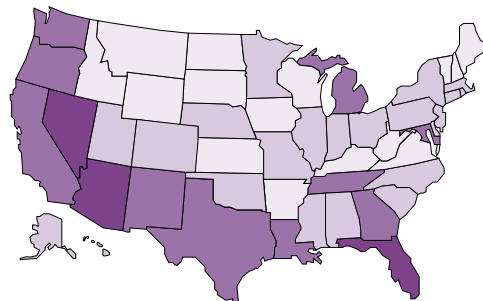
Burglary



Larceny



Motor Vehicle Theft

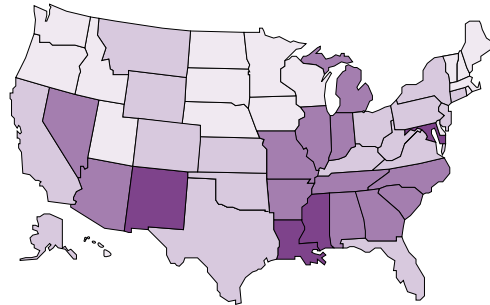


⁷ The crimes shown represent the Part I offenses that are combined to derive the index crime rate.

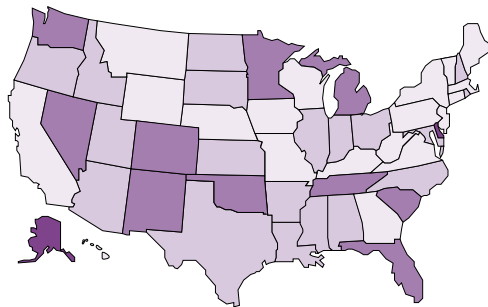
⁸ Historians commonly recognize the difficulty in classing Virginia as a Southern state. "Virginia has a long tradition of priding itself, in a somewhat elitist fashion, as not formerly part of the deep South; Virginia has liked to see itself with its own cultural identity, this goes back to the time of massive resistance." (John Moeser, professor and author, Urban Studies and Planning, VCU, interview 9/21/00).

Violent Crimes

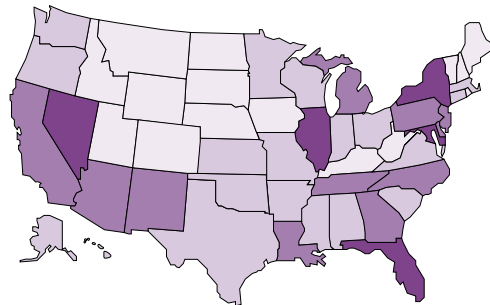
Murder



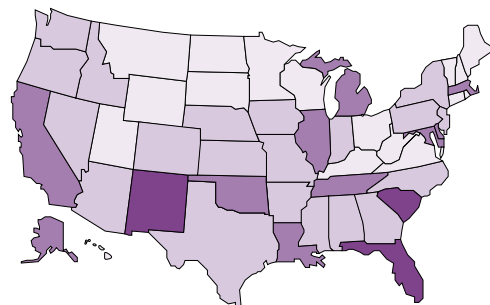
Rape



Robbery



Aggravated Assault



.....

The colors of the states represent ranges for crime rates, from low to high, as shown in the map key. Crime rate ranges were established by subtracting the lowest rate from the highest, and dividing the resulting range into four equal increments. The rate ranges, per 100,000 population, for each crime category are listed below.

Map Key

High		Murder	1.1–12.8
		Rape	18–69
		Robbery	10–299
		Assault	45–732
		Burglary	325–1,394
		Larceny	1,498–4,012
Low		Motor Vehicle Theft	103–865

Crime and Justice Atlas 2000, National Institute of Justice, Prepared by the Justice Research and Statistics Association.
Crime in the United States, 1998, Federal Bureau of Investigation.

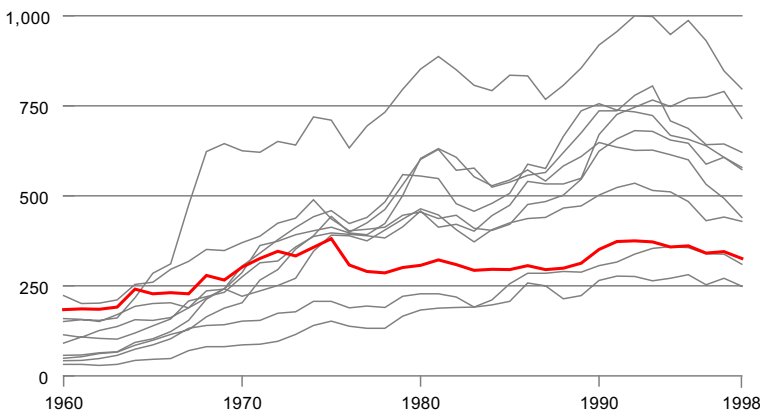
Violent crime rates in Virginia used to be high, but now are low

Compared to the crime rates of other states displayed, violent crime rates in Virginia were high during the 1960s. Over the years, however, Virginia's crime rate did not increase at the same rate as crime rates in other states, and in 1975 the violent crime rate per 100,000 persons dropped from 381 to 308 offenses. During the 15-year period from 1975-89, the violent crime rate in Virginia remained remarkably stable, while violent crime in the comparison states continued to increase. Even in Minnesota and Wisconsin, states that typically showed lower violent crime rates than Virginia, violent crime increased during this period. In all states, violent crime decreased during the mid and late 1990s.

As the individual crime type displays show, Virginia has not always been one of the lower crime-rate states. In fact, Virginia had the highest murder and rape rates and the second-highest aggravated-assault rate in 1960 (Virginia ranked 6th for robbery the same year). Among the comparison states in 1998, Virginia ranked 5th for murder, 8th for rape and assault, and 7th for robbery. Except for rape, Southern states tend to have the highest violent crime rates in the adjacent tables. For rape, Minnesota and Washington had the highest rates in 1998. The lowest violent crime rankings tended to be in Minnesota and Wisconsin, and to a lesser extent Massachusetts (Massachusetts reports relatively high-aggravated assault rates).

Violent Crime Rates, 1960-1998 (per 100,000 persons)

Total Violent Crime

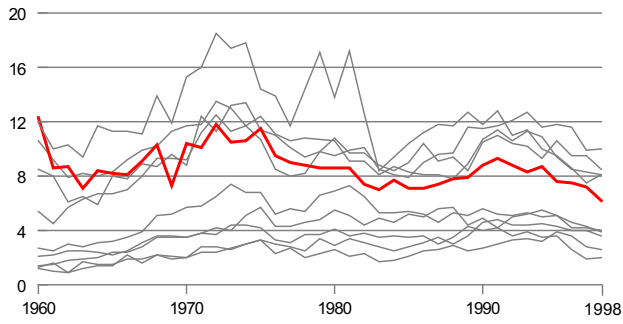


Rank	1960	1980	1998
High	NC	MD	MD
	VA	NJ	TN
	GA	MA	MA
	MD	GA	NC
	NJ	WA	GA
	TN	TN	NJ
	WA	NC	WA
	MA	VA	VA
	MN	MN	MN
Low	WI	WI	WI

Uniform Crime Reports, Federal Bureau of Investigation, 1960-1998. Available from the Bureau of Justice Statistics [<http://www.ojp.usdoj.gov/bjs/datastat.htm>].

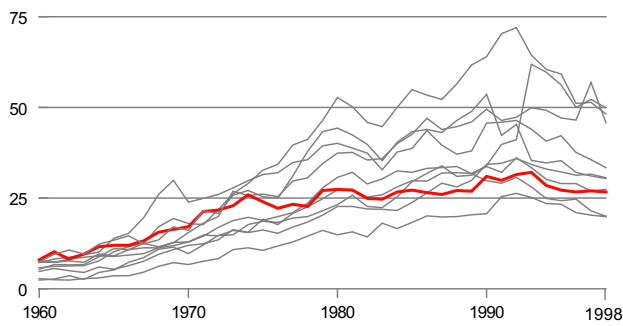
— Virginia
— 9 comparison states

Murder



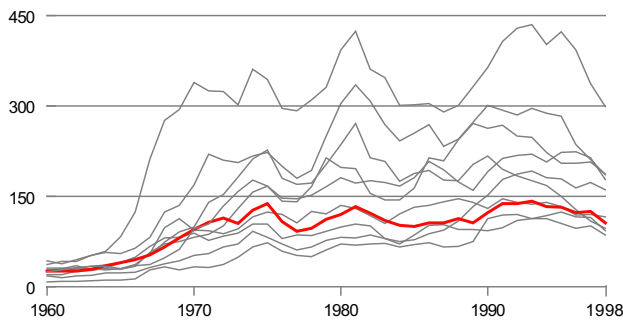
Rank	1960	1980	1998
High	VA	GA	MD
	GA	TN	TN
	NC	NC	GA
	TN	MD	NC
	MD	VA	VA
	NJ	NJ	NJ
	WA	WA	WA
	MA	MA	WI
	WI	WI	MN
Low	MN	MN	MA

Rape



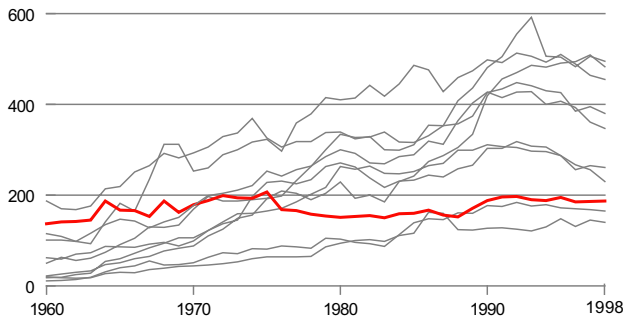
Rank	1960	1980	1998
High	VA	WA	MN
	NC	GA	WA
	GA	MD	TN
	NJ	TN	MD
	MD	NJ	NC
	WA	VA	GA
	TN	MA	MA
	MA	MN	VA
	WI	NC	NJ
Low	MN	WI	WI

Robbery



Rank	1960	1980	1998
High	NJ	MD	MD
	MD	NJ	GA
	WA	MA	NJ
	MN	GA	TN
	TN	TN	NC
	VA	WA	WA
	GA	VA	VA
	MA	MN	MA
	NC	NC	MN
Low	WI	WI	WI

Aggravated Assault



Rank	1960	1980	1998
High	NC	MD	MA
	VA	NC	TN
	GA	MA	MD
	MD	GA	NC
	NJ	WA	GA
	TN	NJ	WA
	MA	TN	NJ
	WI	VA	VA
	WA	MN	MN
Low	MN	WI	WI

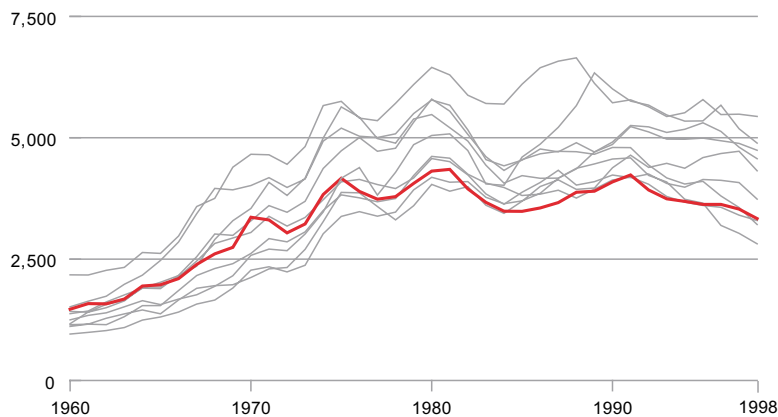
Property crime rates in Virginia are relatively low

Among the comparison states examined, Virginia has some of the lowest property crime rates.⁹ As with violent crime, this has not always been the case; Virginia was ranked among the highest for larceny and burglary during the 1960s. Property crime rates began slowing in Virginia in the mid 1970s and have continued to decrease through 1998. This is seen most clearly for burglary, where in 1960 Virginia ranked 4th, and later, throughout the 1980s and 1990s, ranked last or close to last. Virginia has also consistently reported one of the lowest motor-vehicle theft rates over the last 20 years.

Like violent crime rate levels, property crime rate levels were generally higher for Southern states. There were clear exceptions—Washington had the highest larceny and motor vehicle theft rates, and the third-highest rate for burglary. In addition to Virginia, the other states with relatively low property crime rates included Wisconsin, Massachusetts, and New Jersey.

Property Crime Rates, 1960-1998 (per 100,000 persons)

Total Property Crime

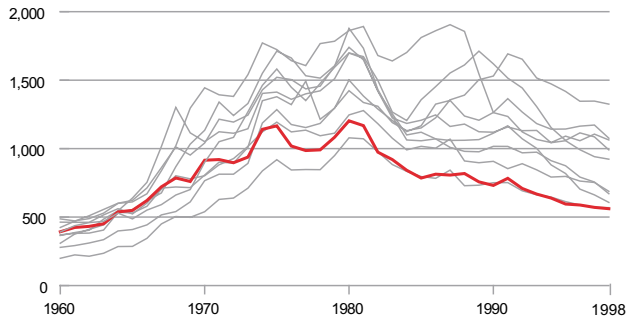


Rank	1960	1980	1998
High	WA	WA	WA
	MD	NJ	GA
	VA	MD	NC
	MN	MA	MD
	NJ	GA	TN
	GA	WI	MN
	MA	MN	VA
	TN	VA	WI
	WI	NC	NJ
Low	NC	TN	MA

Uniform Crime Reports, Federal Bureau of Investigation, 1960-1998. Available from the Bureau of Justice Statistics [http://www.ojp.usdoj.gov/bjs/datast.htm].

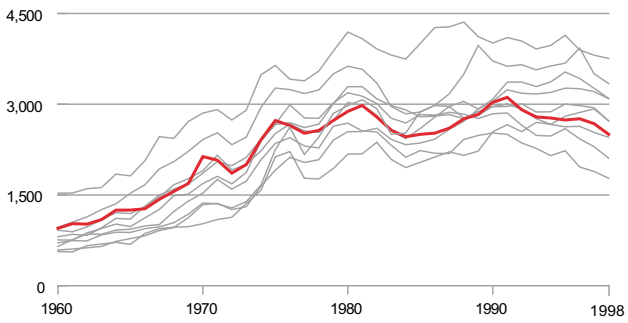
— Virginia
— 9 comparison states

Burglary



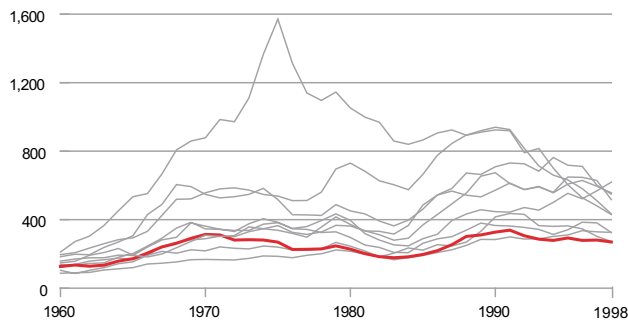
Rank	1960	1980	1998
High	WA	NJ	NC
	TN	WA	TN
	NJ	MA	WA
	VA	GA	GA
	GA	MD	MD
	MN	TN	MN
	MD	NC	NJ
	MA	MN	MA
	NC	VA	WI
	Low	WI	WI

Larceny



Rank	1960	1980	1998
High	WA	WA	WA
	MD	MD	GA
	VA	WI	MD
	MN	NJ	NC
	WI	MN	TN
	NJ	GA	MN
	GA	VA	VA
	MA	MA	WI
	NC	NC	NJ
	Low	TN	TN

Motor Vehicle Theft



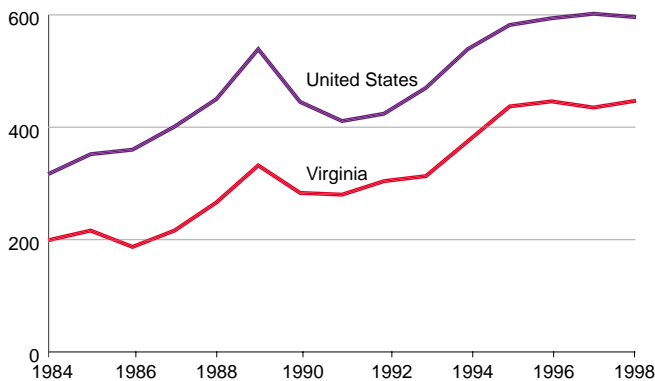
Rank	1960	1980	1998
High	MA	MA	WA
	NJ	NJ	GA
	MD	MD	MD
	WA	WA	TN
	GA	GA	NJ
	MN	TN	MA
	VA	MN	NC
	TN	WI	MN
	WI	VA	WI
	Low	NC	NC

Drug arrest rates in Virginia are lower than the U.S. average

Drug arrest rates in Virginia have historically been below the national average, although they closely track the U.S. trend. In 1998, Virginia recorded a drug arrest rate of 447 per 100,000 persons, its highest rate since 1984.¹⁰ Both Virginia and the U.S. maintained a high drug-arrest level for the past four years.

Throughout most of the 1980s and early 1990s, arrests for drug crimes shifted from offenses involving marijuana to those involving heroin/cocaine (largely powdered cocaine and “crack”). However, beginning in 1993, the proportion of arrests involving marijuana has increased, with marijuana-related offenses now accounting for the majority of drug arrests. In Virginia, 47 percent of drug arrests were for marijuana possession in 1998; the next highest proportion was for possession of heroin/cocaine, at 18 percent.

Drug arrests rates in Virginia are lower than the U.S. average

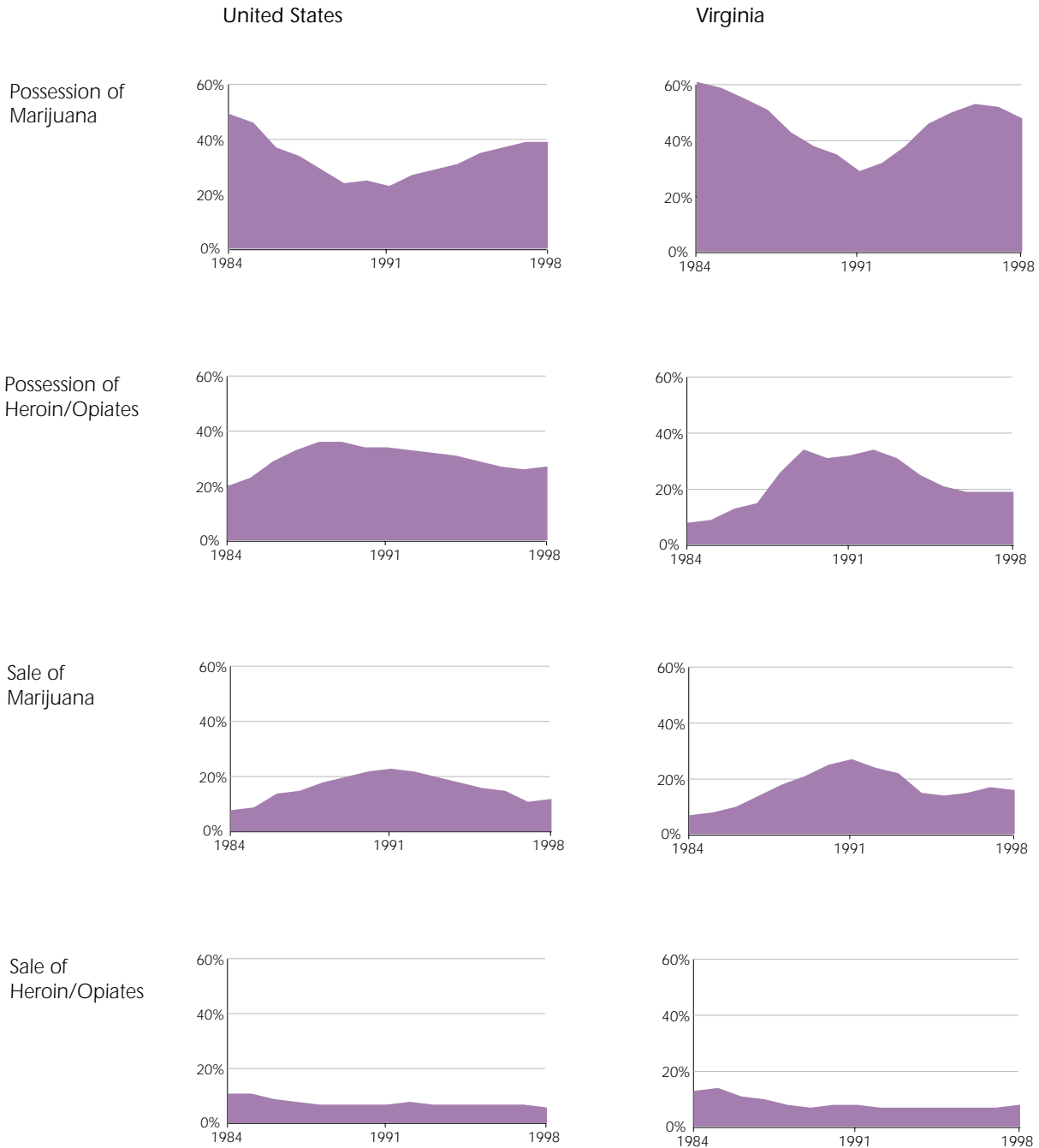


Crime in the United States: Federal Bureau of Investigation, 1984-98. *Crime in Virginia*, Uniform Crime Reporting Section, Virginia Department of State Police, 1984-98

¹⁰It is impossible to estimate the total number of drug crimes committed in Virginia or in the United States. Unlike violent or property crimes, which are counted when reported by victims and later counted separately when an arrest is made, drug crimes are counted *only* when an arrest is made. For this reason, using drug-arrest data to measure overall illegal drug activity tends to be speculative; however, such data can help measure police responses to drug crime, changes in drug-use patterns, changes in the way drugs are sold and marketed, and changes in public attitudes toward reducing drug-related crime.

The types of drug crimes targeted for enforcement has changed in the last 15 years

Proportion of Drug Arrests



Crime in the United States: Federal Bureau of Investigation, 1984-98. Crime in Virginia, Uniform Crime Reporting Section, Virginia Department of State Police, 1984-98

Factors Generally Associated with Crime

Crime rates have been associated with five factors

What factors account for the variation in crime from one state to another? This section focuses on five factors that experts believe are associated with crime. It assesses evidence of the effectiveness of these factors for explaining cross-state variation, citing the research of prominent crime experts. The five factors are:

- Sociodemographics—the age, race, and gender composition of the population, and population size and density.
- Structural factors—the influence of social forces that affect society at large, including the unemployment rate, the poverty rate, and income inequality.
- National crime trends—the theory that certain crime trends tend to occur on a national level, such as the national growth in violent drug-related crime during the 1980s.
- Cultural differences—the possibility that differences in social and political cultures among states may be related to differences in crime rates.
- Justice system responses—the effectiveness of policing, the use of incarceration, and other justice system laws and policies that may affect crime rates among states.

Federal agencies document wide variations in crime and crime rates among the states and regions of the U.S., in the *Report to the Nation on Crime and Justice (1988)* from the Bureau of Justice Statistics and later in the *Crime and Justice Atlas, 1998* from the National Institute of Justice.

Sociodemographic and structural factors are important

Most crime experts believe that sociodemographic and structural factors are related to interstate differences in crime rates.¹¹ Among the sociodemographic factors examined by researchers, the best predictors have been population size and age, and racial composition.

Worden (1980) examined variation in crime rates in 120 Standard Metropolitan Statistical Areas (SMSAs) during 1960 and 1970 and found that the best predictors changed over time. In 1960, SMSA population size, growth, and density were the best predictors of crime. Ten years later, the concentration of youthful minorities in the central city and the size of the Spanish-speaking population emerged as critical predictors for the same crimes.

In a more recent study, Blumstein and Rosenfeld (1999) found age to be a critical variable for understanding differences in crime rates. However, this theory is controversial. Levitt (1999) showed that changes in age structure had a limited impact on aggregate crime rates, and that even the dramatic transformation of the age distribution accompanying the baby boom shifted crime rates by no more than one percent per year.

Among the structural factors, the poverty rate, the unemployment rate, and the percent of owner-occupied housing have been cited as effective predictors. For example, Blumstein and Rosenfeld (1999) attribute the decline in serious crime in the mid-1990s to the robust economy and the resultant low unemployment rate.

Other structural and sociodemographic variables sometimes found to be significant include per capita income, population density, percentage of female-headed households, ethnicity, level of education, recent immigration, poverty and/or employment at menial occupations (Harries (1974); Nelson (1980); Brantingham and Brantingham (1980); Harries and Cheatwood (1997)).



The National Commission on the Causes and Prevention of Violence (1969), drawing on various sources, listed fourteen urban conditions (principally sociodemographic and structural) associated with violence:

- Low income
- Physical deterioration
- Dependency
- Racial and ethnic concentrations
- Broken homes
- Working mothers
- Low levels of education and vocational skills
- High unemployment
- High proportions of single males
- Overcrowded and substandard housing
- High rates of tuberculosis and infant mortality
- Low rates of home ownership or single family dwelling
- Mixed land use
- High population density

This “laundry” list, while nearly 30 years old, still provides a good summary of our knowledge about violence and thus may shed valuable light on state-by-state variations in crime differences.

¹¹ The structuralist perspective argues that crime rates are connected to underlying social and economic conditions. The structuralist would see high rates of unemployment among black youth, for example, as a product of social forces extending through society at large, and merely manifested in distinctive local patterns.

National factors also affect crime trends

Winsberg (1993) concludes that many crime waves are national rather than local. Crime rates have risen and fallen at approximately the same time in socioeconomically diverse states scattered throughout the U.S. This research suggests that national factors influence crime waves more than local factors do. It also supports the idea that effective initiatives to prevent crime need to encompass the entire nation, not just a specific locality.

Blumstein and Rosenfeld (1999) argue that a national epidemic of handgun violence, particularly within the drug trade, explains much of the growth in homicide rates during the 1980s and 1990s. They observe that the growth in homicides by young people, which accounted for all the growth in homicides in the post-1985 period, was accounted for totally by the growth in homicides committed with handguns. The close relationship between gun violence and drugs at the national level is further seen by noting that rates of serious violence, including homicide, went up during the nationwide crack epidemic and have been dropping as the use of crack declines.

The role of cultural differences is unclear

Crime experts disagree about the role cultural factors play in explaining state differences in crime rates. Some experts believe cultural factors play a strong role; others discount their importance.

Because Southern states typically have higher crime rates, some experts theorize a Southern “subculture of violence” that leads to higher rates of homicide and other violent crime (Hackney (1969); Gastil (1971); Shannon (1954: 273); Reed (1971); Messner (1983); and Nisbert (1993)). The existence of regional cultures of violence has never been conclusively established, and signs of violent regional cultures have tended to disappear when other underlying socioeconomic conditions are taken into account. Several studies have challenged the validity of the subculture thesis, including: Loftin and Hill (1974); Smith and Parker (1979) and Parker and Smith (1980); Bailey (1984). Some experts argue that regional differences will eventually converge as regions further develop their economies. (Wilks, 1967; Kowalski and Petee, 1991).

The justice system response affects crime rates

The way that the justice system responds to crime will, in turn, influence crime rates. Two aspects of the justice system that have an impact on crime rates are law enforcement and imprisonment. Harries (1974) noted the importance of the quality of law enforcement to understanding variations in crime rates. More recently, Blumstein and Rosenfeld (1998) specifically pointed to police efforts to remove guns from kids as contributing to the recent decline in homicide rates.

Blumstein and Rosenfeld (1999) speculate that incarceration effects from the unprecedented high levels of imprisonment since the 1980s may explain some of the variation in serious crime rates. In particular, they speculate that the imprisonment of large numbers of drug sellers has contributed to the recent decline in homicides.

Criminal Justices Initiatives to Reduce Crime

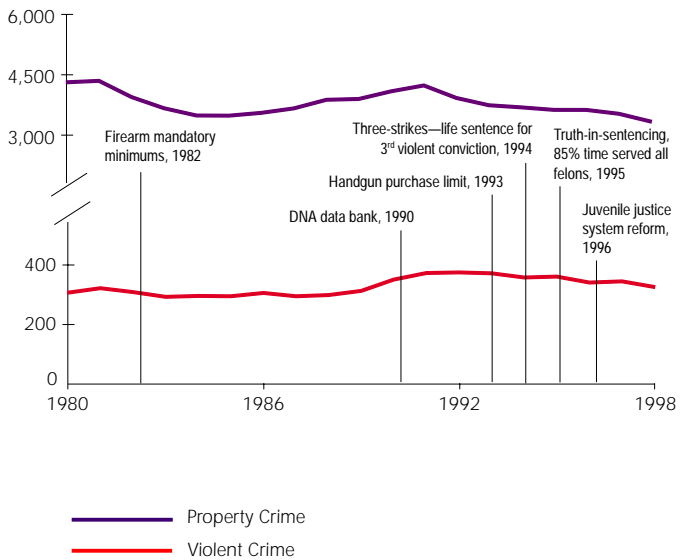
Virginia and other states crime reduction efforts

The following graphics portray some of the more noteworthy criminal justice initiatives implemented over the last 15-20 years plotted against property and violent crime rates for Virginia and four selected comparison states. The four states were selected based on their location (Maryland, North Carolina, and Tennessee all border Virginia) and their geographical classification as Southern states (Georgia was added to the three border states selected).¹²

It is difficult to determine, with any degree of certainty, what impact state laws and policies have on crime rates. We can, however, examine more generally how crime rates vary before and after laws have been introduced. Taken together with the next report section, which examines how long-term social and economic conditions are related to crime-rate changes, these displays help clarify whether some specific initiatives are having effects on crime rates.

Virginia crime rates crimes per 100,000 population

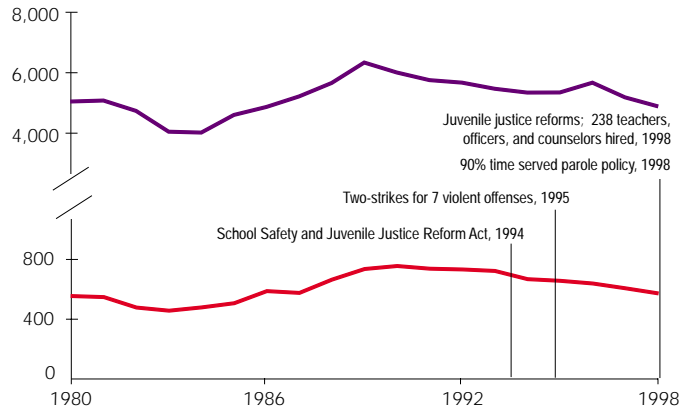
In 1982, the mandatory minimum sentence for firearm use during a felony increased from one to two years for a first offense, and from three to four years for a second offense. In 1993, the limit on handgun purchases was set at one purchase per month. In 1994, three-strikes legislation mandated life sentences for offenders convicted of a third violent offense. In 1995, truth-in-sentencing legislation abolished discretionary parole; all inmates serve at least 85 percent of their sentence. Sentencing guidelines increased sentences for violent offenders from 200 percent to 700 percent, depending on the offense and criminal history. In 1996, various juvenile justice reforms were passed to address child and family welfare, community safety, and victims rights. The 1997 Comprehensive Community Corrections Act established an array of diversion programs for nonviolent offenders.



¹² The remaining five comparison states not shown here also initiated criminal justice laws and policies that were comparable to or had similar purposes as these five states. For example, in the courts area, Minnesota, Washington, Wisconsin, and Massachusetts all implemented sentencing guidelines; for repeat offenders, New Jersey and Washington also passed 3-strikes laws.

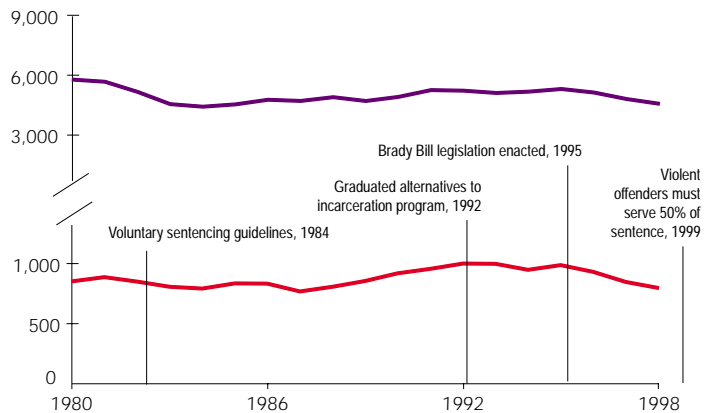
Georgia crime rates crimes per 100,000 population

The School Safety and Juvenile Justice Reform Act, 1994, mandated automatic transfer of juveniles (ages 13-17) to adult court for committing any of seven violent crimes.¹³ The Act also required schools to develop safety plans and created violence-free school safety zones. The two-strikes law mandates that offenders convicted of committing any of seven violent crimes serve 100% of the sentence (no parole) for the first offense, and for a second conviction, serve a life sentence with no parole.¹⁴ The parole policy mandates that anyone convicted of committing any of 20 specified crimes must serve at least 90% of their sentence.¹⁵



Maryland crime rates crimes per 100,000 population

With support from the Maryland General Assembly and the Bureau of Justice Assistance, the state launched a program of graduated sanctions in 1992 that has been identified as a national model for front- and back-door alternatives to incarceration. Brady Bill legislation enacted in 1995 establishes new procedures for purchasing handguns and the criteria for those purchasing such weapons. In the spring of 1999, legislation passed that mandated a 50 percent time-served minimum for certain violent offenders.¹⁶



¹³ Seven crimes include murder, voluntary manslaughter, rape, aggravated sodomy, aggravated child molestation, aggravated sexual battery, and robbery with a firearm.

¹⁴ Crimes include murder, kidnapping, rape, aggravated sodomy, aggravated child molestation, aggravated sexual battery, and armed robbery.

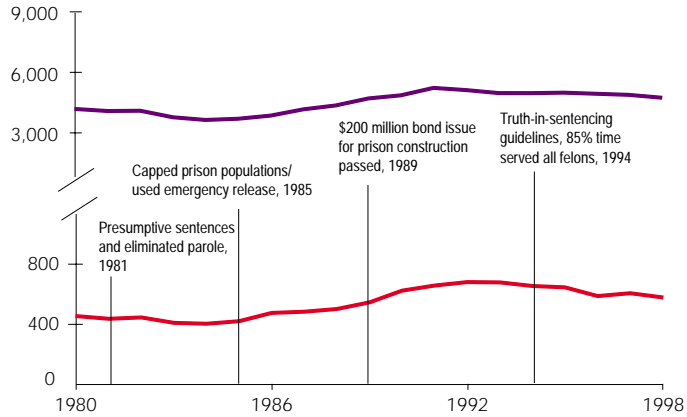
¹⁵ Crimes include attempted rape, voluntary manslaughter, aggravated battery on a police officer, aggravated battery, child molestation, hijacking a motor vehicle, robbery, aggravated assault on a police officer, aggravated assault, enticing a child for indecent purposes, cruelty to children, feticide, incest, statutory rape, criminal attempt to murder, bus hijacking, vehicular homicide (while DUI or as a habitual violator), involuntary manslaughter, aggravated stalking, and burglary of a dwelling.

¹⁶ Offenses include murder, manslaughter, rape, robbery, assault, and 1st degree burglary.

— Property Crime
 — Violent Crime

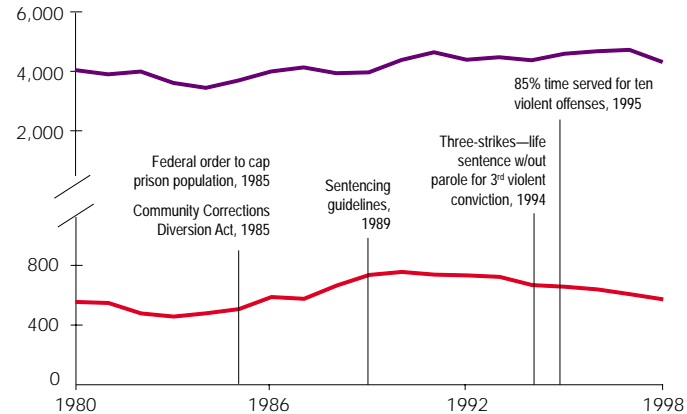
North Carolina crime rates crimes per 100,000 population

The legislation implemented in 1981 established presumptive sentences and eliminated parole, but maintained the expanded good-time credits to reduce actual time served. 1985 legislation imposed a cap on the size of the prison population and provided for increased prison release via emergency parole (the cap was repealed in 1994). The \$200 million bond issue for prison construction began a massive expansion in prison-population capacity. Sentencing guidelines implemented in 1994 also regulated the “in vs. out” incarceration decision of judges and mandated 85 percent time served for all felons.



Tennessee crime rates crimes per 100,000 population

The 1985 Community Corrections Act established a diversion program for nonviolent offenders. In 1989, mandatory sentencing guidelines were established based on offense seriousness and prior offense history. The three-strikes law enacted in 1994 mandated life sentences without parole for third-time violent offenders. In 1995, ten crimes were targeted for an 85-percent minimum time served: 1st degree murder, 2nd degree murder, aggravated kidnapping, aggravated robbery, rape, aggravated rape, aggravated arson, aggravated child abuse, aggravated sexual battery, and rape of a child.



— Property Crime
— Violent Crime

Crime in the United States: Federal Bureau of Investigation, 1980-98; Crime and Justice Atlas, 2000, National Institute of Justice, Prepared by the Justice Research and Statistics Association.

Factors Associated with Crime in Virginia and the Comparison States

Research can pinpoint the factors most significantly associated with changes in crime rates

The previous section identified five primary factors that are potentially linked to crime: sociodemographic, structural, justice system responses, national trends, and cultural differences. This section examines which of these factors are most closely associated with changes in crime rates in Virginia and the nine comparison states.¹⁷ Data on these five factors were assembled for all ten states, covering a three-decade period (1970-1998). Using a statistical model with a much stronger design than that used in earlier research (multiple time-series design), each factor is examined for its influence on changes in the crime rate, while simultaneously controlling for the influence of each other factor.¹⁸ This method allows us to determine which factors relate to changes in crime rates, how they are related (having a positive or negative influence), and how important each factor is relative to all other factors examined.

Given that the ten states included in this study were selected based on similarities in total population, population density, general state revenues per capita, and state political and social culture, it is not surprising that certain factors listed above proved statistically insignificant (see “*How the comparison states were selected*”). The influence of potentially important factors (e.g., total population, population density, divorce rates, and educational expenditures) is being controlled for through the selection of states in the sample.

Four factors were significantly associated with changes in crime rates: incarceration rates, population of 15–24 years olds, unemployment rate, and poverty rate. In other words, when these measures increased or decreased within the group of ten states, significant changes also occurred in crime rates. It is important to note that these factors were found to be significant when crime rates and the related factors were examined for all ten states as a group and over the entire 1970 to 1998 time period. The analysis did not examine these associations within individual states, or for a shorter time period, because the lesser amount of data made it more difficult to distinguish which factors were truly influential. Analysis of the data using all ten states as a group increases the likelihood that the statistical model is effectively “sorting out” the impact of the variables thought to be important.

¹⁷ See “*More about the analysis and data - Other data sources*” for definitions and sources of the factors used in this analysis.

¹⁸ See “*More about the analysis and data - Multiple time series methods and results*” for a more detailed discussion of statistical methods and results.

The factors that help explain differences in crime rates between states

The table below shows the impact of the four significant explanatory factors on the overall violent crime and property crime rates, and on the seven specific crime types tracked by the UCR system.

Crime rate changes associated with increases in crime related factors

	Increased			
	incarceration rate	population age 15-24	poverty rate	unemployment rate
Violent Crime Rate	▼		▲	▼
Murder				▼
Rape	▼			▼
Robbery		▲		
Assault	▼	▲	▲	
Property Crime Rate	▼	▲		▼
Burglary	▼	▲		▼
Larceny	▼	▲		▼
Auto Theft				▼

Increase ▲ or decrease ▼ indicates change was statistically significant.

Incarceration rates. Increases in incarceration rates were associated with decreases in crime rates. Overall violent crime rates, as well as rates for rape and assault, decreased when incarceration rates increased. Overall property crime rates, as well as rates for burglary and larceny, decreased when incarceration rates went up. Over the last three decades, a 10-percent increase in the incarceration rate was associated with a 1.3-percent drop in violent crime, and a 1-percent drop in property crime rates.

Juvenile population. Increases in the 15–24 year-old population were associated with increases in robbery and aggravated assault rates, and in overall property crime rates and rates for burglary and larceny. Over the time period examined, a 10-percent increase in the 15-24 year-old age group was associated with a 6.5-percent increase in property crime rates.

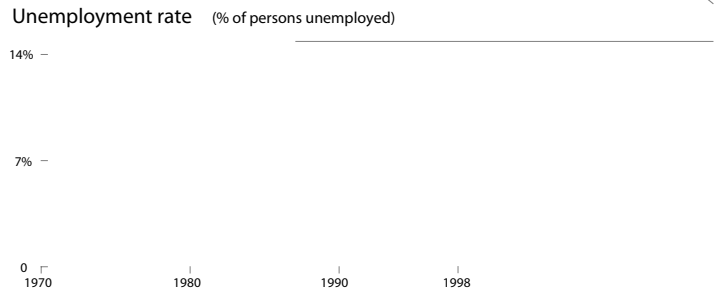
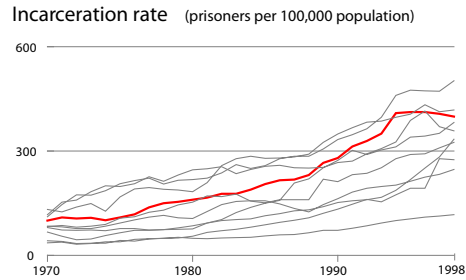
Poverty. Increases in poverty rates were associated with increases in overall violent crime rates and for aggravated assault. However, increased poverty rates were associated with significant decreases in most types of property crime. A 10-percent increase in the poverty rate was associated with a 2.3-percent increase in violent crime rates and a 1.5-percent decrease in property crime rates.

Unemployment. Increases in unemployment rates were associated with increases in overall violent crime rates, as well as rates for murder and rape. There were no significant associations between unemployment rates and rates of property crime. A 10-percent rise in unemployment was associated with a 1.2-percent drop in the violent crime rate.

The factors associated with crime rates: The long-term trends

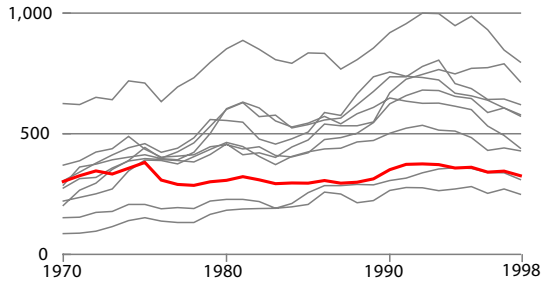
This analysis revealed that changes in the incarceration rate, poverty, unemployment, and the number of young people in our population is related to fluctuations in the crime rate. How does Virginia compare to the nine other states in terms of these crime related factors?

- Virginia’s incarceration rate has been consistently higher than that of the comparison states since the late 1980s.
- Virginia’s poverty rate has been in the middle or at the low end of the scale for the comparison states since the early 1980s.
- Virginia’s unemployment rate has been consistently lower than that most of the comparison states since 1970.
- Compared to the other states, the number of young persons (age 15-24) in Virginia has been 6th highest over the last 10 years.

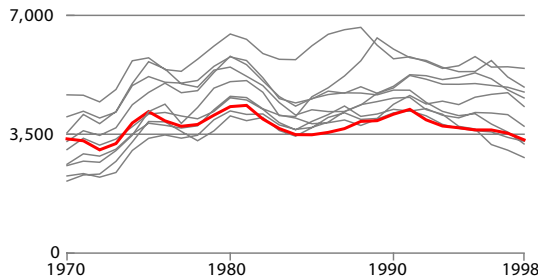


Crime rates per 100,000 persons

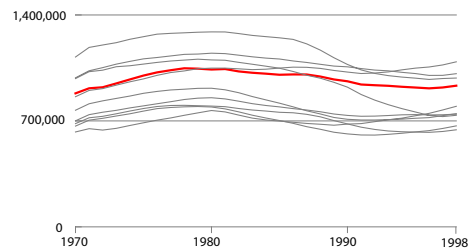
Violent Crime



Property Crime



Population age 15-24



Selecting the States

State selection began by limiting the potential pool of states to the 24 with more than 4 million residents (Virginia had 6.8 million resident population in 1998). To assess how similar and different these 24 states are, U.S. Census data were compiled on five key state characteristics (population, population residing in metropolitan centers, general revenue per capita, population below the poverty line, and prisoners per 100,000 population), and two measures of social and political ideology. The ideology measures were taken from *Measuring Citizen and Government Ideology in the American States, 1960-93*, American Journal of Political Science. This research defines a citizen ideology—the score on a liberal-conservative continuum of the active electorate in a state, and a government ideology—the score on the same continuum for the elected public officials in a state, weighted according to the power they have over public-policy decisions.

The technique of hierarchical cluster analysis was used to differentiate the states into similarity groups, or clusters, based on the five census and two ideology measures. One can interpret the states in each cluster as being more similar to each other (based on the factors examined) than to states in the other clusters. The 24 states fell into six similarity “clusters”:

1. California
2. Florida
3. New York, Texas
4. Illinois, Michigan, Ohio, Pennsylvania
5. Georgia, North Carolina, New Jersey, Virginia
6. Alabama, Arizona, Colorado, Indiana, Louisiana, Maryland, Massachusetts, Minnesota, Missouri, Tennessee, Washington, Wisconsin

The states in cluster 5 are “most similar” to Virginia: Georgia, North Carolina, and New Jersey. The eight states in clusters 1-4 are the most populous states in the country, have census and ideology factors different from Virginia, and, as a consequence, were excluded from the analysis. The states in cluster 6 are “similar” to Virginia but not as closely comparable as the states in cluster 5 – Alabama, Arizona, Colorado, Indiana, Louisiana, Maryland, Massachusetts, Minnesota, Missouri, Tennessee, Washington, and Wisconsin.

To examine and present results on a manageable number of states (a total of ten states was the original target), all states in cluster 5 and a 50-percent sample of the states in cluster 6 were taken. Massachusetts and Wisconsin were selected from cluster 6 because they had crime rates lower than Virginia. Tennessee and Maryland were selected for their proximity to Virginia. Minnesota and Washington were chosen randomly to arrive at a total of ten states. Using the census and ideology factors ensures that the states selected for comparison are broadly similar, and provides a valid and reliable sample for examining the trends and determinants of crime rates.

Multiple Time Series Methods and Results

The multiple time-series design uses the ten states as “natural laboratories” within the context of a single model. This is probably the best procedure for evaluating the factors that affect crime rates over time and among states (Pindyck and Rubinfeld, 1991). The design provides a large sample size and allows one to explore the influence of a large number of factors. The crime, incarceration, population 15-24, unemployment, and poverty variables are measured as rates (per 100,000 population) to increase comparability. The variables are logged to reduce the influence of outliers and also to yield a straightforward conceptual interpretation of the coefficients. After logging, the regression coefficients reflect the percentage change in the crime rate (dependant variable) given a 1-percent change in the explanatory factors examined. The final model emerged following a careful analysis of many potential variables, with particular attention given to ensuring that important statistical assumptions were not violated.

Multicollinearity was addressed by examining a correlation matrix for all possible pairs of sociodemographic, structural, and justice system variables. Correlation coefficients above .5 were assumed to indicate high correlation between two variables. In addition, the significance (measured by the t-statistic) of each correlated variable was examined in the multiple time-series regression. The decision to exclude any variable from the final model was based on a combination of high correlation and statistical insignificance. Additional tests indicate the dependent variables (crime rates) are probably trend stationary in levels, with year variables representing the trend. That is, the variables’ tendency to rise or decline is captured, over the whole sample, by the year variables.

The results of the statistical estimation are presented in the table on the following page. The size and sign of the coefficients are net of the year and state indicator control variables. The year and state indicator variables control for unknown or omitted factors that may affect the other independent variables. The decision to include the year and state indicators was made on the basis of statistical testing. The year and state indicators were entered as separate blocks into the regression model, with an F-test statistic calculated to determine each block’s significance to the overall explanatory power of the model. The year and state indicators were both significant at the .001 level in all separate regressions.

The table shows the impact of the explanatory factors on the violent crime rate and the property crime rate as well as the seven specific crime types tracked by the UCR (statistical significance indicated with “*”). Each separate number in the table (the model’s coefficients) *represents the percentage change in the crime rate for each 1 percent change in the incarceration rate, population age 15-24, the poverty rate, or the unemployment rate*. For example, a 1-percent change in prison population results in approximately .09 percent fewer property crimes. Likewise, a 1-percent increase in the population age 15-24 leads to .65 percent more property crimes.

Changes in crime rates associated with increases in crime related factors

	% change in crime rate associated with 1% increase in:			
	incarceration rate	population age 15-24	poverty rate	unemployment rate
Violent Crime Rate	-0.13*	0.39	-0.23*	-0.12*
Murder	0.15	-0.57	-0.01	-0.23*
Rape	-0.29*	-0.11	-0.03	-0.12*
Robbery	-0.02	0.82*	-0.12	-0.02
Assault	-0.34*	1.06*	-0.31*	-0.05
Property Crime Rate	-0.09*	0.65*	-0.15*	-0.06
Burglary	-0.09*	1.20*	-0.13*	-0.01
Larceny	-0.19*	0.64*	-0.10*	-0.08
Auto Theft	-0.18	-0.29	-0.19*	-0.05

interpreted as a 1% increase in the incarceration rate is associated with a 1.3% decrease in the violent crime rate.

interpreted as a 1% increase in the 15-24 year old age group is associated with a 1.2% decrease in the burglary rate.

* Statistically significant at .05 level.



Other Data Sources

The following factors were used in the statistical analysis in the section “*Factors associated with crime in virginia and the comparison states.*” Unless specified, data were collected for the years 1970-1998 for each of the ten states examined.

Population age 15-24, Population all other ages, Population density

U.S. Bureau of the Census [<http://www.census.gov/population/www/estimates/statepop.html>].

Population figures were obtained on-line and grouped into specific age categories for this analysis. Population density is the number of person in each state per square mile.

Unemployment

Statistical Abstract of the United States, (various years), U.S Bureau of the Census.

Geographic Profile of Employment and Unemployment, (various years), U.S. Bureau of Labor Statistics. *Unemployment Rates by State and Division, 1979-97*, Economic Policy Institute.

The unemployment rate is the percent of the civilian labor force that is unemployed for the noninstitutional population age 16 and over. Unemployment rates for 1994 and beyond were not directly comparable to those from earlier years, due to changes in BLS survey methodology.

Poverty

March Current Population Survey, (various years). Poverty and Health Statistics Branch/HHES Division. U.S. Department of Commerce, U.S. Bureau of the Census.

Statistical Abstract of the United States, (various years), U.S. Bureau of the Census.

The poverty rate is the percent of persons below the poverty level. The U.S. Bureau of the Census uses income thresholds that vary by family size and composition to detect who is poor. Poverty thresholds do not vary geographically, but they are updated annually for inflation using the Consumer Price Index (CPI-U). Poverty is not defined for people in military barracks, institutional group quarters, or for unrelated individuals under age 15 (such as foster children).

Aid to Families with Dependant Children (AFDC) and Temporary Assistance for Needy Families (TANF) Recipients

Public Assistance Statistics, monthly, U.S. Social and Rehabilitative Service.

Social Security Bulletin, monthly, U.S. Social Security Administration.

Quarterly Public Assistance Statistics, annual, U.S. Administration for Children and Families.

Statistical Abstract of the United States, (various years), U.S. Bureau of the Census.

AFDC (name through 1995) and TANF (name after 1995) recipients are the number of persons (children and parents) in each state receiving financial assistance. The amount of money is based on “standard of need” and congressional appropriations. Data for 1997 was estimated.

Educational expenses

Revenues and Expenditures for Public Elementary and Secondary Schools, various years, Statistics of State School Systems, various years, Common Core of Data Surveys, National Center for Education Statistics, U.S. Department of Education.

Statistical Abstract of the United States, U.S. Bureau of the Census.

Educational expenses are calculated as dollars expended per pupil in average daily attendance in public elementary and secondary schools. Data for 1994 was estimated.

Divorce

Vital Statistics of the United States, annual; *National Vital Statistics Report*, U.S. National Center for Health Statistics.

Statistical Abstract of the United States, U.S. Bureau of the Census.

Divorces, including annulments, were counted as a rate per 1,000 population. Data were estimated for 1996 and 1998. Massachusetts data were estimated for 1971-72 and Minnesota for 1974.

Incarceration Rate

Prisoners in State and Federal Institutions, 1970-84; Corrections Populations in the United States, 1985-95; Prisoners 1996-1998; U.S. Department of Justice, Bureau of Justice Statistics.

The incarceration rate is the number of persons in prison per 100,000 population. Data are based on inmate population counts for persons serving sentences of more than 1 year.

Criminal Justice Expenditures

Survey of Government Finances (annual). U.S. Bureau of the Census.

Sourcebook of Criminal Justice Statistics, 1972. Bureau of Justice Statistics

Criminal justice expenditures are per capita state and local government expenses for corrections, judicial and legal services, and police protection activities. Judicial and legal numbers for 1972 were taken from the *Sourcebook of Criminal Justice Statistics, 1972* and are not directly comparable to census numbers; they are used for estimating purposes. Data for 1970-1971, 1973-1977, and 1998 are estimated.



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