

B. Statistical Methods

1. Universe and Respondent Selection

The Survey of State and Local Law Enforcement Agencies is a web, mail, and fax survey that was first conducted in 1987. Some changes were made to improve the sampling methodology after the 1987 survey. This included lowering the threshold for inclusion with certainty from 135 to 100 sworn personnel, and increasing the number of sheriffs' offices sampled to account for a slightly lower response rate in that group. The sampling methodology used has been consistent since those changes were made, since the universe has remained fairly stable as has the project budget.

Previous surveys have collected data on personnel, expenditures, salaries, operations, equipment, special programs, and drug enforcement activities of law enforcement agencies. The core content of the survey continues to include questions on agency personnel, budgets, salaries, training and education requirements, computers and information systems, written policies and procedures, and specialized units. New questions that emphasize special topics that arise such as community policing, complaints about police use of force, or emergency preparedness and terrorism, are sometimes added.

The Demographic Statistical Methods Division at the Census Bureau was responsible for sample design, imputation and variance estimation cell formation for the survey in 1987, 1990, and 1993. Starting in 1997, the Economic Statistical Methods and Programming Division (ESMPD) was responsible for the sample design and imputation phases of the survey. The Governments Division (GOVS) was responsible for data collection and editing. In an effort to achieve cost savings in the interests of both the Federal government and the U.S. taxpayer, BJS began outsourcing data collection with the 2003 survey. A private data collection contractor was selected through a competitive solicitation process. BJS retained responsibility for the sampling design and imputation phases.

This data collection will be a sample survey based on the 2004 Census of State and Local Law Enforcement Agencies. The sample will consist of 3,225 agencies, including a certainty sample of the 997 large law enforcement agencies (those with 100 or more officers), and a stratified random sample of approximately 2,228 smaller agencies (strata based on agency size and type).

The Economic and Statistical Methods and Programming Division (ESMPD) of the Census Bureau designed the current LEMAS sample. BJS provided them with the number of units to be surveyed. BJS requested that all agencies with 100 or more sworn personnel be included so that an existing longitudinal study of such agencies may be continued. Below that level, a stratified sample design was developed by ESMPD. This a statistically valid designed in accordance with currently accepted standards based on the expertise of those involved at ESMPD.

a. Universe

The universe for the 2007 survey will consist of most of the agencies listed in the 2004 Census of State and Local Law Enforcement Agencies. This includes all state and local law enforcement agencies that are publicly funded and employ at least one full-time or part-time sworn officer with general arrest powers, including sheriffs= offices, municipal general purpose police, county general purpose police, state police, and tribal police. Special jurisdiction police and Texas constable offices are excluded.

b. Sample agencies

The law enforcement agencies will be separated into two groups for the purpose of sample selection: self-representing (SR) and non-self-representing (NSR) agencies. All state police are SR. The definitions of SR and NSR are shown below.

1. Self-representing agencies

An agency is SR if it meets one of the following two criteria:

- i. An agency is a State Police agency
- ii. An agency has 100 or more sworn full-time equivalent (FTE) employees.

$$\text{Average number of sworn FTE} = \text{rounded } [(\# \text{ sworn full time employees}) + 0.5 * (\# \text{ sworn part-time employees})]$$

2. Non-self-representing agencies

All remaining agencies in Sheriff=s Department and Local Police categories are NSR.

Below is the sample design information for 2007:

Type of Agency Weight	Universe total	Sample total	SR	NSR Universe	NSR Sample
State police/highway patrol --	49	49	49	--	--
Sheriffs offices - 4.18	3,067	1,000	351	2,716	649
Local police - total --	12,772	2,176	597	12,175	1,579
Stratum 1 2.14			--	479	224
Stratum 2 3.38			--	757	224
Stratum 3 4.95			--	1,282	259

Stratum 4	--			1,758	248
7.09					
Stratum 5	--			2,953	306
9.65					
Stratum 6	--			4,945	319
15.55					
Project totals		15,888	3,225	997	14,891
--c. c. Out-of-scopes					2,228

Although uncommon, an agency can be out-of-scope for the 2007 survey because it disbanded after the 2004 census but before the 2007 survey. The out-of-scope problem of agencies being included the universe that should not have been there was an issue in the early years of LEMAS when the sampling frame was the 1986 Directory Survey conducted by the Census Bureau. As we moved to a more complete and accurate methodology starting with the 1992 Census of State and Local Law Enforcement Agencies (CSLLEA), by the 2004 (CSLLEA) this problem had been eliminated. Now, a comprehensive listing of the law enforcement agencies within each State is obtained from the Police Officer Standards and Training agency or other State-level agency responsible for law enforcement agency oversight. This is supplemented with a listing from the FBI of newly assigned Agency Originating Identifiers, and BJS historical Census files. We are confident the sampling frame is accurate based on this three-pronged approach.

d. Creating cells for weighting and imputation

Cells for weighting and imputation within SR/NSR agency types will be created by crossing average number of sworn officers with size of population served for Local Police agencies and State Police agencies. For Sheriff=s Departments, average number of full-time equivalents will be crossed with employee categories (number of employees working in jails, courts, and law enforcement), and whether or not the department had a jail. Collapsed type of agency, average number of sworn officers, average number of full-time equivalents, subtype for special agencies, and size of population served come from the universe file.

Cells will be required to have at least 15 respondents and an agency response rate of at least 70%. Cells will be collapsed within SR/NSR status and collapsed type of agency if either of those criteria were not met.

e. Weighting the sample

The base weight for all SR agencies will be one. For NSR agencies, the base weights will be determined by the number of sworn personnel employed as reported in the 2004 census. The final weight associated with every agency, both SR and NSR, is the product of the base weight, a factor that will adjust for changes in the universe since 2003, and a factor that adjusts for nonresponding agencies in each cell.

2. Procedures for Collecting Information

The survey will be conducted initially by mailout, with a web-based response option. The

address mailing list will be updated prior to mailout in order to maintain a current list of the respondents. Personal telephone interviews will be conducted for nonrespondents.

3. Methods to Maximize Response

We will do everything possible to maximize response, including telephone facsimile transmission, E-mail transmission, telephone interviews, and on-site assistance. Response rates for prior iterations of the survey have typically been 90% and above.

4. Testing of Procedures

The survey instrument will be pretested in selected jurisdictions by individuals that will be receiving the survey instrument. The pretest will involve State, regional, county, and local agencies. Any comments received as a result of that testing will be incorporated into the survey instrument before data collection begins.

5. Contacts for Statistical Aspects and Data Collection

Person to contact for information on statistical methodology, conducting the survey, and analyzing the data:

Brian A. Reaves, Ph.D.
Law Enforcement Unit
Bureau of Justice Statistics
810 Seventh St., NW
Washington, DC 20531
(202) 616-3287

C. Attachments

1. Copy of the survey forms
2. Copy of the regulatory authority (42 U.S.C. 3732)