



---

# Jail Crowding

UNDERSTANDING JAIL  
POPULATION DYNAMICS

**U.S. Department of Justice**  
**National Institute of Corrections**  
320 First Street N.W.  
Washington, DC 20534

Morris L. Thigpen, Director  
Virginia A. Hutchinson, Chief, Jails Division  
Richard E. Geather, Project Manager

---

**National Institute of Corrections**  
**World Wide Web Site**  
*<http://www.nicic.org>*

---

# Jail Crowding: Understanding Jail Population Dynamics

Mark A. Cunniff  
National Association of Criminal Justice Planners

January 2002  
NIC Accession Number 017209

This document was prepared under NIC technical assistance event number 99J1225 from the National Institute of Corrections, U.S. Department of Justice. Points of view or opinions stated in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice.

The National Institute of Corrections reserves the right to reproduce, publish, translate, or otherwise use and authorize others to publish and use all or part of the copyrighted material contained in this publication.

# Foreword

This document, developed to assist local government officials in conducting effective criminal justice system oversight, assumes the premise that citizens, although generally unfamiliar with jails and the criminal justice system, are entitled to efficient, effective, and responsive government services.

The extent of jail crowding may be determined in a number of ways. Whatever the context, the combination of jail population increases and limited funding resources has required many communities to face this unwelcome dilemma. Whether jail crowding is an infrequent occurrence or a chronic problem, it should be recognized as an indication that a thorough examination of criminal justice policies, procedures, and practices is warranted.

The National Institute of Corrections (NIC) strives to promote community involvement with the local criminal justice system and enhance the knowledge, competence, and credibility of criminal justice system practitioners. It is NIC's intent to assist local jurisdictions in planning systemwide strategies that emphasize the role of each local criminal justice agency and how those agencies influence the use of jail space to ensure public safety.

NIC will continue to address jail crowding issues by developing information and providing technical assistance through the NIC Jails Division. We hope this document will assist those who wish to explore improvements in the coordination of criminal justice practices within their communities and that it will complement the efforts of local officials by providing a framework for analysis and planning. We invite all criminal justice practitioners and government officials involved in this work to contact the NIC Jails Division for additional assistance if needed.

**Morris L. Thigpen**

*Director*

National Institute of Corrections



# Contents

- Foreword .....iii
- Executive Summary .....vii
- How Can We Identify the Factors Behind Jail Crowding? .....1
- What Key Questions Must We Ask To Understand Jail Population Dynamics? .....3
  - What is the purpose of the jail? .....3
  - Who is in the jail? .....3
  - How do people get into jail? .....4
  - How do people leave the jail? .....6
  - How long do people stay in the jail? .....7
  - Summary: A frame of reference .....7
- What Trends Are Driving Jail Population Growth? .....9
  - National trends .....9
  - County data: An important supplemental indicator .....10
  - Discretionary decisionmaking .....11
  - Nonjail record systems .....11
  - Analytic scenarios .....12
  - Summary: Critical trend data .....13
- How Can We Forecast Future Needs? .....15
  - Population forecasts .....15
  - A systems perspective .....16
  - Forecasting criminal justice decisions .....16
  - Limitations of straight-line forecasting .....17
  - Summary: Systems perspective versus straight-line forecasting .....17
- What Are the Benefits and Elements of an Effective Analytic Process? .....19
  - A value-free inquiry .....20
  - Jail crowding themes .....20
  - Information systems .....20
  - Summary: Assessment of critical forces .....21

**What Are the Elements of the Analytic Process?** .....23

    Develop a knowledge base .....23

    Avoid a restrictive focus.....24

    Institute a policy forum.....24

    Identify a qualified criminal justice analyst .....25

    Involve county officials.....26

    Summary: Analysis of critical forces .....26

***Appendixes***

**Appendix A. Preventing Jail Crowding: A Practical Guide** .....29

    Understanding the sources of jail crowding .....29

    Understanding the dynamics that create changes in jail occupancy levels .....29

    Explaining swings in jail occupancy levels .....31

    A jail population analysis system .....32

    Reducing the inmate population in a crowded jail .....35

    Policy choices.....35

    Conclusion: The key to preventing crowding .....36

    Resources .....37

**Appendix B. Jail Survey Form**.....39

**Appendix C. Data Sources** .....41

**Appendix D. Proposed Work Plan for Criminal Justice Analysts** .....43

    Survey of jail population.....43

    Aggregate data .....43

    Analysis of agency databases .....44

**Appendix E. Items To Be Included in the Agency Database** .....47

    Arrest files.....47

    Jail files .....48

    Court files.....49



---

# Executive Summary

The ever-increasing demand for jail space has contributed to persistent jail crowding, even as counties move to construct new jail beds. County officials, especially general government elected officials, are searching for indicators that will help explain this phenomenon and meet the demand for jail space in a timely and effective manner.

Three indicators are available for analysis nationally: serious crime, adult arrests, and county resident population. Trends in serious crime shed little light, however, on jail population growth. Serious crime has been declining while jail populations have been increasing substantially. Adult arrests, on the other hand, do offer some insight into the growth pressures on local jail systems. Data show that drug offenses, especially drug possession, are a major factor in the increase of adult arrests.

Changes in a county's resident population, especially in counties experiencing growth, can also affect the demand for jail space. Trends in total population, however, are not as informative as trends among age groups within the population. Young adults (18 to 35 years of age) have a much higher risk of being sentenced to a jail term than other segments of the population. Although the number of young adults has recently declined, this population will exhibit steady, but modest, growth during the first two decades of the new millennium.

Other indicators are available only locally. These include trends in jail bookings, average length of jail stay, court case filings, and court sentences to jail. Such trends can help to identify increasing demands for jail bed space and give context to the jail crowding dynamic, but they cannot adequately discern the specific forces behind the demand for jail space. Only a detailed analysis of the data contained in a jail's information system can provide information on the populations that disproportionately increase jail space demands.

Such detailed analyses are a prerequisite to forecasting future jail needs. Although criminal behavior is an integral component of the jail crowding dynamic, criminal justice policies also play an important role in this process. A criminal justice perspective on such analyses is important because jail crowding is both a criminal justice issue and a jail issue.

A solid knowledge base that explains how a jail population can grow despite decreases in both serious crime and the most criminogenic portion of the population (young adults) is a prerequisite for assessing future jail needs. County general government elected officials can help generate the demand for such information, support processes for gathering that information, and foster a criminal justice system perspective for examining this information in the presence of not only the sheriff but also *all* principal criminal justice agency leaders.

This report is organized as outlined below:

- Section 1 explores how we can identify the factors behind jail crowding.
- Section 2 presents key questions that will clarify the evolution of jail bed space demands.
- Section 3 examines the trends that are driving jail population growth.
- Section 4 discusses forecasting to meet future needs.
- Section 5 explores the benefits and elements of an effective analytic process.
- Section 6 describes roles in the analytic process.

In addition, this report includes five appendix sections. Robert C. Cushman’s article “Preventing Jail Crowding: A Practical Guide” is presented as appendix A. (The National Institute of Corrections videoconference “Alleviating Jail Crowding: A Systemic Approach,” broadcast on April 18, 2001, included this article on its list of recommended reading; the videoconference may be accessed at [www.nicic.org](http://www.nicic.org).) A sample jail survey is included as appendix B. Available data sources are outlined in appendix C. A proposed work plan for criminal justice analysts is provided as appendix D. Finally, appendix E lists items to be included in the agency database.

# How Can We Identify the Factors Behind Jail Crowding?

This report is designed to lead county officials through a series of questions they may ask to obtain a basic understanding of their own jail population dynamics and the factors behind jail crowding. The answers to these questions will provide a foundation for a county's deliberations on how to respond effectively to its jail crowding problems and will enable a county to forecast future jail bed demands.

During the past two decades, many counties have experienced jail crowding (defined as more inmates than jail beds), generating substantial litigation that has made the courts a major arbiter as to what constitutes acceptable conditions of confinement. In meeting court orders and accommodating the ever-increasing demand for jail beds, counties have tried to expand jail bed capacity. This process has been frustrating for many county officials because as soon as new capacity becomes available, jails once again are hovering at, or exceeding, their capacity limits. Failure to perceive who is in the jail and how the population may be changing thwarts communication and action regarding jail crowding and impedes a county's ability to forecast future needs. Obtaining a clear picture of who is in the jail is a challenging but achievable task.

Jails are complex operations that experience constant population turnover. They hold persons whose cases have not yet been adjudicated (pretrial detainees) and convicted persons. Convicted inmates may be awaiting completion of their presentence reports or transport to the state prison; they also may have been sentenced to serve a jail term. Some inmates sentenced to a jail term may have only a misdemeanor conviction; others may have been convicted of a felony. Whether the conviction is for a misdemeanor or a felony, an individual sentenced to a jail term tends to have a much shorter period of incarceration than one sent to the state prison system for a felony conviction.<sup>1</sup>

Jails are also used to hold persons who have violated conditions of their probation or parole and are awaiting the disposition of their disciplinary hearings. In addition, a jail may house individuals wanted in another county who are awaiting transfer back to that county or persons detained as a result of a contract with another law enforcement agency (such as the U.S. Marshals Service). The average jail stays for this wide variety of offenders are measured in days, and these short stays generate rapid jail population turnover.

**Jails handle a wide spectrum of criminal offenders for short stays; prisons handle a narrow spectrum of criminal offenders for extended stays.**

---

1. The average term for persons sentenced to state prison was 39 months, and the average term for convicted felons sentenced to county jail was 6 months; see Brown, J.M., P.A. Langan, and D.J. Levin, *Felony Sentences in State Courts, 1996*, Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics, May 1999.

State prisons, on the other hand, hold a less varied population: persons convicted of a felony who have been sentenced directly to prison upon conviction or who have been sent there because they have violated the terms of their probation or parole. The average prison stay is measured in months, and longer stays result in a slow turnover rate in prison populations.

The jail's broader offender clientele and more rapid population turnover underscore the complexity of its operations compared with the complexity of prison operations. This complexity thwarts county officials' efforts to comprehend the dynamics behind jail crowding. The methods described in the following sections of this report will help make the complexities of jail operations comprehensible and the forces driving the demand for jail beds discernible.

# What Key Questions Must We Ask To Understand Jail Population Dynamics?

The first step in understanding jail population dynamics is to develop a descriptive analysis of jail operations that extends beyond the gross aggregate statistics routinely generated on jail bookings, average daily population counts, and average stays. Although such statistics are necessary to assess jail operations, they are not sufficient to render a comprehensible understanding of the entire jail crowding problem.

The following questions can help clarify the evolution of jail bed demands. Only the first question exploring the purpose of the jail touches on a county's values. The remaining questions can be answered empirically with data from the jail and other criminal justice information systems. These empirically based questions can help a county formulate its answer to the first question and provide a frame of reference for understanding the forces that create jail bed space demands.

## What is the purpose of the jail?

Local decisions about the purpose of the jail affect the composition of the jail population and the demand for jail beds. For example, a county that declines to contract out a portion of its jail beds to a third party would have no contract inmates in its jail facility. Some states permit judges to sentence convicted felons to the county jail, and other states limit incarceration to the state prison. Consequently, felons sentenced to a term of jail incarceration may represent a significant portion of the jail population in one county but may not be present in another county.

Few counties have a detailed statement on the purpose of their jails. Such a statement would, however, provide county officials with a basic blueprint for understanding their jail operations and serve as a point of reference for assessing whether jail operations are meeting their expectations.

## Who is in the jail?

Perception of who is in the jail is heavily affected by media coverage, which tends to focus on violent crime (thereby creating a public perception that jails primarily hold violent persons) and extraordinary events. Although the media coverage generally may be accurate, it is not generally representative of all the events occurring within the community or the criminal justice system.

### Key Questions

- What is the purpose of the jail?
- Who is in the jail?
- How do people get into jail?
- How do people leave the jail?
- How long do people stay in the jail?

Jails do hold dangerous and predatory criminals, but these offenders rarely make up a majority of the jail population; a sizable number of offenders are in jail for property and public order offenses. Putting a “face” on the jail population is critical to understand the nature of the risks that jail inmates pose to the community. For example, to what extent do they represent a threat to the public’s physical well-being as opposed to a threat to property or public order? Knowing the nature of the risk posed enables communities to better plan the types (maximum, medium, or minimum security) of jail beds needed and assess the viability of community supervision options in handling some segments of the jail population.

To underscore this observation, a county would find it instructive to ask criminal justice principals (such as police chiefs, prosecutors, and judges) who they think is in the jail. A survey form might list seven or eight major crime categories and allow respondents to indicate whether these are felony or nonfelony offenses (see appendix B for a sample jail survey form). Respondents’ perceptions of who is in the jail probably would vary considerably. If the public were also surveyed, the range of variation probably would be even wider. Vague knowledge about who is in a jail impairs meaningful discussion about appropriate actions to take when responding to jail crowding and when forecasting future needs.

Age is also an important element to consider in profiling a jail’s population. An offender’s age is one of the most salient demographic characteristics associated with criminal justice operations. Examination of the relationship of age to jail incarceration rates reveals that young adults have much higher rates than other population segments.<sup>2</sup>

As shown in the exhibit, jail incarceration rates for young adults (ages 18 to 34 years) are more than twice the rates for middle-age adults (ages 35 to 49 years). The disparity between young adults and senior citizens (ages 50 and older) is even greater; the rate for young adults is 13 times higher than that for senior citizens.

A county’s population distribution across age groups is, therefore, a key element underlying the demand for jail space. A county with a high proportion of young adults in its general population will experience higher demands for jail space than a county with a low proportion of young adults.

## **How do people get into jail?**

After obtaining a general picture of the offenses that bring people to the jail and the portion of the county’s population that consists of young adults, county officials need to determine how offenders get into the jail. Arrests and sentencing are the two principal points of entry, but these can occur under a variety of circumstances.

---

2. The arrest and jail rates per 10,000 population are derived from data compiled by the National Association of Criminal Justice Planners for the city and county of Denver. Although these arrest and incarceration rates represent only one jurisdiction, the pattern that appears between these rates and the various age groups will be repeated in any jurisdiction that can compile the requisite data.

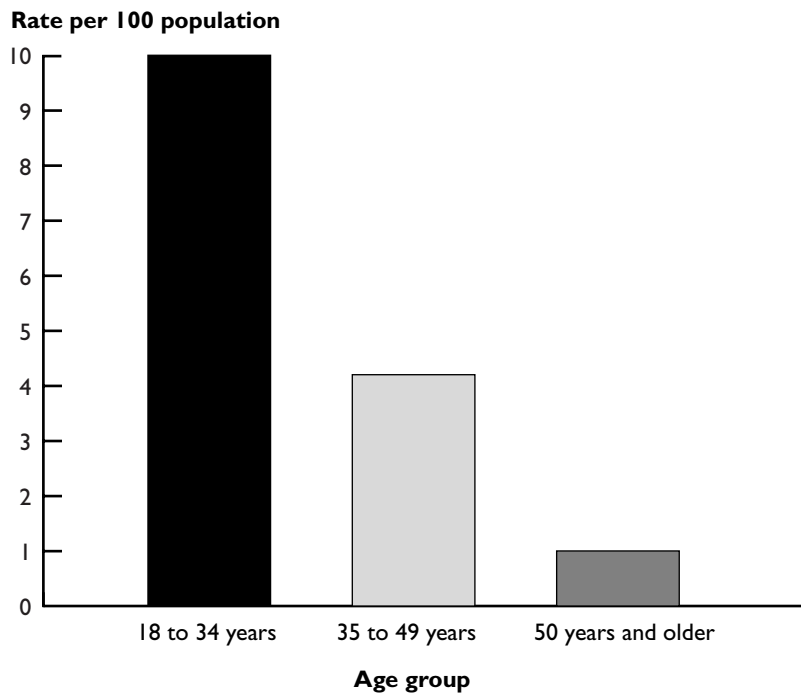
## Arrests

Although the general public impression is that all arrested individuals are booked into jail, police officers actually exercise considerable discretion in responding to nonfelony arrest situations. Nonfelony arrests represent the vast majority of arrests; officers may either cite and release offenders on such arrests or book arrestees into the jail. Information on how police officers exercise this discretion is important in understanding jail population dynamics.

Another important aspect of an arrest is whether a warrant is involved. Police discretion to cite and release offenders evaporates when arrested persons have outstanding warrants. For example, most vehicular traffic violations, such as running a red light, result in the officer writing a summons that requires the offender to appear in court on a specified date for adjudication. However, the presence of a warrant precludes the exercise of such police officer discretion. If the person has an outstanding warrant, such as for failing to appear in court for another offense, the officer must book the offender into the jail. Although some individuals who are stopped for minor offenses have outstanding warrants that involve serious offenses, most outstanding warrants involve minor offenses.

Outstanding warrants may originate either inside or outside the county in which the arrest is made. These arrests are generally identified as “holds” in the jail. The significance of a hold is that these persons tend to have longer jail stays than arrestees without a hold. The arrestee has

**Jail Incarceration Rates, by Age Group**



Source: Cushman, R.M., and M.A. Cunniff, “The Jail and Justice System in Denver, Colorado: Past, Present and Potential Futures,” unpublished report submitted to the City and County of Denver, June 1997.

to be processed by the agency that initiated the hold before being considered for release. This process becomes even more complicated with an out-of-county hold because an official outside the county in which the jail is located has to take action before the person can be released from the jail.<sup>3</sup> Information about the frequency with which warrants are associated with arrests, especially arrests involving minor offenses, as well as the frequency with which these warrants result in holds, is another important element in understanding jail crowding.

## Sentencing

Sentencing is another major factor underlying the demand for jail bed space. Sentences may originate in municipal, county, or state courts. Counties need to ascertain how each court system is using the jail, including the average jail term imposed by each court. Judges make significant demands for jail bed space. Information about their jail sentencing patterns as well as their use of the jail in obtaining compliance with court orders is also critical.

Another aspect of judicial use of the jail is the sanctioning of offenders who fail to meet sentencing conditions; these conditions may include undergoing substance abuse treatment, performing community service, or paying fines or other financial assessments. Persons who fail to meet court-imposed conditions are generally identified as “probation violators” in the jail’s information system. Probation violators create a demand for jail space while they are being held before the judicial proceeding on their violation. They also may occupy jail space while serving a jail term on a modified judicial sentence received as a consequence of their probation violation. (Jail crowding themes are discussed later in this report.)

## How do people leave the jail?

The specifics related to how people leave the jail represent another layer of information that counties must develop to understand jail crowding. Nearly all individuals who are booked into the jail on an arrest exit the jail before adjudication of their case.<sup>4</sup> Some leave the jail after they post bail. Many more obtain release on their own recognizance, after their identity and place of residence have been verified and their ties to the community established.

Persons receiving a jail sentence, on the other hand, leave the jail after serving their term. Many also leave through transfers to another county jail, the state prison system, or another criminal justice agency, such as the U.S. Marshals Service. Persons may also leave the jail when the prosecutor drops their case or when they are found not guilty at adjudication.

---

3. Release would include extradition to the county that placed the hold on the person.

4. For example, 63 percent of all persons arrested for a felony offense in the 75 largest counties are released from jail before adjudication of their case; see Hart, T.C., and B.A. Reaves, *Felony Defendants in Large Urban Counties, 1996*, Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics, October 1999, page iv.



## **How long do people stay in the jail?**

Most jails routinely generate information on the “average” jail stay, which is between 10 and 20 days for most jail systems. The average stay, however, masks considerable variation for different segments of the jail population. For example, many persons booked into the jail for a new offense are released within 1 or 2 days of their arrest. These short-stay inmates represent a high-volume population but not a major source of demand for jail bed space. Short-stay inmates place much higher demand on the jail’s booking and release processes than on its bed space.

An analysis of one jail system revealed that half the individuals booked into the jail stayed for fewer than 3 days, but this group consumed only 6 percent of the jail’s bed space. On the other hand, 11 percent of the individuals booked into the jail stayed for more than 30 days, but this group consumed 72 percent of the jail’s bed space.<sup>5</sup>

An important implication of this finding is that attention focused on the high-volume, short-stay segment of the jail population can have only a minimal effect on dealing with a jail crowding problem. To have an impact on jail crowding, counties need to focus on the small segment of the jail population that stays in the jail for more than 30 days; this is the segment that consumes the bulk of the jail’s bed space.

## **Summary: A frame of reference**

The empirical information generated by the preceding questions provides a frame of reference for jail operations that is currently lacking in most counties. The questions represent a basis for understanding jail population dynamics and provide a perspective from which changes in jail operations can be observed and assessed.

---

5. Data are from Cushman, R.M., and M.A. Cunniff, “The Jail and Justice System in Denver, Colorado: Past, Present and Potential Futures,” unpublished report submitted to the City and County of Denver, June 1997.



# What Trends Are Driving Jail Population Growth?

An examination of national trends in crime, adult arrests, and jail use, along with population and demographic trends, will help establish some basic parameters for what is occurring in criminal justice.<sup>6</sup> National trends, however, are of limited utility. Counties need to ascertain their own trends and analyze changes occurring among discrete segments of the jail population.

## National trends

The forces driving jail population growth are not readily identifiable from the limited criminal justice data available nationally. Between 1993 and 1996, serious crime decreased by 5 percent.<sup>7</sup> This decline in serious crime was sharper for crimes against persons (down 13 percent) than for property-related crime (down only 4 percent). Adult arrests, on the other hand, increased at a substantial rate (12 percent) during this same period.<sup>8</sup>

Adults arrested for serious offenses grew by a modest 3 percent. Persons arrested for less serious offenses drove the large growth in adult arrests. Less serious arrests cover such criminal activities as illicit drug possession or sale, fraud, simple assaults, and public order offenses. These arrests grew by 14 percent. Drug arrests (up 32 percent) largely drove the increase in volume among these less serious offenses. Much of this increase in drug arrests was attributable to arrests for drug possession (up 42 percent).<sup>9</sup>

### Critical Trend Data: Forces Driving Jail Population Growth

- Number of persons entering the facility.
- Length of stay.
- Discretionary decisionmaking by criminal justice officials.

6. The sources for the data on national trends discussed in this report are detailed in appendix C.

7. Based on an analysis of county crime data archived by the Inter-university Consortium for Political and Social Research (ICPSR) at the University of Michigan. Serious crime is defined here as Part I offenses of the Federal Bureau of Investigation's Uniform Crime Report (UCR) classification scheme consisting of crimes against the person (homicide, rape, robbery, and aggravated assault) and property crime (burglary, larceny, and motor vehicle theft). The data used to compute the statistics reported here come from the county UCR files maintained at the ICPSR and are available from its Web site ([www.icpsr.umich.edu](http://www.icpsr.umich.edu)). Less serious offenses are the Part II offenses as defined by the UCR classification scheme, which include simple assault, drug offenses, disorderly conduct, and other offenses.

8. County arrest data are also archived by ICPSR. This report focuses on the jail population. Juveniles represent a minuscule part of the jail population, so this report examines adult arrests only (18 years of age or older).

9. Drug possession charges do not include "possession with intent to sell or deliver" an illicit substance. Arrests involving possession with intent are tabulated as drug trafficking arrests.

The rate of demand for jail beds rose faster than the rate of adult arrests. Between fiscal year (FY) 1994 and FY 1997, the growth in jail bed capacity matched the growth in jails' average daily population (both up 16 percent).

Although the U.S. population grew by 3 percent between 1993 and 1996, the most criminogenic portion of the population (young adults) actually declined. Nationally, the number of young adults (persons 18 to 34 years of age) dropped by 6 percent during the same period.<sup>10</sup> The decline in the young adult population tracks very closely with the decrease in crime between 1993 and 1996, but similar declines do not occur with arrests or jail populations.

The trend in serious crime is not a particularly useful indicator for explaining what is occurring with jail population trends.<sup>11</sup> The increase in drug arrests, on the other hand, underscores the pressures that all components of the justice system, including the jail, are feeling from illicit drug offenses. Nevertheless, the increase in adult arrests is only a partial factor behind the increase in jail populations.

## County data: An important supplemental indicator

Identifying the segments of the jail population that are growing disproportionately can provide powerful insight into jail population dynamics; insight gained from trend analysis of high-growth segments can unveil the forces behind jail crowding. National criminal justice data have limited utility because they are aggregate; this prevents examination from a variety of perspectives. County officials, on the other hand, have the ability to examine case data and break down their jail populations into distinct and discrete parts, and they would derive benefits through such analysis.

Counties can generate aggregate data on crime, arrests, jail population, and capacity to assess how they compare with national trends. They can also develop supplemental indicators to determine whether any associations may be found between these trends and those of the jail. These supplemental indicators could include trends in jail bookings, average length of jail stay, and court case court filings.

The ability to examine individual segments of the jail population is important because jail population changes do not occur evenly across the entire spectrum of jail inmates. Rather, certain segments of the jail population tend to experience growth disproportionate to that of the overall jail population. Creating various jail population categories can greatly aid in identifying and examining high-growth segments. Focus on these groups will eliminate the need to examine the entire spectrum of the jail's complex operations.

---

10. Population data are estimates from the U.S. Census Bureau.

11. John Klofas also found no relationship between crime and jail population; see his article "Measuring Jail Use: A Comparative Analysis of Local Corrections," *Journal of Research in Crime and Delinquency* 27 (3) (August 1990): 295–317.

Trend analysis needs to consider changes in the volume of inmates as well as changes in their average stay. Building on the questions posed earlier, the added dimension of trend data can help identify where the increased demand for jail beds is coming from. Trend analysis should not be limited, however, to only jail-related information.

## **Discretionary decisionmaking**

Examples of how other criminal justice components may use the jail were provided at the beginning of this report. Police officers exercise discretion on whether to book a person into jail or issue a citation to appear in court. Judges also exercise discretion in their sentencing practices. Changes in criminal justice discretionary decisionmaking can also significantly affect the demand for jail beds.

### *An arrest example*

A county jail can experience an increase in bookings attributable to arrests in the absence of an increase in arrests. For example, a jail in a county that had 1,000 arrests in both 1995 and 1999 could show more bookings attributable to arrests in 1999 if police officers were booking more of their arrests into the jail. If in 1995, police officers booked 600 arrests into the jail, this would reflect a 60-percent booking rate, but if in 1999 they booked 800 arrests into the jail, this would reflect an 80-percent booking rate. In this scenario, the number of arrests did not change, but police officer behavior changed.

### *A sentencing example*

Similar developments can occur with judicial sentencing. Court disposition of cases may show no change in the volume of cases processed between 1995 and 1999, yet the jail may show an increase in the number of sentenced inmates. This may occur as a result of a change in the percentage of cases sentenced to the jail. The court may have sentenced only 10 percent of its sentencing caseload to jail in 1995 but 20 percent in 1999. Courts can also make changes to the average jail term imposed. Consequently, even though the court caseload may not have experienced any growth, increases in the percentage of cases sentenced to jail and/or the average jail terms imposed can seriously affect the demand for jail beds.

## **Nonjail record systems**

The jail information system may be able to indicate that changes are taking place in areas such as arrests and sentencing, but the system is not designed to provide an explanation for these changes. An examination of police arrest files may show that a particular set of offenses has resulted

in changes in police officer booking decisions or that more arrests are occurring that involve persons with outstanding warrants. Similarly, only an examination of court records can document changes that may be occurring in judicial sentencing patterns.

## **Analytic scenarios**

More detailed information about the forces behind the demand for jail beds will encourage county officials to ask additional questions that will help them better understand these forces and how the county might respond to them. Information on jail population changes tends to be limited for most jurisdictions. During a 4-year period, a county's average daily jail population may grow 20 percent, from 1,000 inmates to 1,200 inmates. The only statistics available to explain this growth may be related to changes in the number of jail bookings and average jail stay, which can tell us only how much these factors contribute to the increased demand for jail beds (for example, whether the increased demand is attributable to more bookings, a longer average jail stay, or a combination of both). Such information is not particularly enlightening about the forces behind the increased demand for jail beds and what might be done to address those demands.

The approach outlined in this report envisions a more detailed description of jail population changes. Under one scenario, the analysis may show that two segments of the jail population—motor vehicular traffic violators and holds, for example—account for an increased demand for jail beds. The increase related to traffic violators may be totally attributable to an increase in volume; the increase related to holds may be entirely attributable to longer stays. Under another scenario, an increased demand for jail beds may be entirely attributable to violent offenders. Half of this increase may be due to inmates' longer average stay before their release from jail prior to trials, and the other half may occur because more persons are serving jail terms.

Under each scenario, county officials at least gain a more detailed description of the specific segments driving the demand for jail beds. They are also better equipped to make some initial decisions about where to focus their attention in dealing with the jail crowding problem. For example, addressing the increase in traffic violators initially may be more difficult than examining the longer jail stays of persons with holds. The types of offenders (traffic offenders and holds) in the first scenario pose a smaller challenge to the community than the violent offenders in the second scenario. The nature of the risk each group presents to the community differs significantly between the two scenarios. The presumption that more jail beds may be needed to handle increased demand is stronger for the second scenario than it is for the first scenario because of the type of offenders generating the demand.

The initial findings from a more detailed analysis will not identify solutions to the county's jail crowding problem. Rather, the analysis will remove some of the mystery surrounding the jail crowding problem and narrow the focus of inquiry to specific jail population segments.

## **Summary: Critical trend data**

A possible reason why no relationships exist at the aggregate level between crime and arrest trends and jail trends is that the data fail to capture the complexity of jail operations or consider the discretion that criminal justice officials may exercise in processing offenders. To understand jail population dynamics, counties need to track trend data on three forces that drive the jail population: the number of persons entering the facility, the length of time they spend there, and discretionary decisionmaking by criminal justice officials.





# How Can We Forecast Future Needs?

The intergovernmental nature of criminal justice makes understanding the dynamics that drive it a challenge. It is tempting to assume that if a county's population is expected to increase by a certain percentage, then the county should increase the jail's bed capacity to match that anticipated growth. Changes in a county's resident population can affect the jail population, but changes in criminal justice practices can have an even larger impact on jail operations. Forecasting changes in a county's resident population is easier, however, than forecasting changes in criminal justice discretionary decisionmaking. Adopting a systems perspective (considering justice case processing from beyond the perspective of any one particular agency) is a prerequisite for any county trying to discern the forces behind its jail crowding problem and seeking to identify appropriate measures for addressing those forces now and in the future.

## Population forecasts

A county can experience growth in the underlying demand for jail beds even if its population remains static over time. Counties with growing populations, on the other hand, could experience a decrease in the underlying demand for jail beds. These seemingly contradictory developments can result from changes among the different age groups within the county's population. As shown in the exhibit on page 5, the jail incarceration rate is substantially higher for young adults (18 to 34 years of age) than for the rest of the adult population.

**A systems perspective is a prerequisite for any county trying to discern the forces behind its jail crowding problem.**

It is anticipated that the young adult population nationally will experience fairly even growth between 2000 and 2010 (a total increase up to 8 percent) and will taper off between 2010 and 2020 (a total increase up to 6 percent).<sup>12</sup> This modest growth (less than 1 percent per year over the next 20 years) will place increased demands for services on criminal justice agencies, but that demand will be modest and manageable.

If young adults displayed the growth profile of senior citizens, on the other hand, the criminal justice system, including the jail, would have a much more difficult task of accommodating an average annual growth rate of 3 percent over 20 years. Fortunately, senior citizens will bring with them lower victimization rates (that is, crime rates) and lower risks of incurring justice services (such as for arrests, jail incarceration, and other correctional services). It is anticipated, however, that these senior World War II "baby boomers" will exhibit a high fear of crime that can generate a demand for justice services.

---

12. Based on estimates from the U.S. Census Bureau.

If crime-prone populations were the sole criterion for forecasting jail bed needs, jail systems could absorb the annual growth rate of 1 percent over the next 20 years without too much difficulty. However, crime-prone populations do not fully explain what goes on in criminal justice. If trends in crime-prone populations solely drove jail trends, the demand for jail bed space would have *decreased* during the 1990s.

## A systems perspective

Jail crowding is a criminal justice system issue—its roots lie with decisions made by officials outside the jail, such as police, judges, prosecutors, and probation officers. The jail is not an isolated entity but, rather, an integral component of a wider system that encompasses law enforcement, prosecution, the courts, and other correctional agencies. Individuals representing these widely ranging entities interact daily as they process persons through the criminal justice system. Organizationally, these individuals may be municipal, county, state, or federal employees, but functionally their jobs transcend any one level of government.

Jails have no control over who comes through their doors, and they have very little control over how long people stay in their facilities. The jail also has no control over the changes criminal justice officials may make in their discretionary decisionmaking. Criminal justice officials' decisions—from the police officer's decision to book a person into the jail to the judge's decision to sentence an offender to a jail term—determine how a jail is used.

Because the jail is a county-operated facility, the burden for initiating and sustaining an examination of the justice system's use of the jail falls on county officials. Changes in how criminal justice agencies process their workloads can alter the rate at which they send people to jail and the amount of time those people spend in jail. Such changes can significantly affect the jail population. Viewing jail crowding from a systems perspective can identify such changes in criminal justice processing.

## Forecasting criminal justice decisions

The challenge for counties is to establish a method for predicting the behavior of criminal justice decisionmakers. This method would have to define existing justice policies, document how recent changes have affected the jail, and predict future criminal justice developments and their effects on the jail.

A jail population forecasting approach that ignores the impact of criminal justice agency decision-making can result in erroneous estimates. For example, a policy change that reduces the demand for jail beds after construction of a new jail has begun can cause a county to end up with more capacity than it needs after the new facility is built. On the other hand, a new policy that generates a substantially higher demand for beds that is enacted after groundbreaking for a new jail has occurred will result in a new facility that is crowded on the day it opens, and discussion on building a new addition to the jail will have to begin.

A discussion of future jail bed needs, therefore, cannot be limited to county officials (the prosecutor, for example) and the sheriff's office. This discussion has to be broadened to include other principal criminal justice officials in the county, such as municipal officials (for example, police chiefs) and state officials (for example, chief judges).

Criminal justice officials have two responsibilities to county officials when forecasting future jail needs:

- They must make every effort to provide an understandable and credible explanation of practices that have led to changes in a jail's population profile and are behind an increased demand for jail space.
- They must project future trends for these identified segments of the jail's population (i.e., whether such trends will continue to be strong, plateau, or abate).

Until county officials obtain such information, they will not be able to forecast future jail bed needs accurately.

## **Limitations of straight-line forecasting**

Many jail population forecasting models generally reflect the attitude that the jail is a self-contained unit that has to deal with its problems by itself. Other justice agencies reinforce this isolation when they indicate that they are only doing their jobs to make the community safe and that the jail has to meet the demands placed on it. Consequently, there is a tendency to look at historical trends while effectively ignoring the forces behind those trends, and to straight-line those trends into the future to forecast how much jail space will be required to meet anticipated demands. These forecasting models seldom recognize or consider the impact of administrative or policy changes on the demand for jail beds.

## **Summary: Systems perspective versus straight-line forecasting**

Although counties must engage in forecasting to anticipate jail space demands and meet future needs, they are challenged to make forecasting valid and accurate. To understand the forces driving the demand for jail beds, counties need to establish or expand their analytic capabilities and foster a systems perspective as a major component of that analytic activity.

Changes in a county's population, especially among its young adults, can affect demand for jail services. Straight-line projections are problematic, however; although they are a necessary component of forecasting future jail needs, they are only a part of the forecasting exercise. Future projections based on extending straight-line estimates from historical trends do little to explain the forces behind those trends. Until counties develop a clear understanding of what is driving demand in the justice system, their efforts to forecast future jail needs will be unsuccessful.



# What Are the Benefits and Elements of an Effective Analytic Process?

**A** good analysis of the jail population and justice systems will help county and justice officials focus on issues that affect the jail and will keep officials from being dispel by what they believe to be the problem. This type of analysis can dispel popular assumptions about who is driving up the jail population.

Public order has become a focus for many law enforcement agencies with the advent of community policing. Assertive law enforcement actions against public drinking, disorderly conduct, prostitution, and other public nuisances may initially produce more bookings into the jail. This type of initiative may have a minimal impact, however, with only a short-term increase in arrests as offenders “get the message” and change their behavior. Furthermore, such offenses tend to result in short jail stays that minimize overall impact on the demand for jail beds.

Analytic findings are also critical in understanding the applicability of programs dealing with jail crowding that may have met with success in other counties. A key question should be considered: Does the particular program address a county’s unique concerns? Although it is preferable to learn from the experiences of others, it is also necessary to know that a proposed intervention is appropriate for a county’s specific conditions.

For example, a program that successfully accelerates the elapsed case processing time between arrest and adjudication for offenders detained in jail would have no impact in a county where the problem involves extended jail stays for moving offenders to state prison after their conviction. Programs imported from the outside have to address issues specific to the county attempting to replicate them if that county is to enjoy their benefits.

It is also necessary to keep abreast of the changing issues that can come into play in jail crowding. In the 1980s and early 1990s, for example, the inability of states to take felons sentenced to prison in a timely manner was a major issue. With all the prison construction undertaken during the past 10 years, however, this may no longer be a problem.

As a further example, the delay in moving convicted felons to state prison may have shifted from the elapsed time between sentencing and transfer to the elapsed time between conviction and sentencing. Such a shift would change the focus of discussions from state prison authorities to state court judges and the probation department. A probing analysis can ascertain such shifts and help focus deliberations on the current problem, not the past problem.

**A county must ascertain changing jail usage and the forces at play in its jail system before it can implement effective programs and measures to alleviate jail crowding, including the construction of new jail beds.**

## **A value-free inquiry**

A value-free inquiry is proposed for the analytic process. The purpose of this type of inquiry is not to state that the outcome of the analysis is a positive or negative development but, rather, to identify the forces that are driving the demand for jail bed space and thereby contributing to jail crowding. Criminal justice officials retain the prerogative to continue with their current courses of action. To respond effectively, however, the county needs to know what those courses of action might be and how their future direction will affect the demand for jail beds.

The results of the proposed analytic process will probably demonstrate that the offender who is most feared by the public—the predatory and violent offender—represents a significant segment of the jail population, but that this offender plays a minor role in jail population growth. This process will also probably illustrate that growth in the demand for jail space is not evenly divided among the various jail population segments.

## **Jail crowding themes**

What, then, are some themes that may emerge with this type of inquiry? Offender noncompliance (or inability to meet court orders) may be seen through an increased number of jail bookings related to arrests associated with warrants. These warrants may have been issued for failure to make a court appearance or failure to comply with court-ordered sentencing provisions, such as paying financial assessments (fines, restitution, court fees), undergoing treatment, or abstaining from drugs or alcohol.

Trends may have effects on jail crowding that extend beyond the raw numbers. For example, as noted in the discussion of national trends, drug arrests increased substantially between 1993 and 1996. As the criminal justice system processed these arrests through to sentencing, the failure of some offenders to meet judicial requirements to undergo treatment and forgo drug use precipitated judicial action, including use of the jail.

An examination of jail data also will probably uncover any new initiatives that may have occurred in the justice system. These initiatives may have been precipitated by new laws or new criminal justice agency policies. For example, an increased population of convicted felons serving jail sentences could be the result of recent legislative changes or changes in judicial sentencing patterns.

## **Information systems**

A county's ability to answer the questions discussed here will be affected by the information that its jail's computer system captures and by how well it records that information. For example, domestic violence has become a focal issue for many local criminal justice systems. County and

criminal justice officials might be interested in knowing the impact of domestic violence cases on the jail. Such an inquiry can be made only if the jail's computer system has a component that flags domestic violence cases.

Confirming findings from the analysis of jail data with other justice agency databases enhances a county's ability to develop a systems perspective concerning its jail operations. Information from other criminal justice computer systems involving such activities as adult arrests and court dispositions can provide insight into criminal justice decisionmaking.

Police officers may use discretion in handling minor offenses. They may issue citations that order minor offenders to report to court on a specified date and time, or they may book offenders into the jail. What are police officers' trends in issuing citations? Is the use of citations going up or down? Are warrants becoming a bigger portion of the arrest workload? The ability of a jail database to examine such questions is limited because it is able to capture only what the police do at booking, not what they do at arrest.

Similarly, court databases can provide useful information on questions the jail database cannot answer by itself. Are cases taking longer to adjudicate and, if so, what impact does the delay have on those who are detained in jail versus those out on pretrial release? Have judges changed their sentencing patterns, especially with their use of jail or the length of the jail term imposed? Responses to these questions can help complete the picture of criminal justice system activity that is affecting jail resources.

## **Summary: Assessment of critical forces**

The process outlined in this report, especially analysis of the jail database, will identify three or four distinct segments of the jail population that are contributing disproportionately to increased demands for jail bed space. This knowledge will provide a foundation for discussions with criminal justice officials to ascertain why such changes are occurring. A county must ascertain changing jail usage and the forces at play in its jail system before it can implement effective programs and measures to alleviate jail crowding, including the construction of new jail beds. Until counties clearly understand the jail population segments and justice system practices that are driving up the demand for bed space, attempts to forecast future jail needs will run the risk of being wrong.





# What Are the Elements of the Analytic Process?

**P**rin cipals of the local criminal justice system must be involved in data collection, data analysis, and discussion of the implications of the analytic findings. Counties have to develop and maintain their data analysis and information dissemination capacities, and they have to sponsor forums for discussing the information generated. This type of inquiry will unveil the forces that drive jail populations and enhance the ability to anticipate future jail needs. This approach cannot be implemented in a vacuum that involves only jail or county officials.

## Develop a knowledge base

The approach outlined in this report should be seen as an iterative process that can provide a clear picture of the jail population segments driving jail growth. This process may confirm beliefs concerning which groups are behind jail growth or enlighten officials regarding the population segments driving up the demand for jail beds. The analysis should not be viewed as an end in itself but, rather, as the point of departure for discussions on the justice system and the jail. This analytic product should basically answer the question: What is?

Because the information generated by this type of approach will differ from the information typically collected, criminal justice officials will probably have questions about the initial findings.

They will probably want clarifications, or they may wish to add information they consider necessary to fill out the picture. Such questioning should be encouraged.

The focus of the exercise, however, must not get “lost in the shuffle” for clarification on minor points. The aim is to develop a basic understanding of how the justice system is actually operating, especially in areas that are driving up demands for jail beds. Only after this basic understanding is established should more challenging and value-laden questions be posed. Such questions may include the following:

- Can these changes be explained?
- Do these outcomes reflect the community’s values?
- How do these changes fit in with the county’s correctional strategy?
- What is the role of secure institutions (the jail) in that correctional strategy?

### County officials can play three key roles:

- **Advocate a systems perspective.**
- **Ask discerning questions.**
- **Repeatedly state that jail crowding is a justice systems problem.**

**The aim is to develop a basic understanding of how the justice system is actually operating.**

## **Avoid a restrictive focus**

Even though employees of the various criminal justice agencies interact with each other when handling individual cases, they and their leadership tend to view criminal justice operations solely through the lens of their own agencies. They rarely look at criminal justice processes from another agency's viewpoint, even when their own agency's policy and procedural changes affect other justice agencies. This restrictive focus has two outcomes. First, an agency examining all justice activities and initiatives solely from its own viewpoint will have an underdeveloped or nonexistent criminal justice systems perspective. Second, the case-specific orientation hinders development of a broader perspective encompassing the cumulative impact of all the individual cases being processed. Consequently, this type of orientation tends to obscure the impact of policies and procedures on the jail.

General government elected officials are better positioned than criminal justice officials to foster a systems perspective in their counties. County officials are interested in how the justice system is functioning overall rather than in how it is functioning at one particular justice agency.

County commissioners, executives, legislators, and administrators would do well to develop a role that revolves around asking discerning questions of criminal justice officials. A systems perspective should drive questions directed at unveiling the dynamics behind the jail crowding phenomenon. County officials also should communicate that jail crowding is not a jail issue but, rather, a criminal justice systems issue.

## **Institute a policy forum**

County council oversight or budgetary hearings can help initiate the proposed process, especially in examining the "what is" questions. The county council also can take a more assertive role in discerning the impact of any new agency initiatives (or grants) on the jail. This could take the form of a jail impact statement that would establish the foundation for later followup to assess the accuracy of agency forecasts regarding jail impact.

An approach that relies solely on county government processes has limitations, however. First, such an approach limits participation to county-based agencies, leaving out noncounty agencies that also need to be involved in the discussions, especially the municipal police departments and the state courts. There is also the need to build consensus and a deliberative approach to the issues confronting the local justice system. The criminal justice policy board is an ideal forum for such questions.<sup>13</sup>

---

13. For additional information, see Cushman, Robert C., *Guidelines for Developing a Criminal Justice Coordinating Committee*, Washington, DC: National Institute of Corrections, November 2001, NIC accession number 017232.

County officials would benefit by communicating to the various justice agencies their desire to be better educated about how the justice system operates within the county's borders. This inquiry should include municipal and state agencies in addition to county agencies. The political skills of general government elected officials can help foster an atmosphere of cooperation, coordination, and communication across criminal justice agencies regardless of whether these agencies are municipal, county, or state based. This should culminate in the creation of a justice policy board that offers an ongoing forum for examining justice issues affecting the county.

General probing questions that can initiate this educational process include the following:

- What has been the recent trend in the demographic composition of the county, and what is the forecast for changes in the young adult population over the next 10 to 20 years? What are the implications of these changes for the criminal justice system?
- What have been the recent historical trends on key criminal justice indicators, such as serious crime (Uniform Crime Report Part I), adult arrests, jail bookings, court filings, and court sentencing?
- What is the prognosis for these trends? Will they continue unabated, flatten out, or change direction in the next 5 to 10 years?
- How has the profile of the jail's population changed over the past 3 to 5 years? What can these jail population changes tell us about legislative, policy, and/or procedural changes affecting criminal justice operations?

Unless a county already has a well-developed analytic capacity, most of these questions will be met with stares, not responses, when they are initially posed. The lack of response should not end the inquiry, however. County officials should be encouraged to continue to communicate with each other as well as criminal justice officials.

## Identify a qualified criminal justice analyst

The various criminal justice agencies should participate in this analytic enterprise, especially in making their data available. However, one person should be designated to assume the lead responsibility in undertaking this analytic effort and in adopting a systems perspective. This individual also should possess a general understanding of how the justice system operates and familiarity with local justice system operations.

Ideally, a local criminal justice planner would be a suitable candidate to undertake this type of analysis.<sup>14</sup> However, as few counties across the country employ such individuals, counties will be challenged to identify appropriate persons for this task. The tendency will be to assign this work

---

14. A proposed work plan for a criminal justice analyst is presented as appendix D of this report.

to staff within the various justice agencies. Although their historical knowledge of events in their own agencies would be useful, their being anchored in a particular agency might thwart application of the systems perspective.

Many community and 4-year colleges have criminal justice programs. An alliance between the county and a criminal justice program or professor can bring a valuable resource into play. Another alternative would be to scan the résumés of current county staff possessing analytic skills and some criminal justice background but who currently work outside the justice arena. Yet another alternative would be to identify a recent retiree possessing analytic skills and a criminal justice background. To be useful and credible, the work must be considered to be independent of any one justice agency.

## **Involve county officials**

The jail is not a self-contained unit. It is a part of a broader system—the criminal justice system—that plays a major role in generating the demand for jail beds. Thus, jail crowding is not only a jail problem but also a justice system problem. Jail officials cannot address crowded jail conditions by themselves. They must work with other justice agency officials in managing the jail crowding problem and in forecasting future jail bed needs.

County officials can play three key roles in initiating examination and discussion of the forces behind the persistence of jail crowding:

- They can become advocates for a systems perspective.
- They can ask discerning questions to encourage development of an analytic capacity that produces useful and credible information.
- They can change the parameters of the jail crowding problem by stating repeatedly that jail crowding is not a jail problem but, rather, a justice systems problem.

A justice systems response is a prerequisite for effectively managing current jail resources and forecasting future needs. (Items suggested for the agency database are listed in appendix E.)

## **Summary: Analysis of critical forces**

Jail are complex operations. Gaining an understanding of how they operate and how they are affected by the changing pressures of the criminal justice system is not an easy task. Lack of understanding of the forces behind the demand for jail beds leaves counties vulnerable to miscalculating future jail bed capacities. While the goal to identify and understand the forces behind the demand for jail beds may be daunting, it is achievable.

A key to making jail operations understandable is to create a demand for information. A persistent demand for information will help a county develop its ability to analyze justice system operations. General government county officials play a crucial role. They are in a position to ask probing questions about justice system operations, and their independence from any one criminal justice agency will allow them to inject a systems perspective into the process.

This report outlines an approach that can support county officials' efforts to probe a complex system and ascertain the pressures behind the demand for jail beds. Aggregate statistics cannot fully advance this process of inquiry. Detailed analyses of databases belonging to the jail and to other criminal justice agencies must supplement the limited information gleaned from aggregate statistics. Officials also must develop a clear understanding of the demographic changes in the county, especially within the young adult population.



---

# Appendix A. Preventing Jail Crowding: A Practical Guide

*by Robert C. Cushman*

## Understanding the sources of jail crowding

**T**ry to visualize a line graph: one line sloping downward, the other sloping upward. The first line represents the decline in offenses reported to local law enforcement, and the other represents the growing number of people in the county jail. The graph illustrates the divergence of two trends.

We all agree that the number of people in jail is a consequence of the level of criminal activity taking place in the community. But that does not fully explain the situation in jurisdictions where measures of the level of crime have been declining, yet the jail population continues to increase.

In these jurisdictions, the increased number of people in jail is also a consequence of changes in the response of officials who operate the local justice system: local law enforcement, prosecutors, probation and parole officers, and judges.

These changes can be thought of as changes in justice policies and practices. They may be stated or unstated, obvious or subtle. Empirically, they show up as changes in decisionmaking. These changes in decisionmaking can be detected at key justice system decision points that mark the passage of an individual or a case through the justice system process (e.g., at the decision to arrest, the decision to place an arrestee in detention, case filing, or sentencing).

Although they work independently, as these officials make decisions at these key justice system decision points they collectively operate the levers and controls that regulate the size of the jail population. Note that the changing policies and practices of these officials lie mostly outside jail operations. The sheriff, or the jail administrator, has little control over who goes into jail, how long people stay there, or how they get out.

## Understanding the dynamics that create changes in jail occupancy levels

Preventing and/or managing crowding requires a basic understanding of the jail population dynamics that determine how many people are in a jail. This understanding comes from

examination of a basic jail population analysis formula that shows the admission rate and inmate length of stay determine the number of people in jail:

Number of admissions  $\times$  average length of stay = number of jail days required.

Two additional calculations may be derived from this basic formula:

Number of jail bed days required  $\div$  365 days per year = average daily jail population.

Total number of jail days required  $\div$  number of admissions = average length of jail stay.\*

Changes in the number of admissions or length of inmate stay will change the number of people in jail on any given day. A jail crowding crisis can result if they both increase at the same time.

An example will help illustrate this important formula. Let us say that, on average, 10 people are admitted to a hypothetical local jail each day, and the average length of inmate stay is 15.0 days. As we start this exercise, the midnight inmate count at the end of the day on January 10th confirms that 100 people are in jail.

Consider the following scenarios.

### ***Scenario 1: Stable state***

If 10 people are admitted to jail on January 11 and exactly 10 people are released on January 11, the midnight inmate count at the end of January 11 will remain the same as it was at the end of January 10. This stable state will occur if the number of admissions exactly matches the number of releases. The jail occupancy level will remain unchanged as a result.

### ***Scenario 2: Admissions increase***

If 20 people are admitted to jail (10 more than normal) and only the usual 10 people are released, there will be 110 people in jail at the end of the day on January 11. This is an increase of 10 inmates. It is easy to see how more admissions can increase the number of people in jail and eventually produce jail crowding.

### ***Scenario 3: Length-of-stay increase***

If 10 people are admitted to jail on January 11 and only 1 person is released that day, the total inmate count will swell to 109 inmates. The number of admissions did not change, but fewer people were released than usual. Fewer releases *always* mean that inmates are staying longer than

---

\* This calculation will best represent the average length of stay if the number of releases roughly approximates the number of admissions.



before. This scenario shows how longer inmate stays will increase the number of people in jail. (Conversely, shorter stays will work to reduce the number of people in jail.)

The length of inmate stay is a very important, but less understood, determinant of the number of people in any jail. Many jail administrators can quickly produce detailed information about their number of admissions, often with additional details about arresting agency, charges, and so forth. Yet, it is much harder to find jail administrators who can produce length-of-stay information for these same classes of prisoners.

### *Scenario 4: Both change*

What happens when scenario 2 and scenario 3 combine—in other words, when there is an increase in admissions *and* an increase in the length of inmate stay? Using our example, we can see that the increase in admissions would produce 10 additional inmates at the end of the day. Furthermore, the increase in the inmate length of jail stay would produce nine additional inmates. As a result, the total inmate count would swell from 100 to 119 inmates (10 from an increase in admissions and 9 from an increase in the inmate length of stay). Thus, the most difficult situation, from a jail population management perspective, is when *both* the numbers of admissions and the inmate length of stay are increasing. This is when the jail population will increase most rapidly.

## **Explaining swings in jail occupancy levels**

It is precisely in these times of crisis that the sheriff and/or the jail administrator will be expected to answer some basic questions: Who is in jail? Why has the jail population been increasing? Why is the jail crowded? Typically, the people responsible for answering these questions do not do a very good job. This is because they simply do not have sufficient information to do so. Difficulty in answering even simple questions can undermine public confidence in the ability of the jail administrator and/or sheriff to understand and manage the situation.

It isn't that they are not trying. The interaction of the admission and length of stay variables can be complicated. These are not easy interactions to understand. Many computerized jail information systems seem to be unable to create the kinds of reports that are needed. And, if done manually, time is needed to pull the booking jackets, collect the data by hand, analyze the data, and prepare a report. Even then, the report may contain insufficient information to answer some of the questions that will be asked. For example, it may not contain information that will confirm or discredit some of the hypotheses (guesses) others will set forth to explain changes in jail population levels. Thus, the analysts must return to the data, conduct additional analysis, and repeat the process.

By the time a written report can be presented, additional changes in admission and release rates may be taking place. The situation keeps changing. Analysts are always shooting at a moving target. It is difficult to create a clear picture of the situation. Rather, the process seems to go in circles. This can gradually erode confidence in the department's ability to analyze the situation. As a consequence, there is little enthusiasm for proposed courses of action because too many people are unsure that these are the appropriate remedies. The result is inaction.

Fortunately, there is an alternative.

## **A jail population analysis system**

It is possible for any jail to set up a data collection and analysis system that will describe these changes in admission and lengths of stay, show how they combine, and explain why and how the jail population is rising and falling. Essential and optional data elements that could produce a very basic jail population analysis are listed below.

*Essential data elements* include the following:

- Person identifier (number unique to the person).
- Booking event number (number to identify the jail admission).
- Sex (identification of gender).
- Booking date (date inmate was admitted to the jail).
- Booking time (military time inmate was admitted).
- Release date (date inmate was released from jail).
- Release time (military time inmate was released).
- Release type (bail, release on recognizance, acquittal, escape, etc.).

*Optional data elements* include the following:

- Arresting agency (agency making arrest; not transport).
- Sentence status (sentenced on all charges, partial, none).
- Offense level (felony, misdemeanor, infraction, etc.).
- Court jurisdiction (court of jurisdiction).

These data should be collected on every person in the jail at a specific date and time (e.g., at a midnight inmate count). Thereafter, the same data should be collected for anyone who enters or leaves the jail. The data for each inmate would appear as a row on a spread sheet or in a database. Conceptually, it is like creating a checkbook where the checkbook balance represents the daily population count, the deposits represent admissions, and the checks written represent releases: it is a crude equivalent of a Quicken-type program for corrections.

Every jail keeps some sort of record of jail admissions and releases. This means that every jail already has the basic data needed to begin to build a jail population analysis system. No additional data may be needed.

Data collection starts with recording the date, time, and identifying information for every person who enters or leaves the jail. Normally, additional information also will be available from records kept at the jail or in the local information system. For example, admission records may identify the arresting agency, the arresting agency charges, and so forth. And, in addition to release date and time, there may be some record of the type of release (e.g., bail bond, release on recognizance, dismissal or acquittal in court).

Using only the data elements labeled “essential” on the preceding page, a jail administrator could begin with the jail population on January 1, 2001, and show how changes in the number of admissions and/or length of stay added to or subtracted from the population over the following months. This would permit the jail administrator to determine how much of the change was due to an increase in admissions and how much was due to a change in the average length of inmate stay.

If additional details are also in the database (see the data elements labeled “optional” on the preceding page), the administrator could “drill down” into the database to analyze components of the jail population. This will help determine whether the change can be attributed to some subset of inmates. For example, is the change concentrated in male inmates or female inmates, inmates

#### Example Report of Jail Utilization and Occupancy

Sentence Status	Number of Inmates	Percentage of Inmates	Hours in Custody	Percentage of Hours	Average Stay (in hours)
Felony sentenced	156	26.5	370,865	26.8	2,377
Felony unsentenced	184	31.2	847,229	53.0	4,605
Misdemeanor unsentenced	119	20.2	248,419	15.5	2,088
Misdemeanor sentenced	125	21.2	111,898	7.0	895
Other sentenced	4	0.6	15,985	0.1	3,996
Other unsentenced	1	0.2	4,150	0.3	4,150
<b>Totals</b>	<b>589</b>	<b>100.0</b>	<b>1,598,546</b>	<b>100.0</b>	<b>2,714</b>
<b>Offense Levels</b>					
Felony	340	57.7	1,218,094	76.2	3,583
Misdemeanor	244	41.4	360,317	22.5	1,477
Other	5	0.8	20,134	1.2	4,027
<b>Totals</b>	<b>589</b>	<b>100.0</b>	<b>1,598,546</b>	<b>100.0</b>	<b>2,714</b>

being arrested by a particular agency, or for a particular offense, or in inmates who are being processed in a particular court?

The exhibit displays an example of partial results of such an analysis for inmates in custody on a given day. Monthly reports of this type can be compared to show changes in jail composition. Similar tables can be created to show changes in bookings and/or releases over various time periods. The report format essentially will be the same.

Some jails do not have automated recordkeeping systems. Fortunately, these tables can be constructed using the manually maintained booking and release logs as source information. The data must first be entered into a desktop computer. It can then be analyzed with commonly available, widely used spreadsheet programs.

Where this information is already in a computer, the task is to set up a daily download of existing data. No new data collection should be necessary.

### *Modeling jail population management options*

Once this basic jail population analysis capability is established, it can be used to begin modeling the results of hypothetical or actual changes in admissions or lengths of stay. Hypothetical changes may be labeled “defensive,” as in the case of a crowded jail that seeks to find ways to reduce the size of the inmate population. Or, changes may be labeled “proactive.” For example, officials may seek to make more effective use of jail bed space by deliberately changing the composition of the jail population to keep some people longer and move lesser offenders to other corrections options.

We begin with an example to illustrate how a defensive-type change would work:

Let us assume that our hypothetical jail has 100 inmates and that the jail is full at the start of our exercise. This would mean that the public protection resource available to the community is  $100 \text{ beds} \times 365 \text{ days a year} = 36,500 \text{ jail bed days}$ . This figure (36,500 jail bed days) represents the available public protection resource.

If the average length of inmate stay is 15.0 days, then 2,433 inmates can be housed during the year ( $36,500 \text{ jail bed days} \div 15.0 \text{ average days' stay} = 2,433 \text{ inmates}$ ). The bed space requirement would change if either the number of admissions or the length of stay were reduced. For example, let's say both the number of admissions and the length of stay could be reduced by 10 percent.

How would a 10-percent reduction in both the numbers of admissions and the length of inmate stay affect the inmate count? The results of the exercise are as follows:

- Reduction in number of admissions: (10% of 2,433 inmates housed during the year = 243 inmates)  $\times 15.0 \text{ average days' stay} = 3,645 \text{ jail bed days}$ . This translates into a bed saving of 10 beds ( $3,645 \text{ jail days} \div 365 \text{ days} = 9.98 \text{ beds}$ ).

- Reduction in inmate stays: (10% of 15.0 days = 1.5 days). This reduces the average length of inmate stay from 15.0 to 13.5 days, which translates into a bed savings of 10 beds (1.5 days' stay  $\times$  2,433 inmates = 3,650 fewer jail bed days). And 3,650 fewer jail bed days divided by 365 days per year = 10 beds.

The combined result can be estimated as follows:

- Previous number of inmates that could be housed      2,433
- 10-percent reduction in admissions                              -243
- New number of admissions (90 percent of previous)    2,190
- New length of stay = 13.5 days. A 13.5-day inmate stay  $\times$  2,190 inmates = 29,565 jail bed days, divided by 365 days in the year = jail population of 81 inmates. This means the jail population would be reduced to 81 inmates versus 100 inmates before these reductions.

## Reducing the inmate population in a crowded jail

Our example also illustrates how officials might reduce the number of inmates in a crowded jail. Suppose a local jail has only 81 beds but is crowded and has an average daily population of 100. The previous example shows how the inmate population can be reduced to 81 inmates through the achievement and continuous management of a 10-percent reduction in admissions and average length of stay.

## Policy choices

Any actual implementation of this idea would not use an arbitrary 10-percent reduction for either admissions or length of inmate stay. Analysis of the type and source of admissions and types of jail releases should inform action. Each situation will be different. Some jurisdictions may find more possibilities to manage the admission rate but may find fewer possibilities for managing the length of stay. Other jurisdictions may discover just the opposite.

Some jurisdictions might want to incapacitate fewer inmates but increase the length of stay of more serious cases. This would be an example of a proactive strategy. To do this, they would reduce the number of admissions and increase the length of stay. The total number of jail bed days might remain unchanged yet produce improved public protection.

Other jurisdictions might seek to achieve improved public protection by doing just the opposite; that is, by increasing the number of admissions but reducing the average length of jail stay. They may or may not wish to change the total number of jail bed days that are being provided.

These are only a few examples of how a jail population analysis capability might be put to work to first prevent and then to better manage jail population occupancy levels in a city or county jail.

These are all examples of jail population *management*, a responsibility that springs from the belief that jail bed space needs to be managed in a way that maximizes community protection. In too many jails, the size or composition of the jail population is not determined by deliberate, well thought out, coordinated decisionmaking. The jail population is left to seek its own level.

## **Conclusion: The key to preventing crowding**

The key to preventing crowding, and to managing the jail population, is to continuously collect, monitor, and analyze admission and length-of-stay information, then to share the results with other justice officials and with officials in leadership positions in general government. Their cooperation will be essential. They, collectively, control the policies and practices that determine jail admissions and length of stay. As noted earlier, these levers and mechanisms lie outside the control of the jail administrator and/or the sheriff.

For this reason, the sheriff and the jail administrator have a stake in forming a justice system-wide criminal justice coordinating committee (CJCC), or in strengthening an existing CJCC that is not operating well. This is a forum where the sheriff can demonstrate that potential or actual jail crowding is a justice system dysfunction: it is not simply “the sheriff’s problem.” (For more information, see *Guidelines for Developing a Criminal Justice Coordinating Committee* by Robert C. Cushman.)

These officials have a large stake in ensuring the jail bed resource is best used to maximize public protection. When they are presented with clear and convincing, empirical evidence, they will do what they can to modify their policies and practices. A jail administrator and/or sheriff can exert a great deal of influence on the decisionmaking of these other agencies. But they can do so only if they have the facts, if they can competently answer questions about how the jail population is changing, and if they can clearly demonstrate how changes in admission rates or lengths of stay can improve the administration of justice. (More information is provided in the main body of this report; the Pretrial Services Resource Center has also prepared an excellent piece on jail crowding from a systems perspective. Full citations for the reports mentioned in this appendix are given on the following page.)

This approach will also serve the community well when it is time to build a new jail. Officials will be more informed and more supportive. They will be able to help the community understand that jail bed space is being used wisely. The general public will not support efforts to expand jail bed space until it is convinced that all potential excess has been squeezed out of the existing operation.

## Resources

Cushman, Robert C., *Guidelines for Developing a Criminal Justice Coordinating Committee*, Washington, DC: National Institute of Corrections, November 2001, NIC accession number 017232.

Cunniff, Mark A., *Jail Crowding: Understanding Jail Population Dynamics*, Washington, DC: National Institute of Corrections, December 2001, NIC accession number 017209.

Pretrial Services Resource Center, *A Second Look at Alleviating Jail Crowding—A Systems Perspective*, Washington, DC: U.S. Department of Justice, Bureau of Justice Assistance, October 2000, NCJ 182507.

### About the Author

Robert C. Cushman is a former corrections practitioner and a current member of the American Jail Association. He is an experienced justice system trainer, researcher, project director, writer, and consultant.

### Contact information:

Robert C. Cushman  
602 Greenwich Lane  
Foster City, CA 94404

Voice: 650-341-4309

Fax: 206-201-8219

e-mail: [boborsandy@aol.com](mailto:boborsandy@aol.com)





# Appendix B. Jail Survey Form

Please check one:

Criminal justice official     General government official     Citizen

1. What do you think is the distribution (per 100 typical inmates) among the following offense categories in your county jail?

2. Which offense category do you think has been the fastest growing category in the past 5 years?

	Total	Felony	Nonfelony	Fastest Growing (check one)
<b>Total</b>	<b>100</b>			
Violent crime (homicide, rape, robbery, assault, etc.)				
Burglary/theft Motor vehicle theft				
Other property crimes (destruction of property, fraud, trespass, etc.)				
Drug offenses (use, possession, sale)				
Drunk driving				
Motor vehicle traffic offenses (no insurance, driving under suspension, etc.)				
Other (please specify)				



# Appendix C. Data Sources

This report reflects the data available at the time the report was written (July 1999). The source for crime and adult arrests is the county-based files compiled by the Inter-university Consortium for Political and Social Research (ICPSR) from Uniform Crime Reports (UCR) data forwarded by the Federal Bureau of Investigation. Florida crime and arrest data generated through the National Incident Based Reporting System (NIBRS) were incomplete. Therefore, the National Association of Criminal Justice Planners (NACJP) obtained computer files on Florida crime and arrest activity from the Florida Department of Law Enforcement (FDLE). NACJP then replaced the NIBRS data with FDLE data. The crime and arrest data are compiled by calendar year.

Jail data are derived from the annual Bureau of Justice Statistics (BJS) survey of local jails. More than 800 jails are surveyed, including city jails. NACJP modified this database to reflect total county activity (i.e., one record was compiled per county that combined city jail numbers with county jail numbers). NACJP also matched jurisdictions from both samples and deleted counties that did not appear in both samples (fewer than 10). For this reason, the total averages reported in this report may differ from the total averages reported in BJS Bulletins. Jail data are collected on a fiscal year that runs from July 1 to June 30. Consequently, comparisons between the jail data to and the crime and adult arrest data are approximate.

Resident population counts come from the Bureau of the Census. Census counts can differ from those reported in the UCR database. Because a primary role of the Census Bureau is to count and estimate the general population, its estimates were used whenever rates per 10,000 resident population were employed in this report. County population estimates reflect the population on July 1 of any given year.

All of these databases are available on the Internet. Crime, adult arrest, and jail data can be accessed at [www.icpsr.umich.edu](http://www.icpsr.umich.edu). Population data can be found at [www.census.gov](http://www.census.gov).



---

# Appendix D. Proposed Work Plan for Criminal Justice Analysts

It is suggested that analysts perform three tasks: conduct a survey of criminal justice and county officials as well as county residents; gather aggregate trend and comparative data; and analyze agency databases, especially jail, arrest, and court data files.

## Survey of jail population

Conduct a simple survey (see appendix B) of senior officials in each criminal justice agency (city, county, and state) to find out who they think is in the jail. The survey should also be extended to senior county officials (including county council members, county manager, budget officer) and senior city officials. Input from county residents would also be desirable. The purpose of this survey is to determine whether there is consensus both within groups (e.g., criminal justice officials) and across groups (e.g., between criminal justice and county officials) about who is in the jail.

If a consensus exists and matches the profile from the jail's records, then the county, especially the sheriff, has done a remarkable job in educating justice officials and the public about the jail. A lack of consensus and/or a finding that people's perceptions are not consistent with the jail-generated profile, will indicate a need to obtain basic descriptive data about the jail population. A lack of understanding of who is in jail among criminal justice officials should give pause to any immediate actions designed to alleviate crowding, including the construction of new jail beds.

## Aggregate data

Aggregate data are available from a number of sources. For example, resident population estimates by age are available locally or from the state demographers' office.\* The analysts should examine the historical trends for the various age groups of the county residents and assess the impact of these trends on criminal justice operations. The analyst should also assess the prospective impact on criminal justice operations of population trends for the next 10 to 20 years.

Crime and arrest data generally are aggregated at the county level by the agency that oversees the UCR program in the state. Contact information for this agency should be readily available from

---

\* The name, phone number, fax number, and e-mail address of the official state contact for the Census Bureau for population estimates can be found at [www.census.gov](http://www.census.gov). A listing of state contacts can be found by clicking the icon for population estimates and the list for the Federal State Cooperative Program for Population Projections.

the office that handles the UCR program for the sheriff or local police department. Data on crime and adult arrests should be requested for the county and the state as a whole for the past 5 years.

Counties also may find it useful to examine crime and arrest data for counties of similar size and circumstance. To examine data on counties outside the state, county-level data on crime and arrests from across the country are available from a Web site maintained by the University of Michigan ([www.icpsr.umich.edu](http://www.icpsr.umich.edu)).

These data can be utilized to assess the crime and arrest trends in individual counties to compare county trends with those of states and counties that exhibit similar 5-year trends. This information should be used to elicit the opinions of criminal justice officials. The following questions can be posed from this analysis:

- What forces may be behind these historical trends?
- What are the implications of these trends for criminal justice services?
- If county trends differ from the trends found for the state or similarly situated counties, why are these differences occurring?

Data on court filings (at both the county and state court levels) should also be gathered over a 5-year period to determine their historical trends. If the court system is under a state unified court system, statewide data, as well as data on other counties, should be readily available from the state's administrative office of the courts. Disposition data, especially on types of sentences meted out, should also be requested if such data are available.

Data on jail bookings, average daily jail population, and average length of stay should be compiled for a 5-year period. The percent change over this 5-period should be compared with the changes in the county's resident population, the at-risk age groups (those between 18 and 34 years), crime and arrest data, and court case filing data. This trend analysis can act as a barometer for imbalances in the justice system (i.e., one component changing more quickly than another).

## **Analysis of agency databases**

These aggregate statistics on crime, arrest, court, and jail data provide a macro-level view of the justice system. This is a necessary start for the analysis, but aggregate data are not sufficient for gaining insight into the jail dynamic. These data need to be supplemented with case-level data. Arrangements should be made with the county's data processing departments to generate data extracts on arrests, jail releases, and court dispositions. (Appendix E lists some core items that should be included in each data extract.)

Most medium and large local justice agencies have computerized databases that can readily access information on individuals, but it is much more difficult to obtain information on groups of individuals. The challenge here, therefore, is to create a computer program that will extract selected data for a specified time period. This is a task that should not be left entirely in the hands of the computer programmer, who may know the computer but not necessarily the criminal justice system. Criminal justice analysts should become acquainted with the computer file documentation, select items of interest, and verify what the various items and their response categories mean.

Data extracts on adult arrests, jail populations, and case dispositions should involve at least two different time periods, preferably 5 years apart. A sample of cases should cover a limited time period and should be sufficient for meeting the information needs. For larger counties, a month of activity should probably provide sufficient cases for a reliable assessment; smaller counties may have to use a 3-month period to generate enough cases for reliable information.

The extracts will require visual inspection and adjustments, especially for coding open-ended data fields. Analysts will also need to obtain single cases from multiple-line data entries per person. For example, persons booked into the jail will probably have a separate line of data for each charge being brought against them.

An extract of a law enforcement agency's arrest files will be helpful in discerning whether the agency is undergoing any change in processing of arrests. For example, has the percentage of all arrests being booked into the jail been rising, falling, or staying the same? Counties with multiple law enforcement agencies operating within its borders can probably limit the analysis to the largest police agency and the sheriff's road patrol to create a reliable indicator of arrest patterns.

An extract of the jail database should involve all persons who left the jail in the identified time period. Exits from the jail should provide information on each person's length of stay in the jail, which is a necessary compliment to the volume of persons leaving. A major unit of analysis should be bed days consumed by various population categories, such as the top charge associated with the booking (offenses involving violence, property, drugs, etc.); level of charge (felony, misdemeanor, other); and reason for booking (fresh arrest, warrant/hold, sentence, other). Such an analysis generally can pinpoint the specific and identifiable subpopulations in the jail that are contributing disproportionately to the demand for jail beds.

Data extracts of the lower and upper courts can be very instructive, but they can also be difficult to obtain because court case processing is very complex.

Because case volume may be low, especially in the state (felony) court, the time periods may have to be extended from those used with the jail extracts to obtain a sufficient number of cases for reliable analysis. Furthermore, one should wait 8 to 10 weeks after the most recent time period selected to allow for sentencing information to appear for convicted offenders.

Three key dates should be collected for the court extracts: filing date, disposition date, and sentencing date. The elapsed time between case filing and disposition is important, but one should

not overlook the time between conviction and sentencing. This later time period can stretch more than 2 months, a large consideration for jail bed day consumption if the convicted person is being detained while awaiting sentencing.

The analysis of court data should examine whether any changes have occurred during the elapsed times between the filing and disposition of cases and then between case disposition and sentencing. This analysis should also focus on changes in the volume of dispositions. Then, for those found guilty, the analysis should focus on sentences involving jail and the concomitant jail terms to determine whether any changes have occurred in the court use of jail.



---

# Appendix E. Items To Be Included in the Agency Database

## Arrest files

### Arrestee information

- Arrestee's name
- Arrestee's identification number
- Residency (city, state, ZIP Code)
- Date of birth
- Age
- Sex
- Race

### Arrest processing

- Arrest number
- Date of arrest
- Arrest type
- Arrest disposition (cite and release, booked into jail, other)
- Hold?
- If yes, type
- Flag for failure to appear?

### Arrest offense

- English description
- Statute citation
- Offense level (misdemeanor, felony, other)
- Code (National Crime Information Center)
- Flag for domestic violence?
- Other crime flags?

## **Jail files**

### **Inmate information**

- Booking number
- Unique personal identifier
- Inmate's last name
- Inmate's first name
- Inmate's middle initial
- Risk classification category

### **Inmate demographics**

- Date of birth
- Sex
- Race
- Years of education
- Residency—state
- Residency—ZIP Code
- Residency—city

### **Key dates**

- Arrest date
- Booking date and time
- Release date and time
- Bond date
- Sentence date

### **Jail processing information**

- Arrest agency
- Release type
- Bond amount set
- Type of bond
- Legal status (pre/posttrial)
- Jail sentence
- Credit for time served
- Sentencing court

### **Top booking charge (includes amendments)**

- Charge citation
- Charge description
- Charge type (felony, misdemeanor, other)
- Domestic violence flag

## **Court files**

### **Defendant information**

Name  
Defendant identification number  
Date of birth  
Sex  
Race

### **Offense information**

Number of charges  
Number of felonies  
Number of conviction charges  
Number of convicted felonies  
Domestic violence flag

### **Top conviction charge**

English description  
Statute citation  
Offense level (felony, misdemeanor, other)

### **Court processing**

Court case number  
Case disposition (conviction/no conviction)  
Credit for time served in pretrial  
Special case characteristics (e.g., fast track)  
Flag for persons detained in jail

### **Sentence**

Type (jail, prison, probation, other)  
Term (excluding suspended time)  
Fine imposed  
Restitution imposed  
Community service imposed  
Other  
Credit for jail time served in pretrial status

### **Key dates**

Offense date  
Filing date  
Disposition date  
Sentencing date  
Postsentencing date

U.S. Department of Justice  
National Institute of Corrections

*Washington, DC 20534*

---

