

Timely and Accurate Data Reporting Is Important for Fighting Crime

What types of crime are on the rise in Indiana? Where are these crimes concentrated? How effective are government efforts to decrease crime? Consistent and reliable data are essential to answer these important questions. And information about rates and types of crime helps state and local criminal justice organizations attract the federal funds they need to support improved policy and program development. Many federal funding streams are tied to reported crime. For example, half of the Justice Assistance Grant (JAG) funds awarded to local criminal justice agencies are allocated based on the state's share of total reported violent crime. Similarly, the Violent Offender Incarceration and Truth-in-Sentencing Incentive Program allocates a portion of funds based on reported violent crime incidents.

Yet, understanding the degree and scope of crime in Indiana is more complex than one might think. The main way that governments know about crime is through citizen reports to the police. However, many crimes go unreported—non-reporting of some types of crimes exceeds 50 percent, limiting the effectiveness and accuracy of police-based measures. Adding to this problem is the fact that no legislation exists in Indiana that mandates the collection of crime data. Thus, crime data collection is voluntary and unregulated. Despite these limitations, few alternative sources of crime information are available to local jurisdictions.

Collection of crime data has been coordinated by the Federal Bureau of Investigation (FBI) since the early 1930s. Today, more than 16,000 local, state, and federal police agencies report information to the FBI's Uniform Crime

Reporting (UCR) program. There are two categories of crime information in the UCR. The first, called crimes known to the police (crimes known), refers to crimes that the police believe have been committed. Police generally become aware of crimes through citizen reports, direct police observations, or investigations. The second category, crimes cleared by arrest (arrests), generally refers to situations where the police have arrested a suspect for a reported crime. For further information on the definitions of crimes known and arrests see the box on page 11.

This issue brief examines the rate at which Indiana jurisdictions report crime information to the FBI through the UCR. We compare Indiana reporting rates with rates in other states, and provide detailed breakdowns of Indiana reporting rates by law enforcement agency type and size.

This analysis will establish a baseline, particularly relative to other states, and will highlight options for future improvements in crime reporting. The box on page 11 provides more detail on the sources of data and the methodology employed in this study.

Comparing Crime Reporting in Indiana to Other States

A comparison of Indiana's reporting statistics with those in other states illustrates Indiana's relative level of crime reporting. Our researchers conducted a regional comparison including Indiana's neighboring states of Kentucky, Michigan, and Ohio, and one state outside the region, Mississippi. These states were chosen due to their proximity to Indiana and their certification status with the FBI. Illinois was originally considered as a comparison state but less than 1 percent of

Indiana is one of only three states that lack a centralized state collection program certified by the FBI.



jurisdictions reported data in 1998 and 2004, which may be due to definitional inconsistencies between the UCR program and Illinois (see *Bridging Gaps in Police Crime Data* report listed in the box on page 11 for additional details).

States can develop centralized crime reporting programs that can be certified by the FBI. In states with certified programs, central repositories are often maintained by state police agencies or state criminal justice agencies similar to the Indiana Criminal Justice Institute (ICJI). State repositories can encourage submission of crime data in a variety of ways. Some states have statutorily mandated reporting.

According to a September 2006 FBI canvass of all 50 states and the District of Columbia, 32 states have statutes mandating collection of crime data and 19 do not. Of the five states included in this analysis, only Michigan has such a law. States may also provide financial incentives or withhold grant money to non-reporting agencies. In non-certified states, local law enforcement agencies report directly to the FBI. As of 2005, all states except Indiana, New Mexico, and Mississippi had certified crime reporting programs. Mississippi was included in this study because, like Indiana, it does not have a certified central state reporting program. Kentucky and Michigan, in contrast, maintain central state repositories for collecting UCR data, while Ohio maintains a central state repository only for agencies that use the National Incident Based Reporting System (NIBRS). In Ohio, most agencies report directly to the FBI.

Table 1 shows the percentage of all law enforcement agencies—including municipal police departments, county sheriffs, state police, and other agencies such as transit authorities, airport police, university police, and town

marshals—that reported any information on the number of crimes known to the police in 1998 and 2004 for the five selected states. In addition, Table 1 shows separate reporting rates for municipal police departments and county sheriffs’ departments in 1998 and 2004.

Table 1. Percent of Law Enforcement Agencies Reporting Crimes Known Data, Overall and by Agency Type in 1998 and 2004 for Selected States

State	All LE Agencies		Municipal Police		County Sheriff	
	1998	2004	1998	2004	1998	2004
Michigan	72.8	73.9	69.0	68.9	95.2	96.4
Kentucky	2.8	56.2	4.3	65.7	0.8	84.2
Mississippi	32.9	48.8	29.8	36.8	32.9	48.8
Ohio	35.0	47.4	31.9	43.6	70.5	70.5
Indiana	38.5	43.5	24.4	28.7	44.6	60.9

In both 1998 and 2004, the percentage of law enforcement agencies reporting to the UCR was below 50 percent for Indiana, Mississippi, and Ohio, and slightly over 70 percent for Michigan. The percentage of agencies that reported crime information improved somewhat from 1998 to 2004 for Indiana, Mississippi, and Ohio. Kentucky’s

Better reporting would increase understanding of crime in Indiana and help state and local criminal justice organizations attract federal funds for improved policy and program development.

reporting rate increased dramatically (more than 50 percent) from 1998 to 2004. Still, in 2004, only 44 percent of Indiana law enforcement agencies reported crime data of any sort to the UCR.

Reporting rates also vary by the type of law enforcement agency. In

general, municipal police departments have a much lower reporting rate than county sheriff’s departments. This likely stems from the smaller number of county sheriff departments in each state and the wider range of populations served by municipal police departments. Municipal police department jurisdictions range from very small communities (less than 10,000) to extremely large cities (500,000 or more).



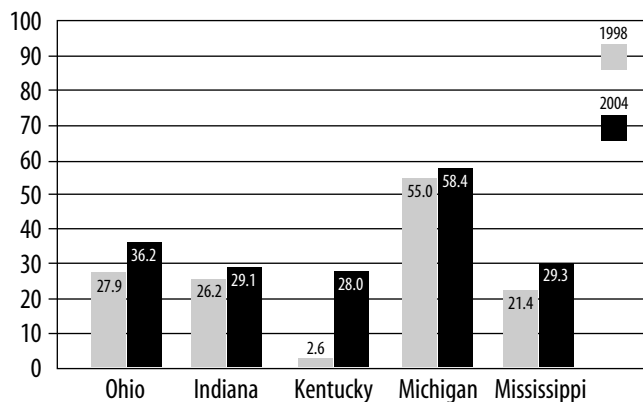
Michigan, a state that maintains a central data repository, has more than twice the percentage of municipal police agencies reporting than Indiana, while Mississippi and Ohio have only slightly better municipal police reporting rates than Indiana. Kentucky, which had extremely low reporting in 1998, showed noticeable improvements in its reporting rates in 2004, partly due to computer problems during the late 1990s (see *Bridging Gaps* report noted in the box on page 11). The percentage of Kentucky’s municipal police agencies reporting increased from about 4 percent in 1998 to over 65 percent in 2004, while the percentage of county sheriff agencies reporting increased from less than 1 percent in 1998 to nearly 85 percent in 2004.

How Does Reporting Vary Across States?

Because agencies report monthly to the FBI and reporting is voluntary, not all agencies provide full-year data. Figure 1 shows the percentage of law enforcement agencies by state reporting crimes known data in 1998 and 2004. For all of the comparison states except Michigan, full-year reporting is relatively uncommon—less than 40 percent for Indiana, Kentucky, Ohio, and Mississippi in both 1998 and 2004.

Yet, the picture is considerably better when we consider the percentage of agencies that report full year data. Figure 2 shows the percentage of reporting agencies per state that

Figure 1. Percent of Law Enforcement Agencies Providing Crimes Known Data by State, 1998 and 2004



reported full-year data for 1998 and 2004. In both years and in four of the five states studied, at least 70 percent of agencies that reported any crimes known data, provided data for all 12 months. This implies that the real challenge is to remove obstacles that prevent agencies from providing any data to the UCR. Once agencies begin reporting some data, most appear to provide timely and complete data on crimes known. One exception is Kentucky, where the rate of 12-month reporting actually dropped from 96 to 50 percent between 1998 and 2004. However, this is likely because Kentucky had only 16 agencies reporting to the UCR in 1998, compared with 161 in 2004.

Figure 2. Percent of Reporting LE Agencies Providing Full-Year Data by State, 1998 and 2004

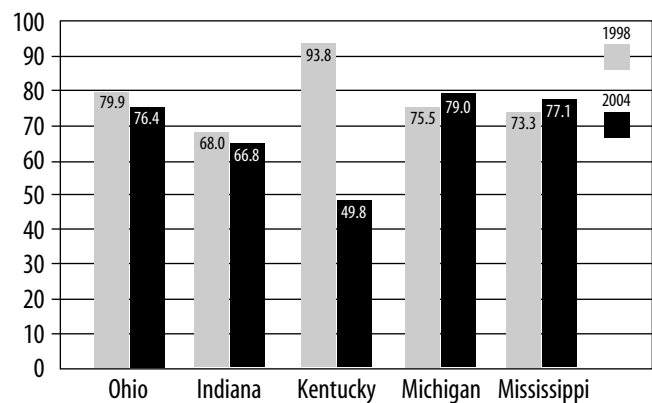


Table 2 (see page 4) shows the average number of months in 1998 and 2004 that agencies reported crimes known and arrest data. It is clear from this comparison that states are similar in the relative number of months that agencies report data for crimes known. All states except Kentucky reported about 11 months of crimes known data on average for 1998 and 2004. Reporting rates for crimes cleared by arrest are lower for all states listed, averaging between 6.9 and 11.2 months. Indiana ranks relatively low on the average number of months reported for both crimes known and arrest data. Only Kentucky fell below Indiana comparatively, and Indiana averaged about 1.6 fewer months of arrest reporting per 12 months than Michigan.



Table 2. Average Months/Year Reporting Crimes Known and Arrests by State, 1998 and 2004.

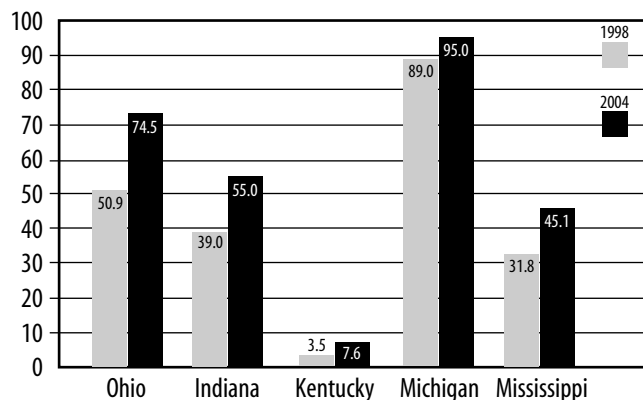
State	Crimes Known		Arrests	
	1998	2004	1998	2004
Michigan	11.0	11.2	9.3	9.4
Ohio	11.0	10.9	9.9	9.7
Indiana	10.8	10.7	8.2	8.1
Mississippi	10.7	10.7	9.2	10.4
Kentucky	11.8	9.5	11.6	6.9

UCR Population Coverage Indicators

Jurisdiction size varies widely by type and location of agency, so simply knowing the relative number of agencies reporting might be misleading because a reporting agency may only cover 22,000 residents, whereas a non-reporting agency might have 200,000 residents in its jurisdiction. To address this, the FBI developed a “coverage indicator” (for more information see the box on page 11), an algorithm that considers the number of agencies, the population, and the number of months reported for agencies within a county. The coverage indicator provides an average estimate of the percentage of a county’s population for which crimes known information is provided.

Figure 3 shows the average coverage indicator percentages across all counties within a state for the five states in our study (1998 and 2004). Indiana’s population was less than 40 percent “covered” in 1998, and only about 55 percent “covered” in 2004. While Mississippi and Ohio also

Figure 3. UCR Average Population Coverage by State, 1998 and 2004



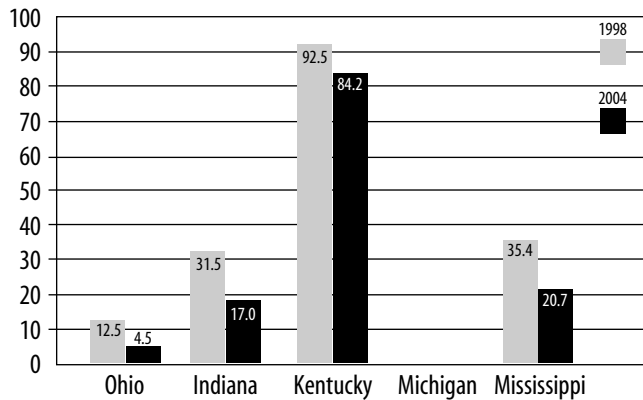
have relatively low coverage indicators, Kentucky had the lowest coverage of the five comparison states. Michigan, by contrast, has approximately 90 percent of its population covered by crime reporting to the UCR.

Figure 4 shows the percentage of counties within a state that reported no information to the UCR in 1998 and 2004. In Michigan, there was no county in which no law enforcement agencies reported crimes known. Ohio fared somewhat worse, with less than 15 percent of its counties providing no information to the UCR. Indiana and Mississippi had relatively large percentages of counties providing no UCR information.. In 1998, nearly one-third of Indiana counties provided no crime information to the UCR, although that improved to better than 20 percent by 2004. Kentucky had the highest percentages of counties reporting no data in both 1998 and 2004.

In addition to a statute mandating UCR data submission and a central repository coordinated by the Michigan State Police (MSP), other factors may contribute to superior UCR reporting in Michigan. First, crime data are submitted electronically. MSP personnel train local law enforcement agencies on crime data submission procedures and provide frequent reminders regarding regular and timely data submission and correction of erroneous data. Although the state does not assess penalties for incomplete reporting, quarterly warnings regarding invalid data are distributed, along with notification about potential ineligibility to receive funds due to incomplete reporting. (Source: phone interview with Theresa Page, Manager, UCR and Sex Offender Registration Unit, Michigan State Police, February 28, 2007.)



Figure 4. Percentage of Counties Reporting no Crime Data by State, 1998 and 2004



Note: For both 1998 and 2004, no counties in Michigan reported submitting no information to the Uniform Crime Reports.

Crime Reporting in Indiana

Figure 5 shows the percentage of all Indiana law enforcement agencies reporting crimes known data by agency type for 1998 and 2004. Consistent with the cross state comparisons, municipal police departments had lower UCR reporting rates than sheriff's departments. In both years, less than 30 percent of Indiana municipal police agencies reported crimes known data. County sheriff agencies improved from around 40 percent to 60 percent of agencies reporting crimes known data between 1998 and 2004. State police reporting rates were much higher, with nearly 100 percent reporting some crimes known data to the UCR in both 1998 and 2004. One reason for high reporting rates by the state police may be because a single individual is responsible for compiling UCR information for the whole state.

Figure 5. Percent of Indiana LE Agencies Reporting Crime Data by Agency Type, 1998 and 2004

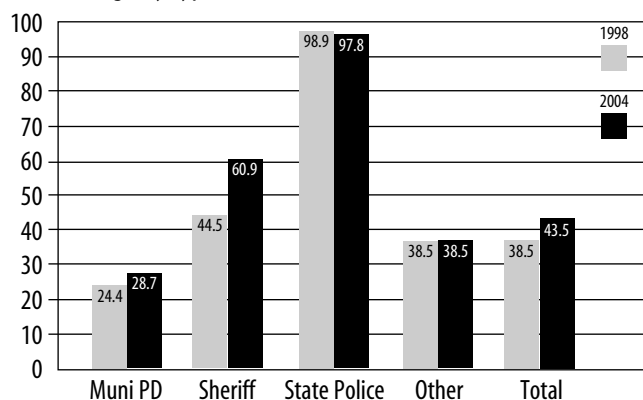
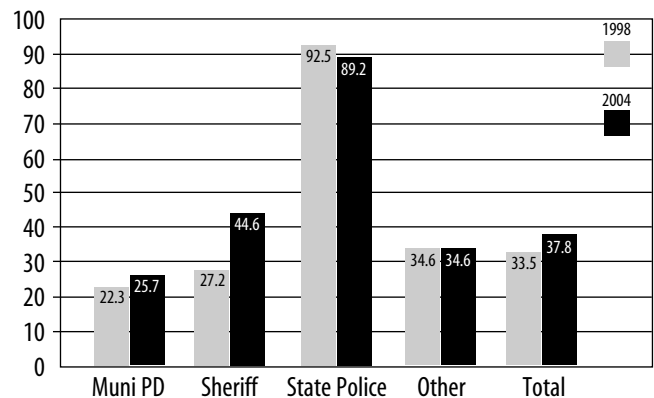


Figure 6 shows a similar comparison of Indiana law enforcement agencies for arrest data. Arrest reporting is uniformly lower than crimes known reporting. With the exception of the state police, less than 50 percent of all other agency types reported arrest data in either 1998 or 2004. Municipal police departments had especially low rates of arrest reporting—only about one in five reported arrests in 1998, and about one in four reported in 2004.

Figure 6. Percent of Indiana LE Agencies Reporting Arrest Data by Agency Type, 1998 and 2004



As with the inter-state comparisons, the percentage of reporting agencies that provide full-year data in Indiana presents a more positive picture. Figure 7 (see page 6) shows that, among agencies that report any crime data to the UCR, more than 70 percent report full-year data for all police agency types, except for state police, who averaged 40 percent or less in 1998 and 2004. This implies that the state police are the most likely to report some crime data, but least likely of reporting agencies to engage in full-year reporting.



Figure 7. Percent of Indiana LE Agencies With Full-Time Crime Reporting by Agency Type, 1998 and 2004

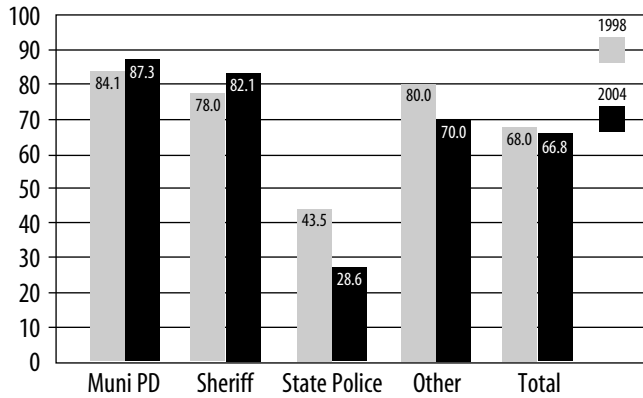


Table 3 shows the average number of months per year reported of crimes known and arrest data by agency type. Among reporting agencies, crimes-known data are reported nearly 11 of 12 months. Arrest reporting appears to be considerably less complete—nearly 2.5 months per year less in 1998 and 2004, but it varies by agency type. Municipal police and sheriff’s departments report about 10 of 12 months on average, whereas the state police report less than 6 months per year of arrest data on average.

Table 3. Indiana Average Months/Year Reporting Crimes Known and Arrests by Agency Type, 1998 and 2004.

Agency	Crimes Known		Arrests	
	1998	2004	1998	2004
Municipal Police	11.1	11.3	10.0	10.5
County Sheriffs	11.1	11.0	10.1	10.0
State Police	10.3	9.7	5.5	4.1
Other	11.8	11.1	8.6	5.7
Overall average	10.8	10.7	8.2	8.1

Table 4 shows the percentage of Indiana municipal police agencies reporting crimes-known and arrest data for 1998 and 2004, broken down by the population of the jurisdiction. Overall reporting rates tend to be lower for smaller police agencies for crimes known and arrests. Similar to inter-state comparisons, reporting of arrest data tends to be lower than the number of crimes known regardless of agency size. Reporting rates increased for both categories from 1998 to 2004 for police agencies of all sizes.

Table 4. Indiana Municipal Police UCR Reporting Rates for Crimes Known and Arrests by Jurisdiction Size, 1998 and 2004

Jurisdiction Size	Crimes Known		Arrests	
	1998	2004	1998	2004
100,000+	100.0	100.0	80.0	60.0
50-99,999	66.7	100.0	66.7	100.0
25-49,999	76.2	95.2	76.2	85.7
10-24,999	70.0	82.5	65.0	80.0
< 10,000	63.5	71.8	56.5	63.5

Table 5 shows that reporting is most complete for the larger police agencies in terms of population of the jurisdictions they serve. Larger agencies are more likely to engage in full-year reporting. For agencies serving populations greater than 50,000, all reporting agencies provided full-year crimes known data, and agencies that serve populations greater than 10,000 reported an average of 11.5 months per year. The smallest jurisdictions, by contrast, reported crimes-known data nearly 1.5 months per year less on average than the largest departments. These patterns are similar for arrest reporting.

Table 5. Indiana Municipal Police Departments Average Months per Year Reporting Crimes Known and Arrests by Jurisdiction Size, 1998 and 2004.

Jurisdiction Size	Crimes Known				Arrests			
	1998	2004	1998	2004	1998	2004	1998	2004
100,000+	5	12.0	5	12.0	4	12.0	3	12.0
50-99,999	4	12.0	7	12.0	4	12.0	6	12.0
25-49,999	16	11.6	20	12.0	16	11.2	18	12.0
10-24,999	28	12.0	33	11.8	26	11.0	32	11.4
< 10,000	54	10.3	61	10.6	48	8.7	54	9.1



Coverage of Crime in Indiana

Crime reporting also varies considerably among Indiana counties. In some years, no agencies within a county report crime data. To account for incomplete or missing data, the FBI uses an algorithm (see the box on page 11) to generate estimates of county-level crime rates. The following description of FBI estimates and calculations is adapted from the 2004 UCR County-Level Detailed Arrest and Offense Data Codebook. The data for any law enforcement agency reporting 12 months is analyzed as submitted. Data from entities reporting 3 to 11 months are augmented by a weight of twelve, divided by the number of months reported. For agencies submitting 0 to 2 months, these data are estimated using rates calculated from agencies located within the same state and population group that submit complete, full-year data. The UCR county-level data include a “coverage indicator” of aggregated data quality. This variable represents the proportion of county data reported. The indicator ranges from 100 percent, signifying complete 12-month reporting, to 0 percent, an indication that all data in the county are estimates.

Maps 1, 2, and 3 illustrate reporting rates by local Indiana agencies by county in 1998 and 2004, by means of UCR coverage indicator scores. Overall, the mean county coverage indicator in Indiana improved between 1998 and 2004 from 39 to 55, respectively. Map 1 shows that in 1998, roughly one-third (29) of Indiana counties did not report any data. In the same year, 24 counties reflected 76 percent or higher reporting coverage. In 2004, the number of counties that did not report data fell to 16, while those with reporting over 76 percent rose to 34 (see Map 2).

Map 3 shows levels of percentage change in coverage indicators by county between 1998 and 2004. Forty-eight counties either increased (23 counties) or dramatically increased (25) reporting. Twenty-one counties declined in coverage, with 4 showing a dramatic decline. Reporting coverage remained about the same in 25 counties.

Summary and Thoughts for Policymakers

Although crime reporting in Indiana improved somewhat from 1998 to 2004, there is still much room for improvement. Crime reporting varies by agency type and the population covered by a jurisdiction. The largest jurisdictions are most likely to report to the FBI and engage in full reporting. Information on reported crimes is much more complete than information on crimes cleared by arrest. The lack of arrest data is unfortunate because arrest records, though imperfect, are the only source of demographic information such as age, race, and gender of offenders.

As noted, Indiana is one of only three states that lack a centralized state collection program certified by the FBI. Centralized oversight of individual law enforcement agencies would likely ensure greater participation by local agencies in the UCR program. A certified state data collection center, which could be housed in the Indiana State Police or ICJI, would be advantageous to many stakeholders, including policymakers, law enforcement agencies, and service providers. Centralized data collection could be supported by laws mandating crime data collection and financial incentives. For example, grant money could be withheld from non-reporting agencies. Better reporting would increase understanding of crime in Indiana and help state and local criminal justice organizations attract federal funds to support improved policy and program development.



Data and Methodology

The UCR data analyzed for this report include the following datasets, obtained from the Inter-university Consortium for Political and Social Research (www.icpsr.umich.edu):

- Uniform Crime Reporting Program Data [United States]: Offenses Known and Clearances by Arrest, 2004;
- Law Enforcement Agency Identifiers Crosswalk [United States], 2000; and
- Uniform Crime Reporting Program Data [United States]: Offenses Known and Clearances by Arrest, 1998.

Both the 1998 and 2004 UCR datasets provide a compilation of offenses and clearances reported to law enforcement agencies. “Offenses known” comprise the number and type of criminal acts committed. Such offenses include only the most serious, frequent, and commonly reported crimes. Offenses are cleared by arrest (“clearances”), or solved, when at least one person involved in the criminal act has been arrested, charged, and turned over to a court for prosecution (U.S. Department of Justice, 2004). The 2000 Crosswalk file provides geographic and other identifying information for each record included in the UCR program files. Agencies were classified into four categories:

1. municipal police departments,
2. county sheriffs,
3. state police, and
4. other (e.g., transit authorities, university campus, and park police).

In cases where the agency type information was missing from the combined file, agency name and address information were used to group law enforcement entities according to the above categories. The 1998 and 2004 UCR files include numerous fields related to offense and clearances for each law enforcement agency. For this report, we used the grand total of all crimes known (and arrests) for each month to determine the total number of months that data were reported to the FBI for each agency. For each month, a corresponding variable was assigned with a value of 0 or 1, depending on whether the number in the total offenses or clearances field was greater than 0. If the total number was greater than 0, each record was assigned a value of 1. These 12 fields were tallied to determine the total number of months that data was reported. In a few instances, agencies report

full-year data in December. If this appeared to be the case, the December total was assumed to represent 12 months reporting.

Indiana is among three states nationwide (along with Mississippi and New Mexico) that do not have state Uniform Crime Reporting programs. The standards for state UCR programs help ensure submission of consistent and comparable data, along with regular and timely reporting. The FBI maintains six criteria for state programs to be certified, including such factors as conformity to national UCR program standards and adequate staff and quality control procedures. For more information, see *Crime in the United States 2005*, Federal Bureau of Investigation, U.S. Department of Justice, 2005. This report is available at http://www.fbi.gov/ucr/05cius/about/table_methodology.html and was accessed January 22, 2007. For more information on crime reporting across states and the ways that states increase local police reporting, see *Bridging Gaps in Police Crime Data*, Bureau of Justice Statistics, U.S. Department of Justice, 1999, available at <http://www.ojp.usdoj.gov/bjs/pub/pdf/bgpdc.pdf>

To account for incomplete or missing data, the FBI uses estimates to provide county-level information. UCR data also include a diagnostic measure (“coverage indicator”) of aggregated county-level data quality. This variable represents the proportion of county data not reported. The indicator ranges from 100 percent, signifying complete 12-month reporting, to 0 percent, an indication that all data in the county are estimates. The coverage indicator is calculated as follows:

$$CI = (1 - (\sum((ORI \text{ pop}/\text{county pop}) \cdot ((12 - \text{months reported}/12)))) \cdot 100) \times i$$

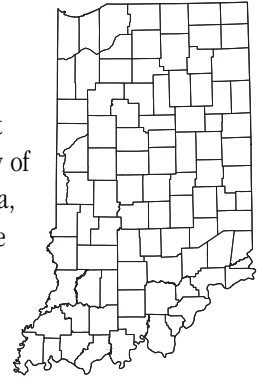
where CI = Coverage Indicator
x = county
i = ORI within county



Indiana's Future: Identifying Choices and Supporting Action to Improve Communities

This project, funded by an award of general support from Lilly Endowment, Inc., builds on the Center's research to increase understanding of Indiana. The Center's faculty and staff work to identify choices that can be made by households, governments, businesses, and nonprofit organizations to improve the quality of life for Hoosiers. Our goal is to understand the people, economics, problems, and opportunities in Indiana, and to help decision-makers understand the impact of policy decisions. The Center also works to mobilize energy to accomplish these goals.

The Center conducts ongoing research on a number of topics, including public safety and criminal justice policy. This issue brief is one result of these efforts to investigate the criminal justice issues that affect the quality of life in Indiana communities.



State of Indiana

The Center for Urban Policy and the Environment is part of the School of Public and Environmental Affairs at Indiana University. An electronic copy of this document and other information about criminal justice and other issues can be accessed via the Center Web site (www.urbancenter.iupui.edu). For more information, visit the Web site or contact the Center at 317-261-3000.

Authors: Thomas Stucky, assistant professor of criminal justice, School of Public and Environmental Affairs, and faculty fellow, Center for Urban Policy and the Environment, and **Rachel Thelin**, policy analyst, Center for Urban Policy and the Environment.



CENTER FOR URBAN POLICY
AND THE ENVIRONMENT

ADDRESS SERVICE REQUESTED

334 N. Senate Avenue, Suite 300
Indianapolis, IN 46204-1708

www.urbancenter.iupui.edu



**SCHOOL OF PUBLIC AND
ENVIRONMENTAL AFFAIRS**

INDIANA UNIVERSITY
IUPUI