



Statistical Brief

August 2018

NCJ 251762

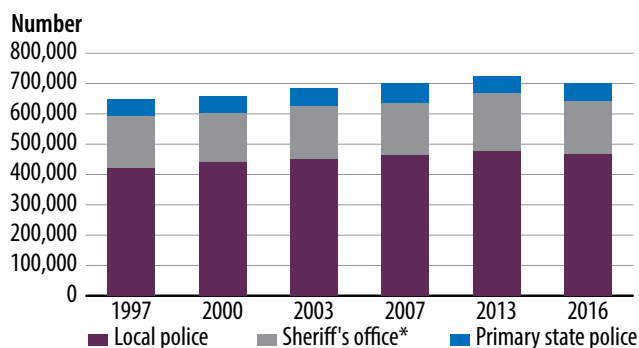
Full-Time Employees in Law Enforcement Agencies, 1997-2016

Shelley Hyland, Ph.D., *BJS Statistician*

As of June 30, 2016, the 15,328 general-purpose law enforcement agencies in the United States employed an estimated 701,000 full-time sworn officers (**figure 1**). General-purpose law enforcement agencies include municipal, county, and regional police departments; most sheriffs' offices; and primary state and highway patrol agencies. They are distinct from special-purpose agencies (e.g., those with jurisdiction on tribal lands; and in parks, schools, airports, subways, hospitals, housing authorities, and government buildings), sheriffs' offices with only jail and court duties, and federal law enforcement agencies. Only general-purpose agencies are included in this report.

From 1997 to 2016, the number of full-time sworn officers in general-purpose law enforcement agencies increased by about 52,000 (up 8%). During the same period, the total U.S. population increased by about 56 million (up 21%) (**table 1**). As a result, the number of full-time sworn officers per 1,000 residents decreased, from 2.42 in 1997 to 2.17 in 2016 (down 11%). The 2016 rate of full-time sworn officers per 1,000 residents was also lower than the rates in 2000 (down 7%), 2003 (down 8%), and 2007 (down 7%). Findings are based on the Law Enforcement Management and Administrative Statistics (LEMAS) surveys from the Bureau of Justice Statistics.

FIGURE 1
Full-time sworn officers in general-purpose law enforcement agencies, by agency type, 1997–2016



Note: See table 2 for estimates and appendix table 2 for standard errors.

*Excludes sheriffs' offices without primary law enforcement jurisdiction in the counties they serve.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics surveys, 1997–2016.

TABLE 1
Officer-to-resident ratio for general-purpose law enforcement agencies, 1997–2016

| Year | U.S. population ^a | Total full-time sworn officers ^b | Full-time sworn officers per 1,000 U.S. residents |
|-------|------------------------------|---|---|
| 1997 | 267,743,595 | 648,688 | 2.42 † |
| 2000 | 282,162,411 | 656,645 | 2.33 † |
| 2003 | 290,107,933 | 683,599 | 2.36 † |
| 2007 | 301,231,207 | 700,259 | 2.32 † |
| 2013 | 316,234,505 | 724,690 | 2.29 |
| 2016* | 323,405,935 | 701,169 | 2.17 |

Note: See appendix table 1 for standard errors.

*Comparison year.

†Difference with comparison year is significant at the 95% confidence level.

^aU.S. Census Bureau. National estimates as of July 1. Data for 1997 were retrieved from www.stats.indiana.edu/web/state/ftp/st_est98.txt. Data for 2000, 2003, and 2007 were retrieved from <https://www2.census.gov/programs-surveys/popest/tables/2000-2010/intercensal/national/us-est00int-01.csv>. Data for 2013 and 2016 were retrieved from <https://www2.census.gov/programs-surveys/popest/tables/2010-2017/national/totals/na-est2017-01.xlsx>.

^bThe reference date for the LEMAS survey in 1997, 2000, 2003 and 2016 was June 30. In 2007, the reference date was September 30. In 2013, the reference date was January 1.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics surveys, 1997–2016.



Other findings

- The number of full-time employees in general-purpose law enforcement agencies increased by about 174,000 (up 20%) from 1997 to 2016 (table 2).
- From 1997 to 2016, the number of full-time sworn officers in local police departments increased by about 48,000 (up 11%).
- The number of full-time sworn officers in primary state police agencies increased by about 5,000 (up 10%) from 1997 to 2016.
- From 1997 to 2016, the number of full-time civilians in general-purpose law enforcement agencies increased by about 121,000 (up 53%).
- From 1997 to 2016, the number of full-time civilians in sheriffs' offices increased 110%, or by about 98,000.

TABLE 2
Full-time employees in general-purpose state and local law enforcement agencies, by agency type, 1997–2016

| Agency type | 1997 | 2000 | 2003 | 2007 | 2013 | 2016 |
|---------------------------------------|---------|---------|---------|-----------|-----------|-----------|
| Number of agencies | 16,700 | 15,798 | 15,766 | 15,636 | 15,388 | 15,328 |
| Total full-time employees | 876,719 | 941,807 | 993,442 | 1,046,499 | 1,045,360 | 1,050,441 |
| Local police | 531,313 | 565,644 | 580,749 | 601,027 | 604,959 | 599,501 |
| Sheriff's office* | 263,145 | 289,135 | 330,274 | 346,337 | 351,904 | 359,843 |
| Primary state police | 82,261 | 87,028 | 82,419 | 99,135 | 88,497 | 91,097 |
| Total full-time sworn officers | 648,688 | 656,645 | 683,599 | 700,259 | 724,690 | 701,169 |
| Local police | 419,996 | 440,770 | 451,737 | 463,147 | 477,317 | 468,170 |
| Sheriff's office* | 174,486 | 159,528 | 174,251 | 172,241 | 188,952 | 173,354 |
| Primary state police | 54,206 | 56,348 | 57,611 | 64,872 | 58,421 | 59,645 |
| Total full-time civilians | 228,031 | 285,162 | 309,843 | 346,239 | 320,670 | 349,272 |
| Local police | 111,317 | 124,874 | 129,013 | 137,880 | 127,642 | 131,332 |
| Sheriff's office* | 88,659 | 129,608 | 156,022 | 174,096 | 162,952 | 186,489 |
| Primary state police | 28,055 | 30,680 | 24,808 | 34,263 | 30,076 | 31,452 |

Note: See appendix table 2 for standard errors. In the 1997 and 2013 LEMAS surveys, there were two personnel categories: sworn officers with general arrest powers and non-sworn employees (i.e., civilians). Sheriffs' offices may employ a third type of full-time personnel: officers with limited or no arrest authority (e.g., jail or court officers). In these years, responding sheriffs' offices that had officers with limited or no arrest authority had to determine which category best suited those personnel. For the 2000, 2003, 2007, and 2016 LEMAS surveys, agencies were asked to provide counts for all three types of employees. For these years, counts of officers with limited or no arrest powers were added to the civilian counts.

*Excludes sheriffs' offices without primary law enforcement jurisdiction in the counties they serve.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics surveys, 1997–2016.

Methodology

Conducted approximately every 4 years since 1987, the Law Enforcement Management and Administrative Statistics (LEMAS) survey collects data on a range of topics from a nationally representative sample of state, county, and local law enforcement agencies.

The methodology for the 1997, 2000, 2003, 2007, and 2013 LEMAS surveys is discussed in previously published reports on the Bureau of Justice Statistics website. Results from these LEMAS surveys may be reproduced using the most current versions of the datasets available through the National Archive of Criminal Justice Data (<https://www.icpsr.umich.edu/icpsrweb/NACJD/series/92>). Results using these data may differ from previously published tables.

2016 Law Enforcement Management and Administrative Statistics survey

Survey overview

The sample for the 2016 LEMAS survey was derived from the 2016 Law Enforcement Agency Roster (LEAR) database. The LEAR originated from a variety of sources, including, but not limited to, the 2008 and 2014 Census of State and Local Law Enforcement Agencies and the 2013 LEMAS survey. The 2016 LEAR includes a census of 15,810 general-purpose law enforcement agencies, including 12,695 local and county police departments, 3,066 sheriffs' offices, and 49 primary state police departments.

The original 2016 LEMAS sample included 3,499 state and local law enforcement agencies. The sample represents all general-purpose state and local law enforcement agencies in the United States with the equivalent of at least one full-time sworn officer (part-time sworn officers were counted as 0.5 full-time equivalents), with separate samples drawn for local police departments, sheriffs' offices, and state agencies. Agencies serving special jurisdictions (such as tribal lands, schools, airports, or parks) or with special enforcement responsibilities (such as conservation laws or alcohol laws) were considered out of scope for the survey. Additionally, sheriffs' offices without primary law enforcement jurisdiction in the counties they served and federal law enforcement agencies were ineligible for LEMAS.

Sample design and selection

During the initial contact phase, 27 departments were determined ineligible for the survey. Two agencies were serving special jurisdictions or had special enforcement responsibilities. Fourteen local police departments had closed, and two had contracted out their law enforcement services to another agency. Nine local police departments had only one part-time sworn officer. After removing out-of-scope cases, the final eligible sample size for the survey was 3,472.

Consistent with previous LEMAS administrations, all agencies with the equivalent of 100 or more full-time sworn officers received the survey. Agencies with fewer than 100 sworn officers were selected using a stratified random sample based on the number of sworn personnel and agency type. The final sample included 1,045 self-representing (SR) agencies with the equivalent of 100 or more full-time sworn personnel and 2,427 non-self-representing (NSR) agencies with fewer than the equivalent of 100 full-time sworn personnel. The SR agencies included 638 local police departments, 358 sheriffs' offices, and 49 state law enforcement agencies. Overall, the NSR local police department sample included 1,975 agencies and the NSR sheriff's office sample included 452.

The sampling design includes 15 strata that were based on the number of sworn personnel and agency type. Including all primary state police, the base weight for all SR agencies is 1.000. For NSR agencies, the base weights were determined by the number of sworn officers employed, as reported in the 2016 LEAR. The base weights consist of the ratio of the sampling frame counts for each stratum (at the time of sampling before removing ineligible agencies) divided by the number of units sampled in the strata (see appendix table 3).

Agency response rate

Data were collected using two self-administered modes: web (75%) or hardcopy (25%). The mode used was based on agency preference. Sixty-nine agencies responded using both web and hardcopy. In such cases, data obtained via web were used.

Submitted surveys were considered complete if at least 60% of the questionnaire was complete. A total of 2,780 agencies completed their LEMAS

questionnaires for an overall response rate of 80.1% (table 3). This included 879 SR agencies (84.1%) and 1,901 NSR agencies (78.3%). The response rate was 81.7% for local police departments, 74.1% for sheriffs' offices, and 89.8% for state law enforcement agencies. The final database included completed responses from 2,136 local police departments, 600 sheriffs' offices, and 44 state agencies. An additional four state agencies provided data on item 1 (personnel counts) of the questionnaire as part of a final non-response follow-up effort.

An adjustment factor unique to each stratum was used to account for non-response. These non-response adjustments were multiplied by the base weight to create the final analytical weight for each stratum (see appendix table 3).

Item non-response and imputation

Regardless of size, all departments were asked to complete the 51-item LEMAS survey. Imputation was used to determine the number of full-time sworn officers when it was missing. Cold-deck imputation was implemented using the value from the LEAR database for 30 agencies, including the one primary state agency that did not provide data on item 1.

TABLE 3
LEMAS response rates, by agency type, 2016

| Number of full-time sworn officers | Response rate |
|------------------------------------|---------------|
| Total | 80.1% |
| Local police | 81.7% |
| 100 or more | 88.4 |
| 50-99.5 | 81.8 |
| 25-49.5 | 85.3 |
| 10-24.5 | 84.5 |
| 5-9.5 | 80.4 |
| 2-4.5 | 72.4 |
| 1-1.5 | 64.2 |
| Sheriff's office | 74.1% |
| 100 or more | 75.7 |
| 50-99.5 | 79.0 |
| 25-49.5 | 79.8 |
| 10-24.5 | 66.7 |
| 5-9.5 | 76.7 |
| 2-4.5 | 63.2 |
| 1-1.5 | 50.0 |
| Primary state police | 89.8% |

Note: Includes both full- and part-time officers, with a weight of 0.5 assigned to part-time officers.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2016.

Accuracy of the estimates

The accuracy of the estimates presented in the final report depends on two types of error: sampling and non-sampling. Sampling error is the variation that may occur by chance due to collection of a sample rather than a complete enumeration of the population. Non-sampling error can be attributed to many sources, such as the inability to obtain information about all cases in the sample, inability to obtain complete and correct information from the administrative records, and processing errors. The full extent of the non-sampling error is difficult to measure in any survey.

As measured by an estimated standard error, the sampling error varies by the size of the estimate and of the base population. Because the 2016 LEMAS data were collected from a sample, the results are subject to sampling error. Variance and standard error estimates for the 2016 LEMAS were generated using the IBM SPSS statistical software package. The Taylor linearization method for a "stratified without replacement" design was used for these calculations. See appendix tables 1 and 2 for the standard error estimates.

Standard error estimates may be used to construct confidence intervals around numeric variables such as personnel counts. For example, the 95% confidence interval around the number of full-time sworn personnel is approximately $701,169 \pm 1.96 \times 17,274$, or 667,312 to 735,026.

Standard error estimates may also be used to test the significance of the difference between two sample statistics by pooling the standard errors of the two sample estimates. For example, the standard error of the difference between the rate of full-time sworn officers per 1,000 U.S. residents in 1997 compared to 2016 was 0.065 (the square root of the sum of the squared standard errors for each group). The 95% confidence interval around the difference would be 1.96×0.065 (or 0.13). Because the observed difference of 0.25 (2.42-2.17) was greater than 0.13, the difference would be considered statistically significant.

APPENDIX TABLE 1**Standard errors for table 1: Officer-to-resident ratio for general-purpose law enforcement agencies, 1997–2016**

| Year | Full-time sworn officers per 1,000 U.S. residents |
|------|---|
| 1997 | 0.04 |
| 2000 | 0.02 |
| 2003 | 0.03 |
| 2007 | 0.04 |
| 2013 | 0.06 |
| 2016 | 0.05 |

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics surveys, 1997–2016.

APPENDIX TABLE 2**Standard errors for table 2: Full-time employees in general-purpose state and local law enforcement agencies, by agency type, 1997–2016**

| Agency type | 1997 | 2000 | 2003 | 2007 | 2013 | 2016 |
|---------------------------------------|--------|-------|--------|--------|--------|--------|
| Total full-time employees | 13,041 | 8,649 | 13,725 | 16,717 | 26,669 | 25,849 |
| Local police | 11,358 | 7,026 | 10,612 | 13,225 | 22,539 | 21,923 |
| Sheriff's office | 6,408 | 5,044 | 8,703 | 9,268 | 14,255 | 13,694 |
| Primary state police | 0 | 0 | 0 | 4,320 | 0 | 0 |
| Total full-time sworn officers | 10,043 | 6,007 | 9,072 | 10,703 | 18,026 | 17,274 |
| Local police | 9,094 | 5,356 | 7,894 | 9,384 | 16,460 | 15,834 |
| Sheriff's office | 4,262 | 2,719 | 4,471 | 4,237 | 7,348 | 6,905 |
| Primary state police | 0 | 0 | 0 | 2,926 | 0 | 0 |
| Total full-time civilians | 3,625 | 3,394 | 6,017 | 7,077 | 9,853 | 9,930 |
| Local police | 2,376 | 1,854 | 2,903 | 4,048 | 6,385 | 6,343 |
| Sheriff's office | 2,738 | 2,843 | 5,270 | 5,553 | 7,504 | 7,640 |
| Primary state police | 0 | 0 | 0 | 1,689 | 0 | 0 |

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics surveys, 1997–2016.

APPENDIX TABLE 3**Base weights, non-response adjustments, and final weights by strata, by agency type, 2016**

| Number of full-time sworn officers | Base weight | Non-response adjustment | Final weight |
|------------------------------------|-------------|-------------------------|--------------|
| Local police | ~ | ~ | ~ |
| 100 or more | 1.000 | 1.131 | 1.131 |
| 50-99.5 | 5.879 | 1.222 | 7.185 |
| 25-49.5 | 5.897 | 1.172 | 6.914 |
| 10-24.5 | 5.897 | 1.183 | 6.978 |
| 5-9.5 | 5.873 | 1.244 | 7.305 |
| 2-4.5 | 5.893 | 1.380 | 8.134 |
| 1-1.5 | 5.885 | 1.557 | 9.162 |
| Sheriff's office | ~ | ~ | ~ |
| 100 or more | 1.000 | 1.321 | 1.321 |
| 50-99.5 | 5.855 | 1.265 | 7.408 |
| 25-49.5 | 5.899 | 1.253 | 7.392 |
| 10-24.5 | 5.874 | 1.500 | 8.811 |
| 5-9.5 | 5.878 | 1.304 | 7.667 |
| 2-4.5 | 5.763 | 1.583 | 9.125 |
| 1-1.5 | 6.250 | 2.000 | 12.500 |
| Primary state police | 1.000 | 1.000 | 1.000 |

Note: Includes both full- and part-time officers, with a weight of 0.5 assigned to part-time officers.

~Not applicable.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2016.



The Bureau of Justice Statistics of the U.S. Department of Justice is the principal federal agency responsible for measuring crime, criminal victimization, criminal offenders, victims of crime, correlates of crime, and the operation of criminal and civil justice systems at the federal, state, tribal, and local levels. BJS collects, analyzes, and disseminates reliable statistics on crime and justice systems in the United States, supports improvements to state and local criminal justice information systems, and participates with national and international organizations to develop and recommend national standards for justice statistics. Jeffrey H. Anderson is director.

This report was written by Shelley Hyland. Connor Brooks verified the report.

Eric Hendrixson and Jill Thomas edited the report. Morgan Young produced the report.

August 2018, NCJ 251762



NCJ 251762

Office of Justice Programs
Building Solutions • Supporting Communities • Advancing Justice
www.ojp.usdoj.gov