SPECIAL REPORT



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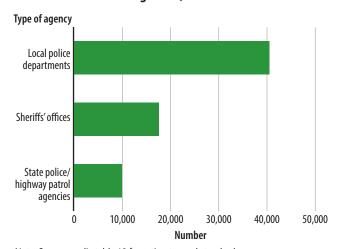
Police Vehicle Pursuits, 2012-2013

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n 2012, general purpose state and local law enforcement agencies conducted an estimated 68,000 vehicle pursuits (figure 1). Local police departments conducted most of these pursuits (about 40,000) followed by sheriffs' offices (about 18,000) and state police and highway patrol agencies (about 10,000). During the year, 351 persons died as a result of pursuit-related crashes (not shown).

Pursuit counts are based on the 2013 Law Enforcement Management and Administrative Statistics (LEMAS) survey sponsored by the Bureau of Justice Statistics (BJS). The survey included a nationally representative sample of general purpose state and local law enforcement agencies. Such agencies employed 92% of all full-time state and local law enforcement officers. The LEMAS survey excludes federal agencies and special jurisdiction agencies, such as campus police and park police. Data on pursuit-related fatalities are from the Fatality Analysis Reporting System (FARS), maintained by the National Highway Traffic Safety Administration (NHTSA), U.S. Department of Transportation.

FIGURE 1 Vehicle pursuits conducted by general purpose state and local law enforcement agencies, 2012



Note: See appendix table 12 for estimates and standard errors. Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

HIGHLIGHTS

- General purpose state and local law enforcement agencies conducted an estimated 68,000 vehicle pursuits in 2012.
- From 1996 to 2015, an average of 355 persons (about 1 per day) were killed annually in pursuit-related crashes.
- In 2012, local police conducted 8 vehicle pursuits per 100 officers employed and sheriffs' offices conducted 9 per 100 officers.
- As of January 2013, all state police and highway patrol agencies and nearly all local police departments (97%) and sheriffs' offices (96%) had a written vehicle pursuit policy.
- In jurisdictions with fewer than 10,000 residents, 4% of the local police departments and 10% of the sheriffs' offices did not have a written pursuit policy.

- Most agencies had vehicle pursuit policies that used specific criteria (e.g., speed, type of offense, or surrounding conditions) to define when a pursuit was permissible.
- An estimated 2% of local police departments and 1% of sheriffs' offices prohibited vehicle pursuits. No state police or highway patrol agencies prohibited pursuits.
- During 2012, the rate of vehicle pursuits was highest among agencies with a policy that left pursuit decisions to an officer's discretion (17 pursuits per 100 officers employed).
- From 1997 to 2013, the percentage of sworn personnel working in agencies that left pursuit decisions to an officer's discretion decreased from 17% to 11%.



This report examines the types of written pursuit-related policies maintained by law enforcement agencies, and analyzes how the prevalence of police vehicle pursuits varies by type of pursuit policy. The report presents supplemental data on the characteristics of police vehicle pursuits that occurred in selected law enforcement agencies. These supplemental data are from the Pursuits database initiated by the International Association of Chiefs of Police (IACP) and currently maintained by LogIn, Inc. (See textbox on page 7.) Although this report focuses exclusively on vehicle pursuits, the LEMAS survey collected some data on agency policies related to foot pursuits. This information is presented in appendix tables 3 through 7.

The Police Policy Studies Council, a research-based law enforcement training and consultation corporation, defines a motor vehicle pursuit as "The act of attempting apprehension of a fleeing vehicle, once the operator has given some indication of his or her intent not to stop or yield. This indication can be by increasing speed, bypassing traffic control devices, or other means."

All state law enforcement agencies and most local agencies serving 10,000 or more residents conducted vehicle pursuits during 2012

All state police and highway patrol agencies conducted vehicle pursuits in 2012 (table 1). Among local police departments, all of those serving 250,000 or more residents and nearly all (95%) of those serving 50,000 to 249,999 residents conducted vehicle pursuits. In comparison, fewer than half (47%) of local police departments serving fewer than 10,000 residents conducted vehicle pursuits.

TABLE 1General purpose state and local law enforcement agencies that conducted vehicle pursuits, 2012

Type of agency and population served	Total number of agencies	Percent that conducted pursuits
Local police departments	12,326	57%
250,000 or more	104	100 †
100,000–249,999	224	95 †
50,000–99,999	446	96†
25,000–49,999	871	86†
10,000–24,999	1,986	75 †
9,999 or fewer*	8,695	47
Sheriffs' offices	3,012	70%
250,000 or more	211	88 †
100,000–249,999	287	88 †
50,000–99,999	416	80 †
25,000–49,999	618	80 †
10,000–24,999	853	71 †
9,999 or fewer*	628	43
State police/highway patrol agencies	49	100%

Note: See appendix table 13 for standard errors.

Among sheriffs' offices, about 9 in 10 agencies serving 100,000 or more residents, 8 in 10 agencies serving 25,000 to 99,999 residents, and 7 in 10 agencies serving 10,000 to 24,999 residents conducted vehicle pursuits in 2012. As was the case with smaller local police departments, fewer than half (43%) of sheriffs' offices serving fewer than 10,000 residents conducted vehicle pursuits in 2012.

About a quarter of local police pursuits occurred in departments serving fewer than 10,000 residents

On average, state police and highway patrol agencies conducted more than 200 vehicle pursuits each during 2012 (table 2). Local police departments serving 250,000 or more residents conducted an average of 72 vehicle pursuits each. Collectively, these larger local police agencies conducted more than 7,000 pursuits, or about a sixth (18%) of all vehicle pursuits conducted by local police nationwide (not shown).

Local police departments that served fewer than 10,000 residents and had vehicle pursuits during 2012 conducted an average of three pursuits each. The collective number of pursuits conducted by these small departments was nearly 11,000, or about a quarter (27%) of all local police vehicle pursuits.

TABLE 2Number of vehicle pursuits conducted by general purpose state and local law enforcement agencies, 2012

Type of agency and population served	Number of pursuits	Average number of pursuits per agency ^a
Local police departments	40,491	6
250,000 or more	7,459	72†
100,000-249,999	5,332	25 †
50,000-99,999	5,270	12†
25,000-49,999	4,742	6†
10,000–24,999	6,927	5†
9,999 or fewer*	10,760	3
Sheriffs' offices	17,591	8
250,000 or more	6,287	34†
100,000-249,999	2,811	11†
50,000-99,999	2,716	8†
25,000–49,999	2,458	5‡
10,000–24,999	2,552	4†
9,999 or fewer*	767	3
State police/highway patrol agencies	9,939	203

Note: See appendix table 14 for standard errors.

^{*}Comparison group.

[†]Significant difference from comparison group at 95% confidence level. Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

^{*}Comparison group.

[†]Significant difference from comparison group at 95% confidence level. ‡Significant difference from comparison group at 90% confidence level.

^aExcludes agencies that did not conduct any pursuits.

Sheriffs' offices that served 250,000 residents, and had vehicle pursuits during 2012, conducted an average of 34 pursuits each. Overall, these agencies conducted more than 6,000 pursuits, or 36% of all pursuits conducted by sheriffs' offices in 2012 (not shown).

Local agencies in smaller jurisdictions conducted pursuits at a rate five times higher than those in the largest jurisdictions

In 2012, state police and highway patrol agencies conducted 17 vehicle pursuits per 100 officers employed, compared to 9 per 100 for sheriffs' offices and 8 per 100 for local police departments (table 3). By population size, rates among local police departments ranged from 4 pursuits per 100 officers in the largest jurisdictions to 15 pursuits per 100 officers in the smallest jurisdictions.

TABLE 3Vehicle pursuit rates for general purpose state and local law enforcement agencies, 2012

	Number of vehicle pursuits per—				
Type of agency	100 sworn officers	100,000 residents	100 marked vehicles		
Local police departments	8	18	18		
250,000 or more	4†	10 †	11 †		
100,000-249,999	9†	16†	17 †		
50,000-99,999	10 †	17 †	18 †		
25,000-49,999	9†	16†	18†		
10,000-24,999	11 †	22 †	23		
9,999 or fewer*	15	40	26		
Sheriffs' offices	9	6	15		
250,000 or more	7†	4†	14		
100,000-249,999	8 ‡	6†	12 ‡		
50,000-99,999	12	9†	17		
25,000-49,999	11	12‡	17		
10,000-24,999	16	18	24		
9,999 or fewer*	14	22	19		
State police/highway patrol agencies	17	3	27		

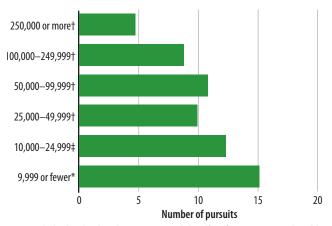
Note: See appendix table 15 for estimates and standard errors.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

Pursuit rates among sheriffs' offices were also higher in smaller jurisdictions, with about 7 pursuits per 100 officers in agencies serving 100,000 or more residents compared to about 15 per 100 in agencies serving fewer than 25,000 residents.

By number of sworn personnel, the combined pursuit rate for local law enforcement agencies ranged from 5 pursuits per 100 officers employed in jurisdictions with 250,000 or more residents to 15 per 100 in jurisdictions with fewer than 10,000 residents (figure 2). Local police departments and sheriffs' offices serving smaller jurisdictions also had higher pursuit rates when the rate was based on population size.

FIGURE 2
Vehicle pursuits conducted per 100 officers employed in local law enforcement agencies, by size of population served, 2012



Note: Includes local police departments and sheriffs' offices. See appendix table 16 for estimates and standard errors.

^{*}Comparison group.

[†]Significant difference from comparison group at 95% confidence level.

[‡]Significant difference from comparison group at 90% confidence level.

^{*}Comparison group.

 $⁺ Significant\ difference\ from\ comparison\ group\ at\ 95\%\ confidence\ level.$

[‡]Significant difference from comparison group at 90% confidence level.

4% of local police departments and 10% of sheriffs' offices serving fewer than 10,000 residents did not have a written vehicle pursuit policy

As of January 2013, all state police and highway patrol agencies had a written vehicle pursuit policy, as did all local police departments serving 25,000 or more residents (table 4). Among sheriffs' offices, at least 95% of the agencies in each population category of 10,000 or more had a written vehicle pursuit policy. An estimated 4% of local police departments and 10% of sheriffs' offices serving fewer than 10,000 residents did not have a written vehicle pursuit policy.

A majority of the written vehicle pursuit policies of state law enforcement agencies (53%), sheriffs' offices (63%), and local police departments (71%) were based on restrictive criteria. These policies used specific criteria (e.g., type of offense, speed, and surrounding conditions) to define when a pursuit was permissible.

State law enforcement agencies were about twice as likely as local agencies to leave pursuit decisions to an officer's discretion

About a third (30%) of state police and highway patrol agencies permitted officers to use their own discretion when deciding to initiate a vehicle pursuit. Smaller percentages of sheriffs' offices (17%) and local police departments (13%) had discretionary pursuit policies. In any population category, no more than 14% of local police departments and 23% of sheriffs' offices had a discretionary policy.

An estimated 14% of state police and highway patrol agencies had written pursuit policies that required supervisory review and approval before pursuits could be initiated by officers. Twelve percent of sheriffs' offices had this type of policy, as did 9% of local police departments.

A small percentage of state police and highway patrol agencies (2%), sheriffs' offices (2%), and local police departments (3%) had written policies that discouraged vehicle pursuits. Two percent of local police departments and 1% of sheriffs' offices prohibited vehicle pursuits. No state police or highway patrol agencies prohibited vehicle pursuits.

TABLE 4
Written vehicle pursuit policies of general purpose state and local law enforcement agencies, 2013

	Written policy					_	
Type of agency and population served	Total with policy	Permitted, officer discretion	Permitted, restricted by criteria	Permitted, subject to supervisory approval/review	Discouraged	Prohibited	No written policy
Local police departments	97%†	13%†	71%†	9%†	3%	2%†	3%†
250,000 or more	100%	8	84	7	1	0	0
100,000–249,999	100%	9	84	6	0	0	0
50,000–99,999	100%	11	83	6	0	0	0
25,000–49,999	100%	7	81	8	2	0	0
10,000-24,999 ^a	100%	8	78	10	2	1	
9,999 or fewer	96%	14	67	9	3	2	4
Sheriffs' offices	96%†	17%†	63%†	12%‡	2%	1% †	4%†
250,000 or more	99%	12	72	10	4	1	1
100,000–249,999	99%	11	78	9		0	1
50,000-99,999	97%	15	62	18	1	1	3
25,000–49,999	98%	23	65	7	1	2	2
10,000–24,999	95%	15	62	14	3	0	5
9,999 or fewer	90%	19	54	14	3	0	10
State police/highway patrol agencies*	100%	30%	53%	14%	2%	0%	0%

Note: Detail may not sum to total due to rounding. See appendix table 17 for standard errors.

^{*}Comparison group.

 $⁺ Significant\ difference\ from\ comparison\ group\ at\ 95\%\ confidence\ level.$

[‡]Significant difference from comparison group at 90% confidence level.

⁻⁻Less than 0.5%.

^aTotal with policy has been rounded up from 99.7%.

Overall, sworn officers in local police departments (85%) and sheriffs' offices (73%) were more likely to be employed by an agency with a restrictive type of vehicle pursuit policy than were officers employed by state police or highway patrol agencies (37%) (table 5). State law enforcement officers (36%) were more likely to be employed by an agency with a written policy that left pursuit decisions to the officer's discretion than were local police (7%) or sheriffs' (13%) officers.

The percentage of officers employed by agencies with a discretionary vehicle pursuit policy declined from 1997 to 2013

The percentage of state and local law enforcement officers employed by an agency with a restrictive policy increased from 72% in 1997 to 78% in 2013 (figure 3). The percentage of officers in agencies with a policy that required supervisory review and approval of pursuit decisions also increased during this time from 2% to 9%. The percentage of officers employed by an agency that left pursuit decisions to an officer's discretion decreased from 17% to 11%. The percentage of officers employed by an agency without a written pursuit policy decreased from 2.5% in 1997 to 0.5% in 2013.

A majority of the general purpose state and local law enforcement agencies with a written policy permitting vehicle pursuits conducted at least one pursuit during 2012. This was true whether the policy used restrictive criteria (64%), required supervisory approval (60%), or allowed officer discretion (57%) (table 6). The largest number of pursuits, about 47,000, occurred in agencies with a restrictive pursuit policy. About 13,000 pursuits occurred in agencies with a policy that allowed officer discretion, and about 7,000 occurred in agencies with a policy that required supervisory review and approval.

TABLE 5
Sworn personnel employed by general purpose state and local law enforcement agencies, by type of written vehicle pursuit policy, 2013

Type of policy	Local police officers	Sheriffs' officers	State police/ highway patrol officers*
Permitted, restricted by criteria	85%†	73% †	37%
Permitted, officer discretion	7†	13 †	36
Permitted, subject to supervisory approval/review	7†	11†	26
Discouraged	1	1	1
Prohibited		1	0
No written policy		1	0

Note: Type of policy as of January 1, 2013. See appendix table 18 for standard errors.

†Significant difference from comparison group at 95% confidence level. --Less than 0.5%.

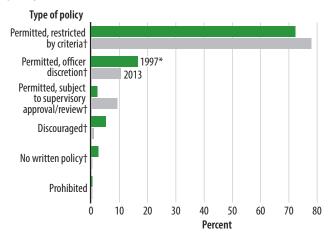
Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

During 2012, about 500 vehicle pursuits occurred in agencies without a written pursuit policy

An estimated 36% of the agencies without a written pursuit policy engaged in at least one vehicle pursuit during 2012, with an average of three pursuits each. Overall, an estimated 486 vehicle pursuits occurred in agencies without a written pursuit policy. During 2012, an estimated 17% of the agencies with a policy that discouraged or prohibited pursuits conducted at least one vehicle pursuit. Overall, an estimated 244 pursuits occurred in agencies with a written policy that either discouraged or prohibited vehicle pursuits.

FIGURE 3

Distribution of sworn officers in general purpose state and local law enforcement agencies, by type of written pursuit policy, 1997 and 2013



Note: Type of policy as of January 1, 2013. See appendix table 19 for percentages and standard errors.

†Significant difference between 1997 and 2013 at 95% confidence level. Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 1997 and 2013.

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Pursuits conducted by general purpose state and local law enforcement agencies, by type of written pursuit policy, 2012

	Percent of _	Number of pursuits		
Type of policy	agencies with at least one pursuit	Total	Average per agency	
Permitted, restricted by criteria*	64%	46,833	7	
Permitted, officer discretion	57	12,976	11	
Permitted, subject to supervisory approval/review	60	7,284	8	
No written policy	36 †	486	3	
Discouraged or prohibited	17 †	244	3	

Note: Type of policy as of January 1, 2013. See appendix table 20 for standard errors.

†Significant difference from comparison group at 95% confidence level. Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

^{*}Comparison group.

^{*}Comparison group.

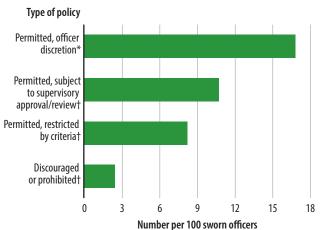
^{*}Comparison group.

Agencies that left pursuit decisions to an officer's discretion had the highest pursuit rate per officer

The number of vehicle pursuits conducted per 100 officers varied by type of written policy. Agencies with a written policy that left the pursuit decision to an officer's discretion had the highest vehicle pursuit rate (17 pursuits per 100 officers employed) (figure 4). Agencies that discouraged or prohibited pursuits had the lowest pursuit rate (2 per 100). Agencies with a restrictive policy conducted 8 pursuits per 100 officers employed.

The variation in pursuit rate by type of policy was also illustrated by the fact that 19% of all vehicle pursuits were conducted by agencies with discretionary pursuit policies, although these agencies employed just 11% of all officers (not shown). Agencies with restrictive pursuit policies accounted for 69% of all pursuits, but employed 78% of all officers (not shown).

FIGURE 4 Vehicle pursuits conducted by general purpose state and local law enforcement agencies per 100 sworn personnel employed, by type of pursuit policy, 2012



Note: Type of policy as of January 1, 2013. See appendix table 21 for estimates and standard errors.

†Significant difference from comparison group at 95% confidence level. Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

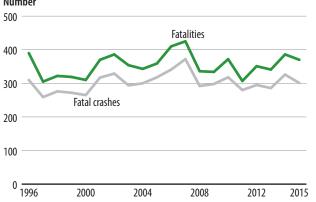
From 1996 to 2015, there was an average of about one pursuit-related fatality per day

Police vehicle pursuits resulted in more than 6,000 fatal crashes during the 20-year aggregate period 1996 to 2015 (figure 5). These fatal crashes resulted in more than 7,000 deaths, an average of 355 per year (or about 1 per day). There were more than 300 pursuit-related fatalities each year during this period. The number of fatalities peaked in 2006 and 2007 when there were more than 400 per year.

Nearly two-thirds (65%) of pursuit-related fatalities involved occupants of the vehicle being pursued (not shown). A third of those killed were occupants of a vehicle not involved in the pursuit (29%) or bystanders not in a vehicle (4%). Occupants of the pursuing police vehicle accounted for slightly more than 1% of the fatalities from 1996 to 2015.

¹According to the Fatality Analysis Reporting System (FARS), a national reporting system on all known traffic fatalities. Data are collected through a cooperative agreement the National Highway Traffic Safety Administration has with each state, the District of Columbia, and Puerto Rico. To be included in FARS, a crash must involve a motor vehicle traveling on a trafficway customarily open to the public and result in the death of a person (occupant of a vehicle or a nonoccupant) within 30 days of the crash. FARS currently collects more than 143 different coded data elements that characterize the crash, the vehicle, and the persons involved.

FIGURE 5 Fatal vehicle crashes and fatalities related to police pursuits, 1996–2015



Note: Data include the 50 states and the District of Columbia.

Source: National Highway Traffic Safety Administration, Fatality Analysis Reporting System, 1996–2015.

^{*}Comparison group.

Pursuits database includes detailed information on the characteristics of police vehicle pursuits in selected agencies

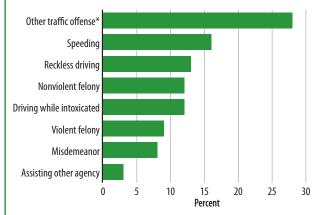
The Pursuits online database was launched in 2001 by the International Association of Chiefs of Police. It standardizes pursuit reporting across 30 data fields and is the largest national repository of pursuit data of its kind, archiving nearly 20,000 records as of 2016. The National Institute of Justice funded the database through a grant. LogIn, Inc. provided software development and managed the database. When the federal funding ended, LogIn took over Pursuits and provides ongoing management and development.

Agency participation in Pursuits is voluntary, and the analyses presented here are limited to the 115 agencies that provided data for 5,568 pursuits occurring from 2009 to 2013. These data are not necessarily representative of all pursuits occurring nationwide.

According to the Pursuits data, a majority of pursuits were short both in time (57% lasted 3 minutes or less) and distance (66% covered a distance of 3 miles or less). Despite their brevity, nearly half (45%) of police vehicle pursuits reached speeds of greater than 70 miles per hour, and nearly a quarter (23%) exceeded 90 miles per hour.

About two-thirds (69%) of police vehicle pursuits began with a traffic violation, such as speeding (16%), reckless driving (13%), or suspicion of driving while intoxicated (12%) (figure 6). About 1 in 5 pursuits were initiated because someone in the vehicle being pursued was suspected of committing a nonviolent (12%) or violent (9%) felony.

FIGURE 6 Primary reasons for stop preceding police vehicle pursuits among 115 agencies, 2009–2013



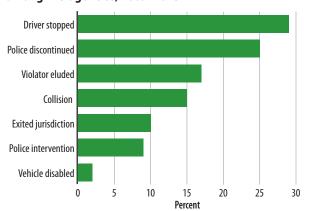
Note: Reasons included suspected offenses at time of the pursuit. *Excludes speeding, reckless driving, and driving while intoxicated. Source: LogIn, Inc., Pursuits database, 2009–2013.

Twenty-nine percent of pursuits ended because the fleeing driver voluntarily stopped, and 25% of pursuits ended because a pursuing officer or a supervisor discontinued it (figure 7). Fifteen percent of pursuits ended with a collision and 10% ended because the vehicle crossed into another jurisdiction. About 1 in 6 violators eluded police either in their vehicle or on foot.

Among pursuits that occurred from 2009 to 2013, there were 2 serious injuries and 10 minor injuries for every 100 pursuits (not shown). About 76% of serious injuries were to the suspect, 21% were to persons not involved in the pursuit, and 3% were to a law enforcement officer.

About 0.5% (1 in 200) of these pursuits resulted in a fatality (not shown). In comparison, using the Fatality Analysis Reporting System total of 295 pursuit-related fatal crashes in 2012 and the LEMAS estimate of 68,000 pursuits, the percentage of pursuits resulting in a fatality was about 0.4% (1 in 250).

FIGURE 7
Primary reasons for termination of police vehicle pursuits among 115 agencies, 2009–2013



Source: LogIn, Inc., Pursuits database, 2009–2013.

Methodology

Survey overview

This report uses data from the 2013 Law Enforcement Management and Administrative Statistics (LEMAS) survey. The LEMAS survey periodically collects data from more than 3,000 general purpose law enforcement agencies, including state police/highway patrol agencies, local police departments, and sheriffs' offices. The survey includes all agencies that employ 100 or more sworn officers and a nationally representative sample of smaller agencies.

Previous LEMAS data collections occurred in 1987, 1990, 1993, 1997, 1999 (limited scope), 2000, 2003, and 2007. LEMAS obtains data on—

- functions performed
- operating expenditures
- job functions of sworn and nonsworn employees
- officer salaries and special pay
- demographic characteristics of officers
- education and training requirements
- types of weapons authorized
- body armor policies
- computers and information systems
- types of vehicles operated
- use of special units
- task force participation
- community policing activities.

The 2013 LEMAS survey was the first to collect data on the number of vehicle pursuits conducted. Survey questions were updated with each iteration to reflect emerging issues in the field of law enforcement. Publications based on prior LEMAS surveys can be accessed on the Bureau of Justice Statistics' (BJS) website.

Sampling frame

The sampling frame used for the 2013 LEMAS survey was the 2008 BJS Census of State and Local Law Enforcement Agencies (CSLLEA), which was the most recent data collection year available.

The CSLLEA included all general purpose state and local law enforcement agencies employing the equivalent of at least one full-time sworn officer. The CSLLEA definition of sworn personnel relied exclusively on whether the officer possessed full arrest powers. Regardless of the arrest powers of their officers, some agencies that the CSLLEA included were out of scope for LEMAS. Because of its policing focus, LEMAS excluded agencies that did not have a primary jurisdictional area for which they provided law enforcement services.

Sample design and selection

Local police departments and sheriffs' offices were chosen for the LEMAS survey using a stratified sample design based on the number of sworn personnel. The original 2013 LEMAS sample included 3,335 state and local law enforcement agencies. It was designed to be representative of all general purpose state and local law enforcement agencies in the United States, with separate samples drawn for local police departments and sheriffs' offices. All 49 state police and highway patrol agencies were included. Because their primary functions differed from the other state agencies, the Hawaii Department of Public Safety was out of scope for this report. All agencies serving special jurisdictions (such as schools, airports, or parks) or with special enforcement responsibilities (such as conservation laws or alcohol laws), were out of scope for the survey.

The 2013 LEMAS sample design called for 2,353 local police departments, divided into seven strata based on number of sworn officers employed, to receive the survey. During the initial contact phase, 26 of these departments were determined to have closed since the 2008 CSLLEA and were dropped from the sample. Of the remaining 2,327 departments, the sample design called for all 659 departments employing 100 or more full-time sworn personnel to be self-representing (SR) and receive the survey. Twenty-nine of these SR departments did not receive the survey because of inaccurate contact information. As a result, the base weight for SR departments was 1.046 instead of the expected 1.000. The 6 remaining strata and their corresponding base weights are 50 to 99 officers, 2.572; 25 to 49 officers, 4.225; 10 to 24 officers, 6.260; 5 to 9 officers, 7.288; 2 to 4 officers, 14.611, and 1 officer, 31.302.

The 2013 LEMAS sample design called for 933 sheriffs' offices, divided into seven strata based on the number of sworn officers employed, to receive the survey. During the initial contact phase, 38 of these offices were determined to not have an area of primary law enforcement jurisdiction and were dropped from the sample. All 350 offices employing 100 or more full-time sworn personnel were SR in the sample design and were to receive the survey. Seventeen of these SR offices did not receive the survey because of inaccurate contact information. As a result, the base weight for SR sheriffs' offices was 1.051 instead of the expected 1.000. The 6 remaining strata and their corresponding base weights were as follows: 50 to 99 officers, 2.800; 25 to 49 officers, 4.412; 10 to 24 officers, 5.497; 5 to 9 officers, 5.485; 2 to 4 officers, 6.190; and 1 officer, 5.000.

Agency response rate

Of the 49 state police and highway patrol agencies that received the survey, 44 completed it for a response rate of 90%. Of the 2,327 eligible local police departments that received the survey, 2,059 completed it for a response rate of 88%. By size, the response rate for local police ranged from 91% for agencies with 50 or more officers to 84% for those with fewer than 10 officers. An adjustment factor unique to each stratum was used to account for nonresponse. These nonresponse adjustments and the resulting final analytical weights for each stratum are included in appendix table 10.

Of the 895 eligible sheriffs' offices that received the survey, 717 completed it for a response rate of 80%. By size, the response rate ranged from 90% for agencies with 25 to 49 full-time sworn personnel to 73% for those with 5 to 9 full-time sworn personnel. An adjustment factor unique to each stratum was used to account for nonresponse. These nonresponse adjustments and the resulting final analytical weights for each stratum are included in appendix table 11.

Item nonresponse for pursuit-related questions

Written vehicle pursuit policy

Among the 86% of agencies that responded to the 2013 LEMAS survey, 98% provided the requested information on type of written vehicle pursuit policy. The item response rates by type of agency were—

- local police departments-98% (2,024 of 2,059)
- sheriffs' offices-97% (697 of 717)
- state police/highway patrol-98% (43 of 44).

Number of vehicle pursuits conducted in 2012

Among the 86% of agencies that responded to the 2013 LEMAS survey, 84% (2,376 of 2,825) provided the requested information on number of vehicle pursuits conducted during 2012. The item response rates by type of agency were—

- local police departments-86% (1,778 of 2,059)
- sheriffs' offices-78% (556 of 717)
- state police/highway patrol-95% (42 of 44).

Imputations for number of pursuits

When an agency did not provide the number of pursuits conducted during 2012, a ratio imputation method was used. The ratio imputation used the value of the ratio of the number of pursuits reported to the number of full-time sworn personnel employed for agencies that provided pursuits data. This ratio was computed for each population category and applied to the number of full-time personnel in agencies with the missing data to produce the imputed value.

To produce national estimates for the number of pursuits conducted by state and local law enforcement agencies, adjustments were made specific to each stratum in the LEMAS sample. The example below provides a step-by-step example of how these adjustments were calculated.

Pursuit count calculations for stratum 103 (local police departments employing 25 to 49 officers)

Step 1–Determine the number of officers employed by agencies in the following groups:

- a. Reported 1 or more pursuits-37,500
- b. Reported 0 pursuits-9,988
- c. Did not report the number of pursuits-7,352

Step 2–For agencies that reported the number of pursuits, determine the ratio of officers employed by agencies that had one or more pursuits to the total number of officers employed by agencies that reported pursuit data (whether they had any pursuits or not).

$$37,500 / (37,500 + 9,988) = 0.79$$

Step 3–Multiply the ratio produced in Step 2 by the number of officers employed by agencies that did not report the number of pursuits.

$$0.79 \times 7,352 = 5,806$$

Step 4–Determine the total number of pursuits reported by agencies that provided pursuit data. Calculate the ratio of this number to the number of sworn officers employed by these agencies.

Step 5–Multiply the ratio obtained in Step 4 by the number of officers obtained in Step 3.

$$0.1324 \times 5,806 = 768$$

Step 6–Add the number of reported pursuits from Step 4 to the estimated number of unreported pursuits from Step 5 to obtain the new adjusted estimate for the number of pursuits conducted by agencies in stratum 103.

$$4,963 + 768 = 5,732$$

Step 7–Divide the new adjusted number of pursuits obtained in Step 6 by the original number of pursuits from Step 4.

Step 8–Multiply the pursuit count adjustment factor from Step 7 by the original final analytical file weight for stratum 103 to obtain the weight to be used for estimating the number of pursuits conducted by agencies in stratum 103.

$$1.155 \times 4.745 = 5.480$$

Accuracy of the estimates

The accuracy of the estimates presented in this report depends on two types of error: sampling and nonsampling. Sampling error is the variation that may occur by chance because a sample was used rather than a complete enumeration of the population. Nonsampling 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. In any survey, the full extent of the nonsampling error is never known.

The sampling error, as measured by an estimated standard error, varies by the size of the estimate and size of the base population. Because LEMAS data were collected from a sample, the results are subject to sampling error. Variance and standard error estimates for the 2013 LEMAS were generated using the SUDAAN statistical software package. The Taylor Series method for a "stratified without replacement" design was used for these calculations. See appendix tables for standard error estimates.

Standard error estimates may be used to construct confidence intervals around percentages in this report. For example, the 95% confidence interval around the percentage of local police departments serving fewer than 10,000 residents with a discretionary vehicle pursuit policy was $14\% \pm 1.96 \times 1.6\%$ (approximately 11% to 17%).

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 departments serving fewer than 10,000 residents and those serving 2,500 to 9,999 residents for having a restrictive vehicle pursuit policy was 5.9% (the square root of the sum of the squared standard errors for each group). The 95% confidence interval around the difference would be $1.96 \times 5.9\%$ (or 11.6%). Since the observed difference of 18% (72%–54%) was greater than 11.6%, the difference would be considered statistically significant.

Standard error estimates may also be used to construct confidence intervals around numeric variables, such as personnel counts. For example, the 95% confidence interval around the number of pursuits conducted by local police departments was $40,491 \pm 1.96 \times 920$, or 38,688 to 42,294.

General purpose state and local law enforcement agencies maintaining formal records of vehicle pursuit incidents, 2013

Type of agency and population served	Percent
Local police departments	94%
250,000 or more	99
100,000–249,999	99
50,000-99,999	98
25,000-49,999	98
10,000–24,999	98
9,999 or fewer	92
Sheriffs' offices	93%
250,000 or more	98
100,000–249,999	99
50,000-99,999	85
25,000-49,999	97
10,000–24,999	94
9,999 or fewer	90
State police/highway patrol agencies	100%

Note: See appendix table 2 for standard errors.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

APPENDIX TABLE 2

Standard errors for appendix table 1: General purpose state and local law enforcement agencies maintaining formal records of vehicle pursuit incidents, 2013

Type of agency and population served	Percent
Local police departments	1.0%
250,000 or more	0.4
100,000–249,999	0.3
50,000-99,999	0.6
25,000–49,999	0.8
10,000–24,999	1.0
9,999 or fewer	1.4
Sheriffs' offices	1.1%
250,000 or more	0.6
100,000–249,999	0.4
50,000-99,999	3.7
25,000–49,999	1.4
10,000–24,999	2.0
9,999 or fewer	3.1

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

APPENDIX TABLE 3

General purpose state and local law enforcement agencies with a written foot pursuit policy, 2013

Percent
17%
24
17
18
21
22
15
18%
14
20
14
17
21
18
19%

Note: See appendix table 4 for standard errors.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

APPENDIX TABLE 4

Standard errors for appendix table 3: General purpose state and local law enforcement agencies with a written foot pursuit policy, 2013

Type of agency and population served	Percent	
Local police departments	1.1%	
250,000 or more	1.6	
100,000–249,999	1.3	
50,000–99,999	1.9	
25,000–49,999	2.2	
10,000–24,999	2.1	
9,999 or fewer	1.5	
Sheriffs' offices	1.5%	
250,000 or more	1.6	
100,000-249,999	3.2	
50,000–99,999	3.0	
25,000-49,999	3.2	
10,000–24,999	3.4	
9,999 or fewer	4.0	

Restrictions included in the written foot pursuit policies of general purpose state and local law enforcement agencies, 2013

	Foot pursuit not allowed if—				
Type of agency	Officer is acting alone	Officers lose visual contact with suspect	Officers become separated and cannot immediately assist each other	Officers lose radio contact with dispatch or backup officers	Suspect believed to have firearm
Local police departments	58%	60%	49%	58%	54%
Sheriffs' offices	48	56	45	57	55
State police/highway patrol agencies	38	88	25	38	50
Nata Caraman distable Cfanatan dan	1				

Note: See appendix table 6 for standard errors.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

APPENDIX TABLE 6

Standard errors for appendix table 5: Restrictions included in the written foot pursuit policies of general purpose state and local law enforcement agencies, 2013

			Foot pursuit not allowed if—			
Type of agency	Officer is acting alone	Officers lose visual contact with suspect	Officers become separated and cannot immediately assist each other	Officers lose radio contact with dispatch or backup officers	Suspect believed to have firearm	
Local police departments	3.6%	3.6%	3.6%	3.6%	3.6%	
Sheriffs' offices	4.8	4.7	4.8	4.7	4.7	
Source: Bureau of Justice Statistics, La	aw Enforcement Manageme	ent and Administrative S	statistics survey, 2013.			

APPENDIX TABLE 7

Written foot pursuit policies that encouraged the use of containment tactics, 2013

Type of agency and population served	Percent
Local police departments	69%
250,000 or more	95
100,000–249,999	78
50,000-99,999	85
25,000–49,999	70
10,000–24,999	74
9,999 or fewer	66
Sheriffs' offices	67%
250,000 or more	90
100,000–249,999	76
50,000–99,999	74
25,000–49,999	76
10,000–24,999	64
9,999 or fewer	50
State police/highway patrol agencies	50%

Note: See appendix table 8 for standard errors.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

APPENDIX TABLE 8

Standard errors for appendix table 7: Written foot pursuit policies that encouraged the use of containment tactics, 2013

Type of agency and population served	Percent
Local police departments	3.1%
250,000 or more	1.7
100,000–249,999	2.9
50,000–99,999	4.1
25,000–49,999	5.3
10,000–24,999	4.7
9,999 or fewer	4.7
Sheriffs' offices	4.5%
250,000 or more	3.3
100,000–249,999	7.0
50,000-99,999	10.4
25,000–49,999	8.9
10,000–24,999	8.7
9,999 or fewer	12.5

APPENDIX TABLE 9Pursuit-related fatalities, by state, 1996–2015

Jurisdiction	Total	Occupant of police vehicle	Occupant of chased vehicle	Occupant of other vehicle	Nonoccupant	Pursuit-related fatalities per 100,000 resident
U.S. total	7,090	88	4,637	2,088	277	2.4
Alabama	243	4	184	49	6	5.3
Alaska	15	0	8	6	1	2.2
Arizona	272	0	169	96	7	4.7
Arkansas	98	0	74	21	3	3.5
California	827	8	520	260	39	2.3
Colorado	114	1	83	24	6	2.5
Connecticut	58	1	34	16	7	1.7
Delaware	22	0	15	6	1	2.6
District of Columbia	22	0	11	10	1	3.9
Florida	311	3	195	97		1.7
	369	4			16 7	
Georgia			289	69		4.1
Hawaii	5	0	4	1	0	0.4
daho	20	0	14	6	0	1.4
llinois	244	2	144	80	18	1.9
ndiana	192	7	129	53	3	3.1
owa	39	0	36	3	0	1.3
Kansas	83	0	41	40	2	3.0
Kentucky	80	3	54	20	3	1.9
_ouisiana	132	3	78	47	4	2.9
Maine	36	0	25	11	0	2.7
Maryland	81	2	45	30	4	1.4
Massachusetts	114	0	70	36	8	1.8
Michigan	300	3	183	101	13	3.0
Minnesota	72	0	44	25	3	1.4
Mississippi	39	1	31	6	1	1.3
Missouri	206	6	121	73	6	3.6
Montana	32	1	21	8	2	3.4
Nebraska	29	0	22	6	1	1.6
Nevada	55	1	29	23	2	2.3
New Hampshire	36	0	29	7	0	2.8
New Jersey	113	2	51	48	12	1.3
New Mexico	80	0	43	36	1	4.1
New York	94	2	45	38	9	0.5
North Carolina	240	5	142	91	2	2.8
North Dakota	12	0	7	5	0	1.9
Ohio	231	1	100	116	14	2.0
Oklahoma	123	5	104	13	1	3.5
Oregon	90	1	59	30	0	2.5
Pennsylvania	267	4	194	56	13	2.1
Rhode Island	27	1	18	6	2	2.5
South Carolina	180	2	93	83	2	4.2
South Dakota	35	0	28	6	1	4.5
ennessee	182	5	131	39	7	3.0
exas	762	4	581	144	33	3.3
Jtah	39	0	23	14	2	1.6
/ermont	23	0	12	10	1	3.7
/irginia	178	3	113	59	3	2.3
Washington	102	1	76	20	5	1.6
Vest Virginia	43	1	27	15	0	2.4
Visconsin	100	0	70	27	3	1.8
Vyoming	23	1	18	2	2	4.5

Source: National Highway Traffic Safety Administration, Fatality Analysis Reporting System, 1996–2015.

Base weights, nonresponse adjustment factors, and final analytical weights for local police departments, Law Enforcement Management and Administrative Statistics survey, 2013

_	Number of departments		Base sample	Nonresponse	Final analytical		
Number of full-time sworn personnel	In universe	Sampled	Responded	weight [']	adjustment factor	weight	
Total	12,326	2,327	2,059	~	~	~	
100 or more	659	630	574	1.046	1.095	1.148	
50-99	800	311	284	2.572	1.098	2.817	
25-49	1,542	365	325	4.225	1.123	4.745	
10-24	2,842	454	399	6.260	1.138	7.123	
5–9	2,507	344	289	7.288	1.190	8.675	
2–4	2,630	180	158	14.611	1.139	16.646	
0–1	1,346	43	30	31.302	1.433	44.867	

[~]Not applicable.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

APPENDIX TABLE 11

Base weights, nonresponse adjustment factors, and final analytical weights for sheriffs' offices, Law Enforcement Management and Administrative Statistics survey, 2013

Number of sherif		ımber of sheriffs' offi	ces	_ Base sample	Nonresponse	Final analytical	
Number of full-time officers	In universe	Sampled	Responded	weight	adjustment factor	weight	
Total	3,012	895	717	~	~	~	
100 or more full-time officers	350	333	258	1.051	1.291	1.357	
50-99	322	115	96	2.800	1.198	3.354	
25-49	578	131	118	4.412	1.110	4.898	
10–24	907	165	129	5.497	1.279	7.031	
5–9	565	103	75	5.485	1.373	7.533	
2–4	260	42	36	6.190	1.167	7.222	
1	30	6	5	5.000	1.200	6.000	

[~]Not applicable.

Estimates and standard errors for figure 1: Vehicle pursuits conducted by general purpose state and local law enforcement agencies, 2012

Type of agency	Estimate	Standard error			
Local police departments	40,491	930			
Sheriffs' offices	17,591	715			
State police/highway patrol agencies	9,939	46			
Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics Survey, 2013.					

APPENDIX TABLE 13

Standard errors for table 1: General purpose state and local law enforcement agencies that conducted vehicle pursuits, 2012

Type of agency and population served	Percent that conducted pursuits
Local police departments	1.6%
250,000 or more	0.0
100,000-249,999	0.7
50,000–99,999	0.7
25,000–49,999	2.1
10,000–24,999	2.3
9,999 or fewer	2.1
Sheriffs' offices	2.0%
250,000 or more	3.1
100,000–249,999	4.2
50,000-99,999	4.5
25,000–49,999	4.2
10,000–24,999	4.3
9,999 or fewer	5.1

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

APPENDIX TABLE 14

Standard errors for table 2: Vehicle pursuits conducted by general purpose state and local law enforcement agencies, 2012

Type of agency and population served	Number of pursuits	Average number of pursuits per agency*
Local police departments	930	0.1
250,000 or more	412	4.0
100,000-249,999	254	1.2
50,000-99,999	286	0.7
25,000-49,999	297	0.4
10,000–24,999	501	0.3
9,999 or fewer	607	0.1
Sheriffs' offices	715	0.3
250,000 or more	437	2.3
100,000-249,999	253	1.0
50,000-99,999	354	1.1
25,000-49,999	339	0.7
10,000–24,999	360	0.6
9,999 or fewer	129	0.5

^{*}Excludes agencies that did not conduct any pursuits.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

APPENDIX TABLE 15

Standard errors for table 3: Vehicle pursuit rates for general purpose state and local law enforcement agencies, 2012

	Number of vehicle pursuits per—			
Type of agency and population served	100 sworn officers	100,000 residents	100 marked vehicles	
Local police departments	0.2	0.4	0.4	
250,000 or more	0.2	0.5	0.6	
100,000-249,999	0.4	0.8	0.8	
50,000-99,999	0.6	0.9	1.0	
25,000-49,999	0.6	1.0	1.1	
10,000-24,999	0.8	1.6	1.6	
9,999 or fewer	0.8	2.3	1.5	
Sheriffs' offices	0.4	0.3	0.6	
250,000 or more	0.5	0.3	0.9	
100,000-249,999	0.7	0.6	1.1	
50,000-99,999	1.5	1.2	2.2	
25,000-49,999	1.5	1.6	2.3	
10,000-24,999	2.3	2.5	3.3	
9,999 or fewer	2.3	3.7	3.2	

Estimates and standard errors for figure 2: Vehicle pursuits conducted per 100 officers employed in local law enforcement agencies, by size of population served, 2012

Population served	Estimate	Standard error
250,000 or more	5†	0.2
100,000-249,999	9†	0.4
50,000-99,999	11 †	0.6
25,000-49,999	10 †	0.6
10,000-24,999	12 ‡	0.8
9,999 or fewer*	15	0.8

^{*}Comparison group.

APPENDIX TABLE 17

Standard errors for table 4: Written vehicle pursuit policies of general purpose state and local law enforcement agencies, 2013

	Written policy					
Type of agency and population served	Permitted, officer discretion	Permitted, restricted by criteria	Permitted, subject to supervisory approval/review	Discouraged	Prohibited	No written policy
Local police departments	1.1%	1.5%	0.9%	0.5%	0.5%	0.8%
250,000 or more	1.0	1.4	1.0	0.4	0.0	0.0
100,000-249,999	0.8	1.0	0.6	0.0	0.0	0.0
50,000-99,999	1.7	1.9	1.1	0.0	0.1	0.0
25,000-49,999	1.5	2.1	1.5	0.8	0.6	0.0
10,000-24,999	1.3	2.0	1.4	0.6	0.8	0.2
9,999 or fewer	1.6	2.0	1.2	0.8	0.7	1.1
Sheriffs' offices	1.5%	2.0%	1.4%	0.6%	0.4%	0.9%
250,000 or more	1.8	2.7	1.3	2.1	0.5	0.3
100,000-249,999	2.4	3.4	2.5	0.3	0.0	1.0
50,000-99,999	3.5	4.6	3.8	1.1	1.1	1.9
25,000-49,999	3.9	4.3	2.5	0.7	1.3	1.3
10,000-24,999	3.0	4.1	2.9	1.4	0.9	1.9
9,999 or fewer	4.0	5.2	3.6	1.8	0.0	3.1

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

APPENDIX TABLE 18

Standard errors for table 5: Sworn personnel employed by general purpose state and local law enforcement agencies, by type of written vehicle pursuit policy, 2013

Type of policy	Local police departments	Sheriffs' offices
Type of policy	departments	Siletilis Offices
Permitted, restricted by criteria	0.8%	1.6%
Permitted, officer discretion	0.5	1.1
Permitted, subject to supervisory		
approval/review	0.5	1.1
Discouraged	0.2	0.2
Prohibited	0.1	0.2
No written policy	0.1	0.3

[†]Significant difference from comparison group at 95% confidence level.

[‡]Significant difference from comparison group at 90% confidence level. Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

Estimates and standard errors for figure 3: Distribution of sworn personnel in general purpose state and local law enforcement agencies, by type of written pursuit policy, 1997 and 2013

	1997*		2013	
Type of policy	Percent	Standard error	Percent	Standard error
Permitted, restricted by criteria	72%	0.7%	78% †	0.7%
Permitted, officer discretion	17	0.7	11†	0.4
Permitted, subject to supervisory approval/review	2	0.1	9†	0.4
Discouraged	5	0.6	1†	0.1
No written policy	3	0.5	†	0.1
Prohibited		0.1		0.1

Note: Type of policy as of January 1, 2013.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 1997 and 2013.

APPENDIX TABLE 20

Standard errors for table 6: Pursuits conducted by general purpose state and local law enforcement agencies, by type of written pursuit policy, 2012

	Percent of agencies with at least one	Number of pursuits	
Type of policy	pursuit	Total	Average
Permitted, restricted by criteria	1.6%	1,039.3	0.2
Permitted, officer discretion	4.3	480.6	0.4
Permitted, subject to supervisory approval/review	4.5	539.3	0.6
No written policy	11.9	158.7	0.9
Discouraged or prohibited	4.7	49.5	0.5

Note: Type of policy as of January 1, 2013.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

APPENDIX TABLE 21

Estimates and standard errors for figure 4: Vehicle pursuits conducted by general purpose state and local law enforcement agencies per 100 sworn personnel employed, by type of pursuit policy, 2012

Type of policy	Estimate	Standard error
Permitted, officer discretion*	17	0.6
Permitted, subject to supervisory approval/review	11†	0.8
Permitted, restricted by criteria	8†	0.2
Discouraged or prohibited	2†	0.5

Note: Type of policy as of January 1, 2013.

†Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics survey, 2013.

^{*}Comparison group.

[†]Significant difference between 1997 and 2013 at 95% confidence level.

⁻⁻Less than 0.5%.

^{*}Comparison group.



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 and valid 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. Jeri M. Mulrow is acting director.

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