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# **System Analysis of Automated Speed Enforcement Implementation**

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<b>16. Abstract</b> <p>Speeding is a major factor in a large proportion of traffic crashes, injuries, and fatalities in the United States. Automated Speed Enforcement (ASE) is one of many approaches shown to be effective in reducing speeding violations and crashes. However, despite the effectiveness of ASE, opposition to automated enforcement can make it difficult to establish and maintain these programs. In 2008 NHTSA and the Federal Highway Administration published the <i>Speed Enforcement Camera Systems Operational Guidelines</i> to assist State and local agencies in planing and operating ASE systems as a component of comprehensive speed management programs.</p> <p>Data on currently operating and recently discontinued ASE programs in the United States were collected over a 6-month period through questionnaires, phone calls, e-mails, and site visits. The programs were compared to critical elements of the <i>NHTSA Guidelines</i>. Although 63 percent of the respondents were not aware of the <i>NHTSA Guidelines</i>, the programs were consistent with the guidelines on many specific issues. Enabling legislation and technologies varied greatly by State and by agency, and appeared to have large effects on how programs were operated. There were also striking differences in ASE program administration between States implementing ASE prior to 2008, when the <i>NHTSA Guidelines</i> were published, and those beginning more recently.</p>			
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## **I. Executive Summary**

Speeding is a major factor in a large proportion of traffic crashes, injuries, and fatalities in the United States. The National Highway Traffic Safety Administration provides critical guidance for State and local agencies attempting to reduce these speeding-related crashes. A number of studies have shown Automated Speed Enforcement (ASE) to be highly effective in reducing speeding violations and crashes. However, despite the effectiveness of ASE, opposition to automated enforcement can make it difficult to establish and maintain a program. While many jurisdictions are considering, or have recently started ASE programs, other jurisdictions are considering terminating existing programs or have recently done so. Achieving a better understanding of factors associated with sustained and terminated ASE programs will help jurisdictions develop more efficient and effective ASE programs.

In 2008 NHTSA and the Federal Highway Administration co-published guidelines titled *Speed Enforcement Camera Systems Operational Guidelines* (hereafter referred to as the *NHTSA Guidelines*), to assist State and local agencies plan and operate ASE systems as a component of comprehensive speed management programs. Prior to the current study, there has been no systematic documentation regarding the various ways in which ASE programs in the United States have been developed, or the extent to which implementation of these programs reflect key elements of the *NHTSA Guidelines*.

This study focused on the protocols used by ASE agencies in the United States for deploying a program, implementation practices, public perceptions of fairness, and the nature of communication by communities regarding any positive outcomes of ASE operations. The specific objectives of this study were to: (1) evaluate existing automated speed enforcement programs, (2) determine collectively how aligned these programs were with NHTSA's guidelines, (3) examine how other factors impact ASE programs, and (4) assess whether adherence or lack of adherence to the *NHTSA Guidelines*, as well as other factors, are related to program effectiveness.

This report does not compare specific ASE jurisdictions to each other, nor does it compare individual program's practices to those outlined in the *NHTSA Guidelines*. The results are reported in aggregate and apply only to the programs that chose to participate in the study.

## **Methods**

Data were collected over a six-month period ending March 2012 on all currently operating and recently discontinued ASE programs in the United States that could be identified. We identified 107 agencies that were currently operating or had recently discontinued ASE programs at the time of our survey. Ninety of these agencies (84%) responded to our questionnaire.

The research team used the questionnaire, combined with follow-up email and telephone interviews, to collect descriptive information in five areas: (1) general considerations and planning; (2) program startup/implementation; (3) operations; (4) violation processing, delivery, and adjudication; and (5) program evaluation.

The questionnaires were sent to ASE agencies in 12 States and the District of Columbia,<sup>1</sup> the known respondent universe of ASE programs at the time the questionnaires were distributed. Separate but very similar questionnaires were developed for those agencies with current ASE programs and those agencies that had recently discontinued ASE programs. It was ultimately determined that, of the 90 ASE agencies that responded to the questionnaire, 35 of those agencies had implemented their ASE programs prior to the publication of the *NHTSA Guidelines* in March 2008 and 55 agencies had implemented their ASE programs about the time of or after that publication date.

## **Findings and Discussion**

### Alignment With *NHTSA Guidelines*

The research team examined how the experience and practices of the ASE programs compared with important provisions of the *NHTSA Guidelines*. In other words, how closely did programs align with key features of the *NHTSA Guidelines* regarding the development and operation of their programs? Although 63 percent of the respondents were not aware of the *NHTSA Guidelines*, there was still alignment on many provisions. Results varied with low alignment on some specific *NHTSA Guidelines* and nearly complete alignment on others.

One NHTSA Guideline provision that was not followed by many agencies was the recommendation to form a stakeholder group to guide program development. Very few programs (27%) reported forming stakeholder groups to incorporate community input during ASE implementation. Given the controversial nature of ASE, stakeholder groups can help ensure good program design, and garner public support.

The *NHTSA Guidelines* call for a combination of fines and license sanctions for ASE violations and positive identification of the driver. These provisions provide consistency with traditional enforcement penalties and requirements. Few programs include these provisions, with only 23 percent combining fines and license sanctions and only 32 percent requiring positive identification of drivers.

The *NHTSA Guidelines* recommend that the duration of mobile enforcement shifts correspond to the span of time when speeding is most problematic at a given site. However, in light of changes in ASE technology that allow for unstaffed mobile operations, and the widespread adoption of this approach, agencies routinely leave ASE equipment deployed and in operation for much longer time periods, with an average of 13 hours per day on weekdays and 7 to 8 hours per day on weekends.

A Guideline provision with medium alignment is evaluating the impact of ASE on crashes – the ultimate measure of program effectiveness. Fifty percent of agencies said they had conducted or planned to conduct crash evaluations.

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<sup>1</sup> During the field period of the study, in 2012, we found 107 agencies using ASE in 12 States and the District of Columbia. As of February 2015, this had increased to 137 agencies in 15 States and the District of Columbia.

### Effect of Legislation and Technology

Enabling legislation and the technologies used varied greatly by State and by agency, and appeared to have large effects on how programs were operated. For example, States with enabling legislation that allows them to cite vehicle owners instead of drivers typically collect less evidence as a basis to issue a citation (e.g., no photograph of the driver is needed). Similarly, agencies that use primarily fixed systems consider the duration of enforcement and rotation schedules differently than those that primarily use mobile systems.

### Implementation Year and ASE Program Characteristics

There were striking differences in ASE program administration between States implementing ASE prior to 2008 and those beginning more recently. Arizona, Colorado, and Oregon, with the oldest ASE programs in the United States, are different from other States in key areas. These differences do not appear to be related to the issuance of *NHTSA Guidelines* but instead are based on other factors such as technologies used, program duration, and State laws.

### Unstaffed ASE Mobile Units and ASE Equipped Trailers

Until recently, mobile ASE units have nearly always been vans or patrol vehicles, staffed with ASE agency or vendor personnel. In some States, staffing mobile ASE units is a legal requirement. In some other States where this is not a legal requirement, practices appear to be changing in favor of remotely monitored mobile units.

ASE equipped trailers have been introduced in several States over the past few years. Trailers are deployed for operation and remotely monitored from the ASE agency or an ASE vendor control center. ASE agencies in five States reported using ASE equipped trailers. The number reported may actually be higher as agencies were only asked directly about trailers during questionnaire follow-up and not all agencies responded to the follow-up process.

### Limitations of the Study

As with all research, this retrospective study of ASE programs has some limitations. One limitation is that the person who completed the questionnaire may not have been involved in the initial development and implementation of the ASE program, a major focus of the study. Another potential limitation is that not all eligible ASE programs participated. A related limitation with unknown impact is that the research team may have not identified some current or discontinued ASE programs and did not include them in this assessment as a result.

## II. Introduction

The Speed Management program at the U.S. Department of Transportation plays a crucial role in providing guidance for State and local governments in designing and applying balanced and effective measures to reduce speeding behavior and speeding-related crashes. Speeding is a complex problem, involving the interaction of many factors including public attitudes, road user behavior, vehicle performance, roadway design and characteristics, posted speed limits, and enforcement strategies. An interdisciplinary approach involving engineering, enforcement, and education is needed to reduce speeding-related crashes, fatalities, and injuries.

This project focused on Automated Speed Enforcement, a countermeasure that has demonstrated effectiveness in reducing speeding and crashes. ASE is growing in use and importance; however, there is often controversy surrounding ASE programs. Many jurisdictions are considering, or have recently started ASE programs. At the same time, other jurisdictions are considering shutting down existing programs or have recently done so. This study is the first in-depth census of ASE programs in the United States. This project attempts to answer questions about ASE that are currently being debated across the country. Its focus is on the range of practices and procedures used by ASE programs.

This report describes the various ways ASE programs have been planned and developed, how they operate, including how violations are processed, and the extent to which they conform to the NHTSA/FHWA guidance provided in *Speed Enforcement Camera Systems Operational Guidelines* (FHWA & NHTSA, 2008). The report provides new information about ongoing ASE programs in the United States as well as programs that have recently been discontinued.

While the information presented here cannot be generalized to all U.S. ASE programs, 90 of the identified 107 programs have provided information for this report, thus the report covers a wide range of ASE practices and procedures. It is hoped that the information provided in this report will help State and local officials develop effective programs in order to reduce crashes, injuries, and deaths.

This report does not compare specific ASE jurisdictions to each other, nor does it compare individual program's practices to those outlined in the *NHTSA Guidelines*. The results are reported in aggregate and apply only to the programs that chose to participate in the study.

### **III. Background**

Speeding is a major factor in a large proportion of traffic crashes, injuries, and fatalities. Driver violations of speed limits and traffic control devices are major contributing factors to motor vehicle crashes (Shinar, 2007; Retting, Williams, Preusser, & Weinstein, 1995). In addition to the recognized role of excessive speed as a causal factor, travel speed and impact speed significantly influence crash severity and injury outcomes (Joksch, 1993). In 2013, speeding was a contributing factor in 29 percent of motor vehicle fatalities in the United States, resulting in 9,513 lives lost (NHTSA, 2015). NHTSA estimated that the economic cost of speed-related crashes in 2010 was \$52 billion and the comprehensive cost was \$203 billion (Blincoe, Miller, Zaloshnja, & Lawrence, 2015).

A great many enforcement strategies are in use to combat speeding. Automated Speed Enforcement is one important approach increasingly being used in the United States. A number of studies have shown the use of speed cameras to be highly effective in reducing excessive traffic speeds (Decina, Thomas, Srinivasan, & Staplin, 2007; Retting et al., 2008) and crashes (Pilkington & Kinra, 2005; Wilson, Willis, Hendrikz, & Bellamy, 2006). However, despite the effectiveness of speed cameras, it can be difficult to garner the high levels of public acceptance needed to establish and maintain these programs.

Automated enforcement technology is widely used in U.S. communities to supplement traditional traffic enforcement methods. Red light cameras are the most used form of automated traffic enforcement in the United States, with the first such application implemented in New York City in 1991 (City of New York, 1991). However, speed cameras actually preceded the use of red light cameras in the United States, with the first sustained use implemented in 1987 in Paradise Valley, AZ (Freedman, Williams, & Lund, 1990).

The acceptance of red light camera programs has recently begun contracting nationwide, going from 556 communities in 25 States and the District of Columbia permitting their use in 2012 (IIHS, 2012) to 442 communities in 23 States and the District of Columbia in 2015 (IIHS, 2015). In contrast, use of ASE has continued to grow, albeit, slowly. In the summer of 2012, approximately 111 communities in 13 States and the District of Columbia were using ASE (IIHS, 2012a). In September 2015, there were 138 communities in 15 States and the District of Columbia with ASEs.

Note: When this study began, in October 2011, we identified 107 communities with current ASE programs or recently discontinued ASE programs in 12 States and the District of Columbia. We were only able to survey these 107 ASE programs. Our survey results are provided in this report.

#### **Effectiveness of ASE**

In terms of crash effects, U.S. speed camera programs have been subject to limited evaluations. One study, a before-after evaluation of a 9-month pilot test of fixed-cameras along an 8-mile stretch of urban freeway in Scottsdale found a 63 percent reduction in single-vehicle crashes, a 48 percent reduction in sideswipe (same direction) crashes, a 26 percent reduction in rear-end

crashes, and an overall 54 percent reduction in crashes (Washington, Shin, K, & van Schalkwyk, 2007). In another study, a before-after evaluation of mobile automated speed enforcement (ASE) on five targeted corridors in Charlotte, NC, estimated an overall 15 percent reduction in crashes (Cunningham, Hummer, & Moon, 2008). A recent study examining the ASE program in Montgomery County, Maryland found, seven and a half years after the program started, a 10 percent reduction in average speeds and a 59 percent reduction in the likelihood of vehicles traveling over 10 mph as ASE sites. There was also a 39 percent reduction in the likelihood crashes resulted in “incapacitating or fatal injury” (Hu & McCartt, 2015).

Crash effects have been the subject of considerable research outside the United States, as summarized in systematic reviews of international literature. A 2005 review analyzed data from 14 studies and found crash reductions in the immediate vicinities of camera sites ranging from 5 to 69 percent for all crashes, 12 to 65 percent for injury crashes, and 17 to 71 percent for fatal crashes (Pilkington & Kinra, 2005). A review published by the Cochrane Collaboration analyzed data from 21 studies and found reductions ranging from 14 to 72 percent for all crashes, 8 to 46 percent for injury crashes, and 40 to 45 percent for fatal/serious injury crashes (Wilson, Willis, Hendrikz, & Bellamy, 2006). A 2007 NHTSA-sponsored review of 13 published studies reported injury crash reductions of 20 to 25 percent for fixed speed cameras and 21 to 51 percent for mobile cameras (Decina, Thomas, Srinivasan, & Staplin, 2007).

### **Public Awareness and Opinion**

Public opinions and attitudes regarding U.S. automated enforcement programs have also been the subject of formal evaluations. These evaluations generally show a majority of drivers support the use of automated enforcement. The first such formal study assessed public opinion regarding speed cameras in Paradise Valley, AZ, and Pasadena, CA (Freedman, Williams, & Lund, 1990). In both communities, 62 percent of drivers approved of automated speed enforcement. In Washington, DC, and Montgomery County, MD, where combinations of fixed and mobile speed cameras were in use, the proportions of drivers in favor of speed cameras were 51 percent and 62 percent, respectively (Retting & Farmer, 2003; Retting Retting, Farmer, & McCartt, 2008b). In Scottsdale 77 percent of drivers surveyed supported the use of speed cameras on an urban freeway several months after the speed camera program became operational (Retting, Kyrychenko, & McCartt, 2008a). In surveys where Scottsdale drivers were asked whether they support or oppose the use of photo radar and red light cameras, 77 percent said they were in support (Roberts & Brown-Esplain, 2005).

Despite evidence of the effectiveness of ASE programs and findings from formal public opinion surveys showing sizable levels of public support, automated enforcement programs remain controversial and often are portrayed as being extremely unpopular by the news media and opponents of automated enforcement. Opposition to ASE from a vocal minority can sometimes prevent camera programs from being implemented or cause existing programs to be terminated. Based on experiences around the world, there are some common themes in what generates the most controversy, often related to fine revenues, fairness, speeding not being perceived as a safety problem, and privacy (Delaney, Ward, & Cameron, 2005).

A major factor that can affect public perceptions and attitudes toward automated traffic enforcement is the way in which these programs are implemented. A well-designed implementation plan can maximize opportunities to garner community support and raise public awareness of the reasons for deploying ASE, while poorly implemented programs can generate negative public reactions and harsh media attention right from the start, potentially leading to program termination.

Many factors in ASE development and delivery are thought to affect the level of public acceptance and the success of speed camera programs. These factors include:

- Having specific target sites for the ASE (school zones, work zones, etc.),
- Program funding and use of any excess revenue,
- Nature of citations issued (citing vehicle owner vs. driver),
- Type of citation review (e.g., police officer, vendor),
- Penalties for violations (level of fines, points on license, etc.),
- Presence of other automated enforcement technology in the jurisdiction (i.e., red light cameras),
- Level of traditional speed enforcement,
- Existence and results of program evaluations,
- Media reports and level of media exposure, and
- Public perception of the program.

### **Legal/Legislative Issues**

Clear legal authority is essential for ASE programs. By ruling that automated enforcement is consistent with U.S. and State Constitutions (Kendall, 2004), courts in many States have consistently rejected challenges that critics of automated enforcement have raised including due process, equal protection, fourth amendment, fifth amendment, and privacy issues.

In some States, specific enabling legislation is required to allow the use of ASE. In other States, ASE programs have been implemented under existing laws, though in some cases challenges may arise if the original intent of the law did not include ASE. For example, Arizona has long had enabling legislation governing ASE operations, while Ohio has sustained ASE operations nearly as long as Arizona with no such ASE-specific enabling legislation. Whether or not enabling legislation is needed appears to depend on each State's specific legislative language regarding speed enforcement, often interpreted at the State Supreme Court level. It should be noted that eight States<sup>2</sup> (IIHS, 2015) expressly prohibit all ASE operations, through legislation, administrative action, or State Supreme Court rulings, at this time.

When enabling legislation is present, it often restricts ASE operations to school zones, lower speed residential areas, or highway construction zones. Only Arizona, the District of Columbia and Oregon permit ASE operations on any type of roadway anywhere in the State. Traditional speed penalties often include recording speed convictions on the driver's record with associated "points," access to records by insurance companies for the purposes of rate setting, mandated

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<sup>2</sup> The eight States are Maine, Mississippi, New Hampshire, New Jersey, South Carolina, Texas, West Virginia, and Wisconsin.

remedial driver training, and civil fines. Of the 12 States and the District of Columbia reported on in this study and now using ASE, only two States (Arizona and Oregon) apply the same penalties to an ASE violation as they do for traditional violations issued by a police officer for speeding. In the remaining 10 States and the District of Columbia, the typical penalty for an ASE violation is a civil fine.

### **The NHTSA Guidelines**

In 2008, NHTSA and FHWA co-published guidelines, *Speed Enforcement Camera Systems Operational Guidelines*, to assist State and local agencies in planning and operating ASE systems as a component of comprehensive speed management programs. The foreword to the *NHTSA Guidelines* states that, “Automated speed enforcement systems are an important element in speed management and can be a very effective countermeasure to prevent speeding-related crashes. **However, when used, ASE is a supplement to, not a replacement for, traditional enforcement operations.**”

This study examines how and where ASE programs are implemented around the United States and to what degree ASE may be integrated with the deployment of other, more traditional, speed enforcement countermeasures. Prior to this study, there has been no systematic documentation regarding the various ways in which speed cameras programs have been developed in the United States.

### **Objectives**

This report explores how ASE programs have been developed in the United States, the different ways in which they are operated, and how and why some programs have been discontinued. This study focuses on the protocols used by ASE agencies in the United States for deploying cameras, implementation practices, public perceptions of fairness, and the nature of communication by communities regarding any positive outcomes of ASE operations.

The specific objectives of this study were to:

1. Examine existing automated speed enforcement programs in the United States,
2. Determine collectively how aligned these programs are (or were for discontinued programs) with NHTSA’s guidelines,
3. Examine how other factors affected the programs, and
4. Assess whether adherence or lack of adherence to the NHTSA guidelines, as well as other factors, were related to program effectiveness.

## **IV. Methodology**

To accomplish the objectives of the project, the research team used a mail-based data collection methodology with follow-up data collection using mail, emails, telephone calls, and site visits designed to maximize response rates.

### **Overview of Data Collection**

The project involved a systematic analysis of data from a large number of jurisdictions. Some of the challenges to this data collection included the large number of ASE programs that had to be reviewed as part of this project, the variety of implementation and programmatic data collected, and the range of agency types (e.g., enforcement, engineering, administrative) responsible for ASE programs contacted.

To facilitate the collection of the data, members of the research team contacted senior management at the three largest ASE vendor companies in the United States – Redflex Traffic Systems and American Traffic Solutions, Inc. (ATS), headquartered in Arizona, and ACS, now a subsidiary of Xerox Corporation, located in Maryland. Together, these companies provide ASE technology and support for approximately 80 percent to 90 percent of all U.S. law enforcement agencies that use ASE. The purpose of these meetings was to foster understanding of study objectives and identify any useful information the vendors might be able to provide to support the data collection.

### **Identify and document all U.S. jurisdictions using speed cameras for ASE**

The research team established a list of State and local jurisdictions that currently use, or have recently used, ASE. It should be noted that this list nearly doubled in size as the team located previously unknown ASE programs and as many new ASE programs came on line over the course of the project. The Insurance Institute for Highway Safety website (IIHS, 2012) on speed enforcement was a valuable resource to the research team in identifying and updating ASE programs for inclusion in this project. Another source of information included contacts with the major ASE vendors. The team appreciates the level of cooperation offered by these vendors in identifying and/or confirming ASE programs around the United States. Finally, the research team conducted an internet search confirmation to establish, to the extent possible, that the list of current and discontinued ASE agencies was valid and to obtain appropriate contact information. This detailed database of U.S. jurisdictions using, or recently using, ASE formed the foundation for subsequent project tasks that entailed contacting State and local government agencies to obtain data and program information.

### **Collect detailed information on the speed camera programs in these jurisdictions**

The data collection plan emphasized collection of descriptive information and data on the extent to which development and implementation of these programs coincides with current *NHTSA Guidelines*. Program information and data elements collected by the research team include the following:

- Implementation details, including the entity responsible for promoting implementation of ASE in each city/county, what were the Stated goals in implementing ASE (i.e., safety, revenue, etc.), program start date and period of operation; length of time to plan and implement program; pre-enforcement field activities (e.g., evaluation of speed limits); and public outreach strategy;
- Legal basis for program operation, including whether the program involved State-level enabling legislation, local laws, ordinances, and/or attorney general opinions; nature of citations issued (e.g., moving violation or registered owner liability); penalties for violations (e.g., monetary fines, driver license sanctions);
- Operational details, including program size; number and type (e.g., mobile, fixed) of cameras in use; agencies responsible for program management; specific sites targeted for ASE (e.g., residential streets, school zones, work zones); quality control procedures; number of citations issued during the life of a program, including comparison with traditional speed enforcement efforts; program funding; revenue data;
- Other community traffic enforcement efforts, including the use of red light cameras and the level of traditional speed law enforcement;
- Availability and results of any program evaluations, including public opinion surveys, media reports and level of media exposure;
- Awareness of the *NHTSA Guidelines* by agencies, availability during the ASE planning and implementation process, and details on how the *NHTSA Guidelines* were used to implement or modify enforcement programs; and
- Other key variables related to the speed camera programs in these jurisdictions.

Identify and gather information on any existing data and/or databases that may be used to evaluate ASE program effectiveness including existing evaluations

The research team asked participating ASE jurisdictions to identify and provide any existing databases, which might be useful for evaluating the effectiveness of their ASE program in the form of speed evaluations conducted with respect to ASE. The research team collected this speed, volume, and crash data, when provided.

As a part of the program evaluation analysis in Section E of the questionnaire, the research team conducted a technical review and assessment of the quality of relevant data, prior analysis methods, and any findings from previous studies of ASE effectiveness provided by the jurisdictions surveyed. These included both published and unpublished research results, and agency analyses provided as part of the survey process.

Respondent Universe

A total of 107 U.S. jurisdictions with currently active or recently discontinued ASE programs as of October 2011 (91 currently active, 15 discontinued, and 1 agency that had both currently active and discontinued components of their ASE program) were identified for this study.

The list of the 107 identified jurisdictions included in this census is provided in Appendix A. It should be noted that from information obtained during the literature and internet review phases, 115 jurisdictions were identified; however, during the course of the study, the research team determined that 8 of these jurisdictions had not actually launched ASE programs. Consequently, these 8 jurisdictions<sup>3</sup> were dropped from the study.

### **ASE Questionnaire Development**

A primary focus of this study was to determine the degree of consistency between the *NHTSA Guidelines* and the actual practices that jurisdictions are using, or have used. To that end, the *NHTSA Guidelines* served as the principal resource for development of the ASE questionnaire.

A detailed analysis was conducted of the following five sections from the *NHTSA Guidelines*.

- Section A: General Considerations and Planning
- Section B: Program Startup/Implementation
- Section C: Operations
- Section D: Violation Processing, Delivery, and Adjudication
- Section E: Program Evaluation

From this analysis, approximately 170 separate affirmative statements were identified; these statements served as the major source for questionnaire development. These items were prioritized and reduced to a manageable number of core issues that were of special interest to NHTSA. Questionnaires were then developed to collect information on these core ASE issues.

Two versions of a paper-and-pencil questionnaire were used – one for current ASE programs (see Appendix D) and one for discontinued ASE programs (see Appendix E). Six of the 64 questions were unique -- that is 6 of the questions were used only for one questionnaire and not the other. The 6 unique questions were:

#### **Current ASE Questionnaire:**

A3\_C<sup>4</sup>: Has your community reviewed the NHTSA Automated Speed Enforcement Guidelines for possible incorporation into your existing program? (For programs that began before April 2008)

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<sup>3</sup>The 8 jurisdictions that had never implemented ASE programs were Broussard, LA; Blackstone, MA; Frederick County, MD; Missouri Department of Transportation, MO; Dayton, OH; Burien, WA; Bellingham, WA; and Bremerton, WA.

<sup>4</sup> Regarding references to question numbers, there are one or two letters behind the question number to indicate the question was included in the survey of current programs only (e.g., question A3\_C), discontinued programs only (e.g., A2\_D), or both questionnaires (e.g., A1\_CD). The C indicates current programs only, the D indicates discontinued programs only, and CD indicates that both types of programs were asked the question. In Section D, the same question may have been assigned two different question numbers based on whether it is in the current or discontinued questionnaire (e.g. D4/D3\_CD).

A4\_C: Did your community use the NHTSA Automated Speed Enforcement Guidelines in the development and implementation of the ASE program? (For programs that began from April 2008 to date)

D1\_C: In your agency's ASE program, who is responsible for maintaining control and supervision of the violation processing staff? (Please provide contact information).

#### Discontinued ASE Questionnaire:

A2\_D: What year did your community terminate ASE?

A4\_D: If your ASE program was still in operation after April 2008, were the NHTSA Automated Speed Enforcement Guidelines used in any attempts to keep the ASE program going and avoid its termination?

A10\_D: Which of the following factors, if known, played a role in the termination of your community's ASE program? (Please check all that apply)

The remaining 58 questions were used in both questionnaires, with tenses tailored to either current or discontinued programs; the past tense was used in the discontinued ASE questionnaire, whereas the present tense was used in the current ASE questionnaire. A mapping of the current and discontinued ASE question variables is provided in Appendix B. The two questionnaires with cover letters are provided in Appendix D and E. Electronic PDF fillable form versions of the questionnaires were made available to respondents upon request.

In addition to the questions in the questionnaires, jurisdictions were asked to provide supplemental information. This included ASE equipment checklists used for mobile deployments, copies of ASE violation notices, and any relevant evaluations that may have been conducted regarding changes in crash rates, travel speeds, and public acceptance of ASE in the community.

#### Questionnaire Sections

The Current and Discontinued Program questionnaires each had the same five sections. The content of the sections is outlined below.

##### Section A. General Considerations and Planning:

This section consisted of questions pertaining to areas such as:

- ASE program longevity
- The police agency's awareness and use of the *NHTSA Guidelines*
- Community advocacy/relations/planning
- Legal review
- Circumstances of program termination (Discontinued only)

##### Section B. Program Startup/Implementation:

This section consisted of questions pertaining to areas such as:

- Deployment sites (e.g., factors for selection, sites types),
- Community engagement,
- Citations, sanctions, and violations,
- Equipment (e.g., types, ownership, maintenance),
- Records (e.g., ownership, transmission), and
- Public awareness.

#### Section C. Operational Details:

This section consisted of questions pertaining to areas such as:

- Advance notice to public regarding deployment,
- Enforcement thresholds,
- Deployment schedules (e.g., locations, hours, staffing, oversight),
- Equipment (e.g., proper operation, immediate feedback for violators),
- Data usage (e.g., deployment strategy, contested violations), and
- Legal basis for program operations.

#### Section D. Violation processing, delivery and adjudication

This section consisted of questions pertaining to areas such as:

- Violation processing (e.g., oversight, quality control, criteria for issuance, processing time, review),
- Delivery (e.g., non-response follow-up),
- Adjudication (e.g., agency representation), and
- ASE violation statistics (e.g., counts, percentage paid, fine amounts, ASE revenue distributions).

#### Section E. Program evaluation

This section consisted of questions pertaining to areas such as:

- Evaluation of effects of ASE on crashes,
- Evaluation of effects of ASE on traffic speeds,
- Evaluation of public acceptance of ASE, and
- General comments.

Copies of the Current and Discontinued ASE surveys can be found in Appendix D and E, respectively.

### **Additional Methods Details**

#### Institutional Review Board and Office of Management and Budget Review

As required when conducting Federally funded research projects, an Institutional Review Board (IRB) must review the study to ensure human subjects are protected. The study met certain criteria, which made it eligible for an exemption from a full IRB review. The research team

sought and received such an exemption from the Western Institutional Review Board (IRB Approval #296147).

Draft questionnaires and work plans were also submitted to the Office of Management and Budget (OMB). OMB provided input into questionnaire design and research methods, which was incorporated into the project (OMB Control No. 2127-0676).

Questionnaire Pre-Tests

In December 2010 a pre-test of the questionnaire was conducted with officials in two jurisdictions that had current ASE programs. In both cases, the questionnaire took less than 60 minutes to complete. Overall, the respondents felt the questionnaire was thorough, understandable, and easy to navigate. The respondents provided feedback on the questions and the format, and this feedback was incorporated into the revised questionnaires.

Data Collection

Data collection involved contacting jurisdictions in the United States that had either current ASE programs or ASE programs that had been discontinued recently enough to have access to useful information. As shown in Table 1 (below), data collection occurred over approximately a 6-month window beginning in October 2011.

**Table 1. Data Collection Timeline**

	October 2011	November 2011	December 2011	January 2011	February 2011	March 2011
Advance Letter Mailing	█					
Survey Packets Mailing	█					
Database Programming & Testing		█				
Database Entry			█	█	█	█
Follow-up Contact		█				
Second Mailing to Non-Responsive Agencies			█			
Intensive Follow-up Contact			█	█	█	

Advance Letter

Advance letters were mailed to the head of the ASE agency to inform them about the study and provide advance notice of the mailed questionnaire, to establish the legitimacy of the survey and the research team, and request their participation. Slightly different advance letters were sent to currently active and discontinued ASE programs, simply recognizing whether the program was current or discontinued (See Appendix C).

Cover Letter

For the questionnaire mailing, two similar cover letters were created for the Current ASE program and Discontinued ASE program mailings. The cover letters were nearly exact in language and content, with only minor differences to tailor each letter to a discontinued or

currently active ASE program. These cover letters went out under the signature of the Principal Investigator of the research team. Example cover letters can be found in Appendix D and E for the Current and Discontinued ASE programs, respectively.

### Timeline

The procedures for administration of the data collection were as follows:

- The advance letters were sent from NHTSA headquarters to each agency head for the 111 ASE sites originally identified (four more sites were identified and added later).
- Eleven days after the NHTSA letter was mailed to all of the sites, the research team mailed a questionnaire packet to each of the ASE programs. Each questionnaire packet included (1) a cover letter explaining the purpose of the questionnaire, the voluntary nature of the questionnaire, contact information for the research team, and a request for their participation, (2) the questionnaire, and (3) a postage-paid envelope for returning the questionnaire (see Appendix D and E).
- Three weeks after the initial questionnaire packets were mailed out, the research team began making follow-up contacts by telephone with ASE site agencies that had not returned the questionnaire and had not indicated refusal to participate. A PDF fillable form version of the questionnaire was made available upon request during this follow-up.
- Seven weeks after the initial questionnaire packet mailing, a second complete questionnaire packet was mailed to all ASE programs that had not responded.
- One week after the second questionnaire packet was mailed out to non-responders, the research team began an intensive follow-up effort via email, telephone, and site visits to gather data from non-responding sites. This intensive follow-up effort is described in more detail below.
- Over the course of the data collection process, four additional ASE programs were identified that met the study protocols. These programs were sent a questionnaire packet following a schedule similar to the protocols listed above. Together with the 111 original questionnaire packages sent, these comprised the total 115 ASE jurisdictions ultimately contacted. Of those 115 jurisdictions, 107 were ultimately determined to currently have or have had ASE programs and constituted the respondent universe. The other eight jurisdictions were determined to have never implemented their programs and were subsequently not included in further data collection efforts.

As questionnaires were returned, they were examined to determine if there were any missing data. The research team then followed-up with the jurisdictions by email or personal contact, as appropriate. This response validation procedure is discussed in more detail in the next section.

The data collection plan specified that if any agency head indicated they did not want to participate in the information collection, that jurisdiction would be coded as a refusal and removed from the list of ASE programs for follow up. No agency heads refused to participate.

### Intensive Follow-up Contact and Response Validation

Seven weeks after the initial questionnaire packet mailing, the research team began to execute its intensive follow-up effort using follow-up emails, telephone calls and, in a few cases, site visits. That intensive follow-up period extended into late March 2012.

This process worked as follows. Upon the return of the completed questionnaires from the ASE agencies, all agencies merited further follow-up to clarify their responses to some of the questions. Reasons for this follow-up included: unanswered questions, answers that were outside the given answer choices, or agencies belonging to a classification other than what had been recorded a priori by the research team (i.e., an agency needed to be switched from Current to Discontinued, or vice versa).

For those agencies in the sample that did not respond at all, multiple contacts were made to encourage the agencies to respond. Non-responsive agencies were contacted a minimum of three times in addition to the two specific mailings of the ASE questionnaire package. At that point, additional contacts were considered unproductive and further follow-up was not done.

### Response Rates

Surveys were solicited from a total of 107 ASE agencies in 17 States and District of Columbia.<sup>5 6</sup> Survey responses were obtained from agencies in all but one State, which had just one recently Discontinued program. Of the 107 ASE agencies identified, complete questionnaires were received from 90 agencies within the required time frame.<sup>7</sup> Thus, the final response rate is 84 percent (90/107). Follow-up was conducted to clarify responses in 88 of 90 cases. In the other two cases, the surveys were received too late in the fielding period to allow follow-up.

The 107 ASE agencies that comprised respondent universe for this project represent all agencies we were able to locate that had Current or Discontinued ASE programs at the time our data collection began. This report does not include ASE programs that were not yet in operation at the time the initial survey packages were disseminated in October 2011. It was agreed that these emerging ASE programs would not have sufficient experience to respond to the survey in a meaningful manner. Since our analysis, some ASE agencies included in this study may have terminated their programs and other ASE programs have been launched.

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<sup>5</sup> As of October 2011, when this study went into the field, 12 States and the District of Columbia currently had ASE programs in place, and thus were the focus of the study. The research team also identified 5 additional States where ASE was recently used and then discontinued.

<sup>6</sup> Since the October 2011 cutoff date for inclusion in this study, additional ASE programs have been established. As of September 2015, there were 138 communities located in 15 States and the District of Columbia with ASE programs.

<sup>7</sup> One additional survey was received too late to include in the study findings, and thus is not included in the findings or response rate calculation.

Additionally, despite the research team's best efforts, there is no guarantee that the 107 ASE current and discontinued agencies identified in this report constitute the entire population of ASE programs in the United States at the time of our data collection. The research team found no existing nationwide database that absolutely tracks all ASE programs, past or present.<sup>8</sup>

The survey response rate for this effort was very high; particularly considering it was a 20-page questionnaire and included some questions that required research by the respondents. The research team attributes this high response rate to four factors.

First, most agencies were supportive of their ASE programs and wanted to demonstrate that they were conducting them in an open and fair manner. In many cases, the agencies responded in more detail than the survey instrument required. During the many phone and email follow-up contacts, the ASE agency representatives were generally eager to share information on their programs.

Second, while some elements within the survey required the collection of data not immediately available, the majority of the questions could be answered quickly and comprehensively. In addition to a pen and paper version, the research team also made a fillable PDF version of the survey instrument available to respondents, thus accommodating individuals who preferred that format.

Third, it is likely that the advance letter by NHTSA to the ASE agency heads helped boost response rates. That letter preceded the delivery of the ASE questionnaire package and put the agency head on notice that an important survey was on the way.

Finally, the research team implemented a comprehensive and prompt intake process for surveys received, as well as a systematic follow-up regimen for obtaining surveys from non-responding jurisdictions. Staff members, with long histories in law enforcement and ASE, contacted relevant people in the ASE jurisdictions. That follow-up included calls and emails to the agency heads seeking the completion of the survey. It also included a follow-up with the agency representative who completed the survey, asking about omissions and obtaining clarification.

### Database

A customized database was created for data entry. The customization largely focused on the development of data entry forms to ensure the data for the Current and Discontinued ASE programs would be properly allocated to two different data tables. In addition, the customization provided data validation by disallowing a priori invalid answer sequences.

Data entry of completed surveys that had been vetted by the research team began in January and was completed in early April 2012. All data were double entered for the purposes of data validation. That is, data from each survey was entered twice into two distinct copies of the

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<sup>8</sup> After data collection for this project was completed, the research team learned that the following cities in Ohio briefly implemented ASE programs between 2006 and 2010: Garfield Heights, Girard, Lima, and Steubenville. The lifespan of these programs ranged from about 4 months to 1 year.

database by two separate people. Those databases were subsequently compared and differences between the two were examined and reconciled to produce the final dataset.

### Alignment With the NHTSA Guidelines

A major objective of the project was to determine the extent to which ASE programs were aligned with the *NHTSA Guidelines*. To achieve this objective, the research team first identified provisions of the *NHTSA Guidelines* that had clear guidance terms such as "shall," "should," "critical," and "must." Then, working with NHTSA, the team developed survey questions to assess conformance with each of these provisions. It is important to note that provisions of the *NHTSA Guidelines* that were not written with clear guidance recommendations are not included in this analysis.

Each provision was classified as having a very low, low, medium, high, or very high level of alignment based on the percentage of responding programs that were in alignment with each provision, as follows.

- Very low alignment 0 – 19.9
- Low 20 – 39.9
- Medium 40 – 59.9
- High 60 – 79.9
- Very high alignment 80 - 100

### Analysis

The study was designed as a census of all identified automated speed enforcement agencies in the United States, not as a sample of agencies in the United States; however, there was no available comprehensive list of all ASE programs in the United States and some ASE programs may not have been identified prior to data collection and included in the study. Since the report is a census, population estimates are not needed and inferential statistics are not appropriate. While the information presented here cannot be generalized to all U.S. ASE programs, 90 of the identified 107 programs have provided information for this report, thus the report covers a wide range of ASE practices and procedures. Simple descriptive analyses were conducted, such as frequencies, crosstabs, and means (with standard deviation, minimum, and maximum). In addition, for many of the multiple response variables, analyses centered around determining the most common sets of responses, which was accomplished by creating counts for every possible combination of responses, and where appropriate, limiting the listing of combinations to those most frequently selected by agencies. SAS 9.3.1 was used to conduct all analyses. Excel 2010 was used to create the combination answer spaces and calculate the counts.

## V. Results

The questionnaire yielded a large amount of information on the ASE programs. This information is presented by (1) the year the program was launched; (2) whether the program was currently in operation or had been discontinued; and/or (3) State in which the program was implemented.

### Year of ASE Program Implementation

One of the goals of this study was to determine whether, and to what extent, the 2008 *NHTSA Guidelines* impacted the operation of ASE programs. Consequently, ASE programs were split into two groups -- those launched prior to 2008 (35 programs) and those launched from 2008 to 2011 (55 programs). In most cases, tables are presented for the Year of Implementation.

### Current and Discontinued ASE Programs

The study examined both recently discontinued programs and programs in operation at the time of the survey. For the purpose of this report, these programs are characterized as “current” programs. With minor changes to the questionnaire developed for the current ASE programs, the research team was able to collect information regarding when and why discontinued programs were terminated.<sup>9</sup> Fifteen of the 107 ASE programs identified by the research team were discontinued programs. Of the 90 surveys received, 79 were from current programs and 11 were from discontinued programs. The small number of discontinued programs responding to the survey limited the ability to analyze data or draw firm conclusions regarding this group.

### State Location

ASE programs in 17 States and the District of Columbia were invited to participate in the study. The single program in Florida (a discontinued program) did not return a survey, leaving 16 States in the study, plus the District of Columbia.

Some of the multiple response variables were transformed into combination tables in this section. The combination tables allow analysis across multiple responses.

### No Direct Comparisons between ASE programs

It is not the intention of this report to rank or directly compare specific programs. When recruiting ASE programs to participate, agency leaders were told their program would not be ranked or directly compared to any other programs. Therefore, States with fewer than three<sup>10</sup> ASE programs were grouped under the category of “Other States.” The other States category for discontinued programs includes one program each in California, North Carolina, South Carolina,

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<sup>9</sup> The oldest terminated ASE program that the research team identified for this report was San Jose, California, which terminated in 2003.

<sup>10</sup> As it turned out, 5 States and the District of Columbia had only one program and the other States had 3 or more programs. No State had just two programs.

and Texas. The other States category for current programs includes one program in the District of Columbia and one in Illinois.

The following topics in the questionnaire mirror principal topics in the *NHTSA Guidelines*.

- General Considerations and Planning (Section A)
- Program Startup and Operations (Section B)
- Violations Notice Processing and Delivery (Section C)
- Violation Notice Receipt and Adjudication (Section D)
- Program Evaluation (Section E)

This framework was designed to assess the level of alignment between current and discontinued ASE programs and the *NHTSA Guidelines* as well as provide a logical separation of content as reflected in the study questionnaires.

### **General Considerations and ASE Program Planning**

We first examined the planning process leading up to ASE program implementation. This included questions on when ASE programs were first implemented, awareness of the *NHTSA Guidelines*, identification of ASE program advocates, whether pre-implementation legal reviews were conducted, whether the jurisdiction had a strategic plan for wider speed management, and identification of the parties involved in determining ASE site locations. This section of the survey also explored timing and reasons why discontinued programs were terminated.

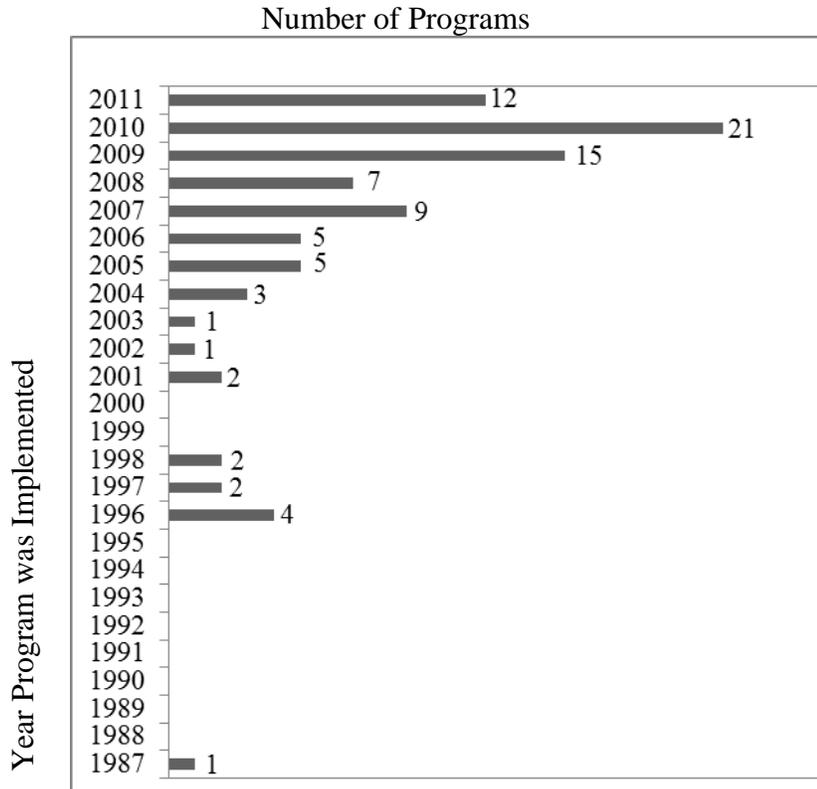
### **Year Automated Speed Enforcement was First Implemented**

All agencies were asked the following question to determine when their programs began, "*What year did your community first implement Automated Speed Enforcement?*" [Question A1] The first ASE program in the United States was launched in Paradise Valley in 1987, and it is still in operation. The next ASE programs that were identified for inclusion in this report were initiated a decade later in 1996 in Arizona, Colorado, and Oregon. Figure 1, shows that few ASE programs began in the 1980s and 1990s, and that the number of jurisdictions with ASE has grown rapidly in recent years.

However, the data shown in Figure 1 must be interpreted with caution since the paucity of programs during the 1980s and 1990s (with no new programs identified from 1988 to 1995) may be due in part to the study's research methods. The charge of this study was to identify current ASE operations as well as recently discontinued ASE programs. "Recently discontinued" was defined as within the last decade (i.e., 2002 onward). Efforts were not directed at identifying and including older discontinued programs due to the high likelihood that good data and contacts with knowledge of these programs would not be available. Therefore, the existence of other, older discontinued programs cannot be ruled out.<sup>11</sup>

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<sup>11</sup> The research team is aware of three programs that were in operation prior to 2002. National City, California briefly operated ASE programs circa 1991. Pasadena, California, and Batavia, Illinois, also briefly operated an ASE program sometime in the 1990's. The research team is not aware of any other programs that may have been in operation, and then discontinued, prior to 2002, but cannot rule out that possibility.



**Figure 1. Year of Automated Speed Enforcement Program Implementation  
(Includes Current and Discontinued programs)**

As displayed in Table 2, the spike in new ASE programs from 2007 to 2011 was from new programs in 3 States -- Maryland (20), Arizona (10), and Washington (8). The introduction of enabling legislation in a large State can cause a spike in the number of programs initiated in a year. Maryland, in particular, has increased significantly the number of ASE programs in the past five years. Arizona, Colorado, and Oregon were the primary ASE States during the early years of ASE in the United States. Of these States, only Arizona has continued to experience any real growth in ASE programs in recent years. (Note that Table 2 includes both current and discontinued programs, in all 90 programs).

**Table 2. Year ASE Program Was First Implemented by State  
(Includes Current and Discontinued Programs)**

Year Program Began	AZ	CO	IA	LA	MD	MO	NM	OH	OR	TN	WA	Other States	Total N
1987	1												1
1988-95													0
1996	2	1							1				4
1997									1			1	2
1998		2											2
1999													0
2000													0
2001								1				1	2
2002									1				1
2003	1												1
2004							1					2	3
2005			1					4					5
2006	3									1		1	5
2007	2			2	3			1		1			9
2008	1				1		1	1		2	1		7
2009	4			2	4			2		1	2		15
2010	1		2		6	4	1	2		1	3	1	21
2011	2	1	1		6						2		12
Total	17	4	4	4	20	4	3	11	3	6	8	6	90

Table 3 presents similar information as is presented in Table 2 except it only includes current ASE programs. Arizona, Colorado, Louisiana, New Mexico, Ohio, and the other States category display lower program totals due to the absence of the discontinued ASE programs in the responses.

**Table 3. Year ASE Program Was First Implemented by State  
(Includes Current Programs Only)**

Year Program Began	AZ	CO	IA	LA	MD	MO	NM	OH	OR	TN	WA	Other States	Total N
1987	1												1
1996	1	1							1				3
1997									1				1
1998		2											2
2001								1				1	2
2002									1				1
2003	1												1
2004												1	1
2005			1					4					5
2006	2									1			3
2007	2			2	3			1		1			9
2008	1				1		1	1		2	1		7
2009	4				4			1		1	2		12
2010	1		2		6	4	1	2		1	3		20
2011	2		1		6						2		11
Total	15	3	4	2	20	4	2	10	3	6	8	2	79

**Awareness of the NHTSA Guidelines**

Respondents were asked if they were aware of the *NHTSA Guidelines* prior to receiving the questionnaire. Respondents of programs that started before 2008, when the *NHTSA Guidelines* were first published, were also asked, "Before you had the opportunity to review this questionnaire, were you aware that the *NHTSA Automated Speed Enforcement (ASE) Guidelines* existed?" [Question A2] As Table 4 shows, 84 of 90 respondents (93%) answered either "yes" or "no" on the Guideline awareness question. The remaining respondents checked "Don't Know" or did not answer the question. Of those responding, 57 (63%) were not aware of the *NHTSA Guidelines* before seeing the questionnaire. This question was directed specifically at the person filling out the questionnaire and does not reflect whether other persons, especially decision makers within or outside of the ASE agency, may have known about the *NHTSA Guidelines*. During the follow-up phase, the research team attempted to determine whether other officials may have known about the *NHTSA Guidelines*. Ten agencies responded with "yes" to the follow-up question, "Are you able to identify an individual associated with the implementation of your

agency's ASE program who may have knowledge of the NHTSA Automated Speed Enforcement Guidelines?"

**Table 4. Awareness of NHTSA Guidelines by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Yes	No	Did Not Answer	Don't Know	Total N of Jurisdictions
1987 to 2007	12 34%	21 60%		2 6%	35
2008 to 2011	15 27%	36 65%	1 2%	3 5%	55
Total	27 30%	57 63%	1 1%	5 6%	90

The distribution of the responses by State is presented in Table 5. The number of respondents that were aware of the *NHTSA Guidelines* was relatively low. Of those that were aware of the *NHTSA Guidelines*, the most were from Maryland (8) though that still represented fewer than half of all ASE agencies responding from Maryland.

**Table 5. Awareness of the NHTSA Guidelines by State  
(Includes Current and Discontinued Programs)**

State	Yes	No	Did Not Answer	Don't Know	Total N of Jurisdictions
AZ	4	11		2	17
CO	1	3			4
IA	2	2			4
LA		3		1	4
MD	8	10	1	1	20
MO	2	1		1	4
NM	1	2			3
OH		11			11
OR	1	2			3
TN	2	4			6
WA	3	5			8
Other States	3	3			6
Total	27 30%	57 63%	1 1%	5 6%	90 100%

## **Incorporation of NHTSA Guidelines Into Existing Programs**

For respondents who were aware of the *NHTSA Guidelines* at the time of the survey, one of the following two questions was posed to determine whether the *NHTSA Guidelines* had been incorporated into their ASE programs.

For programs that began before April 2008, "*Has your community reviewed the NHTSA Automated Speed Enforcement Guidelines for possible incorporation into your existing program?*" [Question A3]<sup>12</sup>

For programs that began from April 2008 to 2011, "*Did your community use the NHTSA Automated Speed Enforcement Guidelines in the development and implementation of the ASE program?*" [Question A4]<sup>13</sup>

Unfortunately, the number of responses on these questions was very low (6 total), and the data gathered were not specific enough to be included. The questionnaire skip patterns and the choice of question wording (i.e., "community" versus "agency") may have contributed to the low response rate. The research team did attempt to follow-up and acquire this information with no success.

## **Primary Responsibility for Advocating for ASE**

ASE programs are cooperative in nature and generally require the input and support of many stakeholders to ensure success. The following question was asked, "*Who was primarily responsible for advocating for the implementation of ASE in your community?*" [Question A5] Table 6 presents the distribution of primary responsibility by year of program implementation. Multiple responses were allowed and among the 85 agencies that provided a response to this question, a total of 138 responses were received. It's also important to understand that the percentages in the table are not the percentages of the number of responses, rather they are the percentage of responses in the particular cell as a proportion of the number of agencies reporting (33 for older programs and 52 for newer programs).

Police departments and city officials were the primary advocates for implementation of ASE in the majority of the jurisdictions. The public and ASE vendors were much less often reported as being involved in advocating for ASE. No notable differences were observed when comparing pre-2008 ASE programs to 2008 to 2011 programs, State-by-State, or Current versus Discontinued.

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<sup>12</sup> Only current ASE programs were asked this question.

<sup>13</sup> Only current ASE programs were asked this question.

**Table 6. Primary Responsibility for Advocating for ASE by Year Program Began  
(Includes Current and Discontinued Programs)**

“Primarily” Responsible Entity	1987 to 2007	2008 to 2011	Total Responses
Police department	22 67%	36 69%	58 68%
City manager/council	9 27%	19 37%	28 33%
Mayor/other elected officials	11 33%	16 31%	27 32%
Public demand	2 6%	5 10%	7 8%
ASE vendor(s)	3 9%	6 12%	9 11%
DOT	6 18%	3 6%	9 11%
Total N of Jurisdictions	33	52	85

(Multiple responses possible so the percentages do not add up to 100)

Table 7 presents the combinations of shared responsibility for advocating for ASE, regardless of the year the program began. Police agencies were the greatest single advocates for ASE. Of the 72 agencies responding to this question, 30 agencies (42%) reported that police departments alone were responsible for advocating for ASE. This was followed by various combinations of entities. ASE vendors were reported as solely responsible for advocating for ASE in just two jurisdictions.

**Table 7. Combinations of Shared Responsibility for Advocating for ASE  
(Includes Current and Discontinued Programs)**

N	Percent	Police department	City manager /council	Mayor/other elected officials	Public demand	ASE vendor(s)
30	42%	X				
9	13%	X	X	X		
7	10%		X			
7	10%			X		
3	4%	X	X	X	X	
3	4%	X				X
2	3%	X	X	X		X
2	3%					X
2	3%	X		X		
2	3%	X			X	
2	3%		X	X		
1	1%		X		X	
1	1%	X	X			X
1	1%	X		X		X
72	100%	Other = 14, Don't Know = 4, Did not answer = 0				

**(Percentages do not add up to 100 due to rounding)**

### **Red Light Camera Enforcement in ASE Communities**

Red light camera enforcement is much more common than speed camera enforcement in the United States. It is important to keep in mind that communities that have red light enforcement only (no ASE) were not included in this survey of ASE programs. We asked, *"In addition to ASE, does your community use automated red light enforcement?"* [Question A6] As Table 8 shows, 62 (69%) of the responding agencies reported their community used automated enforcement for red lights as well as speeding. Twenty-eight jurisdictions (31%) reported having an ASE program without an associated red light camera enforcement program. The percentage of programs including both ASE and red light cameras was higher for older programs (83%) than for more recent programs (60%).

**Table 8. For Communities With Current ASE Programs, Presence of Red Light Camera Enforcement by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	Red Light Cameras	No Red Light Cameras	Total N of Jurisdictions
1987 to 2007	29 83%	6 17%	35
2008 to 2011	33 60%	22 40%	55
Total	62 69%	28 31%	90

When examined on a State-by-State basis, as shown in Table 9, every State represented in the study reported multiple jurisdictions with both ASE and red light camera programs.

**Table 9. Jurisdictions With Both Red Light and ASE Enforcement and ASE Only by State (Includes Current and Discontinued Programs)**

State	Both Red Light and ASE	ASE Only	Total N of Jurisdictions
AZ	12	5	17
CO	4		4
IA	4		4
LA	2	2	4
MD	11	9	20
MO	2	2	4
NM	3		3
OH	7	4	11
OR	3		3
TN	5	1	6
WA	7	1	8
Other States	2	4	6
Total	62	28	90

**Legal Reviews Prior to ASE Program Implementation**

A legal review of relevant laws and court cases is considered a basic element in the planning process for implementing an ASE program. Respondents were asked, "Prior to implementing ASE in your community, was a legal review or opinion provided by a person such as a city attorney or county attorney to clarify issues related to legal authority for use of ASE?" [Question A7] As Table 10 shows, 81 (90%) of the responding agencies reported legal opinions had been sought. The remainder of the responding agencies did not know whether or not a legal review had been sought. No responding agencies reported an ASE program starting without a legal review.

**Table 10. Legal Review Prior to Implementation by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	Legal Review Conducted	Legal Review Not Conducted	Don't Know	Total N of Jurisdictions
1987 to 2007	29 83%		6 17%	35
2008 to 2011	52 95%		3 5%	55
Total	81 90%		9 10%	90

**Existence of a Written Strategic Plan for Speeding**

Strategic speed management plans are an important component in speeding law enforcement. Regardless of whether they have ASE programs, many communities have strategic speed management plans. Responding agencies were asked the following question, "Does your community have a written strategic plan to reduce speeding violations and crashes?" [Question A8] Table 11 shows the distribution of agencies with written speed management plans. One ASE agency did not respond to this question. The table is organized by the year the ASE program began. Slightly over a third (34%) of the agencies reported having speed management plans.

**Table 11. Written Strategic Plan for Speeding by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Have written plan	No written plan	Don't Know	Did Not Answer	Total N of Jurisdictions
1987 to 2007	11 31%	16 46%	8 23%		35
2008 to 2011	20 36%	32 58%	2 4%	1 2%	55
Total	31 34%	48 53%	10 11%	1 1%	90

(Percentages do not add up to 100 due to rounding)

Table 12 indicates that the existence of a strategic speed management plan is likely not driven by State level mandated policies. Some jurisdictions in the same States reported having strategic plans while others in those same States did not.

**Table 12. Written Strategic Plan for Speeding by State  
(Includes Current and Discontinued Programs)**

State	Have written plan	No written plan	Don't Know	Did Not Answer	Total N of Jurisdictions
AZ	5	10	2		17
CO	2	1	1		4
IA	1	2		1	4
LA	1	1	2		4
MD	5	14	1		20
MO	1	3			4
NM		2	1		3
OH	6	4	1		11
OR	1	1	1		3
TN	2	4			6
WA	5	3			8
Other States	2	3	1		6
Total	31	48	10	1	90

## **ASE Location Recommendations**

According to NHTSA guidelines, the location of ASE should be data driven and determined by a number of factors. Locations should have speed-related crash problems and various countermeasures should be considered to determine the most appropriate approach for a given site. Sites should have appropriately set speed limits and the geometry of the roadway should also be conducive to the use of ASE. Recommendations for appropriate ASE locations should involve input from a variety of traffic safety professionals.

To determine what entities provided input on ASE enforcement locations for the responding agencies in this study respondents were asked, "*Who provided the ASE enforcement<sup>14</sup> location recommendations in your community?* [Question A9] Police departments made recommendations for ASE locations in 89% of the jurisdictions. City traffic engineers were involved in 51 percent of the jurisdictions. Vendors (27%) and the public (32%) were also involved in recommending enforcement locations in some of the jurisdictions (Table 13).

When comparing the earlier ASE programs (started from 1987 to 2007) to the newer ASE programs (started 2008-2011), police (91% to 87%) and vendor (26% to 27%) involvement in selecting locations for ASE has remained relatively steady. However, the involvement by traffic engineers (60% to 45%) and the public (40% to 27%) in selecting ASE locations have declined in the newer ASE programs as compared to earlier programs.

**Table 13. ASE Location Recommendations by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Police department		City traffic engineers		ASE Vendor Company		The public		Elected and Appointed Officials <sup>15</sup>		Total N of Jurisdictions
1987 to 2007	32	91%	21	60%	9	26%	14	40%	3	9%	35
2008 to 2011	48	87%	25	45%	15	27%	15	27%	7	13%	55
Total	80	89%	46	51%	24	27%	29	32%	10	11%	90

(Multiple responses possible so the percentages do not add up to 100)

Table 14 shows the combinations of entities involved in location recommendations, excluding the "Elected and Appointed Officials" category. Responding agencies indicated that police departments were solely responsible for recommendations in 27 jurisdictions. Police departments and city traffic engineers worked together to provide recommendations in 15 of the jurisdictions, and in 14 jurisdictions, police, ASE Vendors, and the public were reported as working together on location recommendations. The remaining combinations were less common.

<sup>14</sup> The Research Team recognizes that the term ASE enforcement is redundant (i.e. Automated Speed Enforcement). However, for the purpose of constructing survey questions, it was decided to ignore this redundancy to promote context and clarity.

<sup>15</sup> This category was constructed from "other, specify" responses.

**Table 14. Distribution of ASE Location Recommendations  
(Includes Current and Discontinued Programs)**

N of Jurisdictions	Police department	City traffic engineers	ASE Vendor Company	The public
27	X			
15	X	X		
14	X		X	X
9	X	X	X	X
5	X	X	X	
5	X		X	
4	X			X
3			X	
1	X		X	X
1		X		X
1		X	X	
1		X		
4	.	.	.	.
90	80	46	24	29

### **Discontinued ASE Programs**

In order to gain a more comprehensive understanding of the issues experienced by ASE programs in the United States, we included recently discontinued ASE programs in our survey. In total, 15 agencies with discontinued ASE programs and 1 agency that had both currently active and discontinued components of their ASE program were identified for inclusion in this study. Of these, 11 agencies with discontinued ASE programs responded to our survey.

### **When Were Discontinued Programs Terminated**

In order to determine when ASE programs were terminated we asked, "*What year did your community terminate ASE?*" [Question A2]<sup>16</sup> Table 15 shows when the 11 agencies with discontinued ASE programs that responded to our survey launched and terminated their ASE programs. The agencies with ASE programs that were launched in 2006 or earlier tended to stay in operation for multiple years; however, none of the agencies with discontinued ASE programs that started their ASE programs after 2006 sustained operations for a full year.<sup>17</sup>

<sup>16</sup> Only agencies with recently discontinued ASE programs were asked this question.

<sup>17</sup> As noted previously, there may have been older programs (prior to 2002) that were not identified or included in this study.

**Table 15. Discontinued ASE Programs -Year Launched and Year Discontinued**

	Year Launched	Year Discontinued	# Of Years In Existence <sup>18</sup>
Tempe, AZ	1996	2011	5
San Jose, CA	1997	2003	6
Charlotte-Mecklenburg, NC	2004	2007	3
Albuquerque, NM	2004	2011	7
Arizona, Dept. Public Service	2006	2010	4
Marble Falls, TX	2006	2007	<1
Sulphur, LA	2009	2009	<1
Livingston Parish, LA	2009	2009	<1
Heath, OH	2009	2009	<1
Ridgeland, SC	2010	2011	<1
Colorado Springs, CO	2011	2011	<1

**Factors Involved in the Termination of ASE Programs**

While ASE programs have been increasing in recent years, there are some programs that have been terminated. In order to better understand the factors that support the creation and maintenance of effective ASE programs, it is also important to look at ASE programs that have been terminated and the factors that influenced these terminations.

To this end, we asked the discontinued ASE programs, *"Which of the following factors, if known, played a role in the termination of your community's ASE program?"* [Question A10]<sup>19</sup> Table 16 shows the reported factors that led to program termination for the responding agencies with terminated ASE programs. Decisions by the Mayor, City Council, or other elected leaders were noted by five of the eleven discontinued ASE programs responding to our survey. Four of the discontinued ASE agencies reported "Economics" as one of the reasons for terminating their program. In two of these cases, a review of the responses revealed that the issues went beyond the economic sustainability of running the ASE program. In one case, the economics issue involved parties opposed to ASE filing a lawsuit against the ASE operation because it was in violation of State law requiring the allocation of all ASE revenues to the State's school system. That lawsuit prevailed and the ASE operation was shut down because it was no longer economical to operate. In another case, the agency's red light camera program was terminated due to Mayoral decree, but the ASE program was permitted to continue. However, the contracts

<sup>18</sup>The number of years in existence for some of these programs is imprecise, as the specific month of implementation and termination was not collected. However, the research team did conduct an independent search of the month as well as the year of launch and termination for the ASE agencies shown to have been in operation less than one year. For the older programs, that information was not readily available.

<sup>19</sup> Only agencies with recently discontinued ASE programs were asked this question.

for red light cameras and ASE were integrated, thus the ASE program was also terminated because the ASE vendor could no longer operate at a profit.

Other reasons reported for discontinuing ASE programs included one agency whose ASE program was terminated due to litigation by the vendor. Another agency stated that the Sheriff, an elected official, opted out of the program. One agency cited an "election" as the reason. Another agency cited the possibility of State legislation and a referendum negating their program as the reason their contract was not renewed with the ASE vendor.

Of the 11 discontinued programs that responded to this question, five cited more than one reason for discontinuing ASE, including one agency that cited six reasons for doing so. None of these agencies reported ASE programs being terminated due to inaccuracy of the equipment, faulty maintenance, or other systemic problems.

It should be stressed that, in many cases, the persons responding to this question were mid-level staff for the agencies involved. Their understanding of the reasons for an ASE program's termination may be different than the upper level decision makers actually involved in that termination or the community at large.

**Table 16. Reason for ASE Program Termination**

Decision by Mayor, City Council, or other elected leaders	5
Economics (i.e., not sustainable due to costs of the program)	4
Citizen referendum	3
Litigation against the program	2
Legislative action at the local level	1
Legislative action at the State level	3
Other Reasons	4

## **Program Start Up and Implementation**

In this section, we examine the post-planning phase of ASE and examine programs after they were launched and fully implemented. Important aspects of ASE programs considered include how and what type of ASE sites were chosen, if stakeholder groups were formed, what type of devices (cameras) were used, who owned the cameras and the data, what types of images were captured by the devices, what types of sanction ASE violators faced, and whether the jurisdiction had a warning period prior to levying sanctions. Other areas of interest include information provided to the public on ASE locations, whether public information and education campaigns were conducted, whether engineering studies were done to determine appropriate speed limits, and whether data were encrypted. Also of interest is the relationship between ASE agencies and the courts.

## **Factors Considered in ASE Site Selection**

Specific criteria for the selection of ASE deployment sites may vary from community to community. The research team asked the following question in an open-ended format to determine what criteria are most often used, *"What factors (such as crash data, engineering data, revenue potential, etc.) are used to determine ASE deployment sites in your community?"* [Question B1] Ten major factors were identified as determinants of ASE site deployment for responding agencies. Because multiple factors were provided by many respondents, the number of responses exceeds the number of agencies. As Table 17 shows, the most common factors used by agencies to determine ASE deployment sites were crash data (71%), speed data (52%), and citizen input (37%). Other factors were much less common.

**Table 17. Factors Used to Determine ASE Site Deployments  
(Includes Current and Discontinued Programs)**

<b>Factors</b>	<b>Count</b>	<b>Percent</b>
Crash Data	62	71%
Speed Data	45	52%
Citizen Requests/Complaints	32	37%
School Zones	19	22%
Traffic Volume Data	17	20%
Other Engineering Studies	15	17%
Law Enforcement Recommendation	10	11%
Work Zones	4	5%
Revenue Potential	4	5%
Other	13	15%

(Multiple responses possible so the percentages do not add up to 100)

There were 50 unique combinations of factors involved in choosing ASE sites out of the 90 agencies responding to this question. Table 18 shows the most common factor listed was crash data with nine jurisdictions report considering crash data only. The next most common factor reported was speed data. The remaining factors listed in Table 18 were listed much less frequently.

**Table 18. Frequent Combinations of Factors Considered in Site Deployment  
(Includes Current and Discontinued Programs)**

Number of Jurisdictions	Crash Data	Speed Data	Citizen requests complaints	School Zones	Traffic Volume Data	Other Engineering Studies	Law Enforce Recom.	Work Zones	Revenue Potential	Other
9	X									
7	X	X	X							
4	X	X				X				
4		X								
3	X	X					X			
3	X	X	X	X						
3	X	X								
3				X						

**Stakeholder Group Formed Prior to ASE Implementation**

Community participation in the planning and operation of ASE programs may have an impact on overall program success. We asked the following question, *"When implementing ASE programs, some communities form a committee or task force of stakeholders to increase interagency communication and community support. As part of implementing ASE in your community, was such a stakeholder committee formed?"* [Question B2] As Table 19 shows, just over a quarter (27%) of all responding agencies reported that a stakeholder group had been formed in their community prior to implementation of ASE. Newer programs (2008-2011) had a lower percentage reporting stakeholder groups being formed as compared to older programs (1987-2007).

**Table 19. Stakeholder Group Formation by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Stakeholder Group Formed	No Stakeholder Group Formed	Don't Know	Did Not Answer	Total N of Jurisdictions
1987 to 2007	11 31%	17 49%	6 17%	1 3%	35
2008 to 2011	13 24%	41 75%	1 2%		55
Total	24 27%	58 64%	7 8%	1 1%	90

**Images Generated by ASE Cameras**

The types of images collected for ASE violations are often the subject of public controversy. ASE equipment can collect front and/or rear license plate images, driver images, images of the entire vehicle or any combination of these. Respondents were asked, "*What images does your agency collect for use in issuing ASE citations?*" [Question B3] Table 20 shows combinations of the types of images taken. Fifty-five of the ASE programs reported collecting only rear license plate images, 14 programs took driver images as well as front and rear plates, and 13 programs took driver images and rear plates. Other combinations were much less common.

**Table 20. Type of Image Combinations  
(Includes Current and Discontinued Programs)**

N of Jurisdictions	Driver Image	Front license plate	Rear license plate
55			X
14	X	X	X
13	X		X
4		X	X
2	X	X	
2		X	
90			

Table 21 shows that, regardless of what other images are taken, rear license plate images are collected almost universally (86 of 90 programs). Whether driver images were taken is closely associated with the age of ASE programs – a much higher percentage (54%) of agencies with older ASE programs (1987 to 2007) reported that they captured driver images as compared to newer (2008-2011) ASE programs (18%). Older ASE programs (34%) were also more likely to

take front license plate photos as compared to newer programs (18%). Newer programs were more likely to include other photo image types than the older ASE programs, 44% to 31%, respectively.

As far as other photo image types, the majority of those responding clarified that they capture video (e.g., 10 to 20 second continuous video) of the ASE violation, not just photo images. Other respondents mentioned that multiple photos of the vehicle were taken, that the entire vehicle image was captured, and that images were taken of the specific locations where the photo or video was captured (e.g., stop line, curb intersection).

**Table 21. Type of Image by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Driver image	Front vehicle license plate	Rear license plate	Other Images	Total N of Jurisdictions
1987 to 2007	19 54%	12 34%	33 94%	11 31%	35
2008 to 2011	10 18%	10 18%	53 96%	24 44%	55
Total	29 32%	22 24%	86 96%	35 39%	90

(Multiple responses possible so the percentages do not add up to 100)

Table 22 shows that the 29 jurisdictions that capture driver images are in Arizona, Colorado, Louisiana, Oregon, and four of the States in the “Other States” group. All agencies in the study from Arizona, Colorado, and Oregon reported capturing driver images. Three out of four of the ASE programs in the “Other States” group that reported taking driver images are discontinued programs.

**Table 22. Type of Image by State  
(Includes Current and Discontinued Programs)**

State	Driver image	Front license plate	Rear license plate	Other Images	Total N of Jurisdictions
AZ	17	5	17	11	17
CO	4	4	4		4
IA		1	4	1	4
LA	1		4	2	4
MD			20	6	20
MO		2	3	1	4
NM			3	1	3
OH		3	10	3	11
OR	3	3	3		3
TN			6	4	6
WA			8	3	8
Other States	4	4	4	3	6
Total	29	22	86	35	90

(Multiple responses possible)

### **Sanctions for ASE Violations - State Level**

State law often determines the types of ASE sanctions allowable for ASE programs within a given State. When asked, "*In your State, what kinds of sanctions are authorized by law for ASE violations?*" [Question B4] Unlike most other moving traffic violations,<sup>20</sup> ASE usually does not result in points attached to a driver license, defensive driving school, or other non-monetary sanctions. Of the responding jurisdictions, most reported having civil sanctions (monetary fine only) for ASE violations (Table 23).

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<sup>20</sup> A moving traffic violation occurs when a vehicle is in motion. Moving violations include speeding, driving while intoxicated, running a red light, etc.

**Table 23. State-Authorized Sanctions by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Misdemeanor or summary violation (i.e., monetary fine and/or driver license penalties)	Civil violation (i.e., monetary fine only)	Defensive driving school	Other	Don't know	Total N of Jurisdictions
1987 to 2007	13 37%	31 89%	13 37%	7 20%	1 3%	35
2008 to 2011	7 13%	50 91%	8 15%	6 11%	2 4%	55
Total Responses	20 22%	81 90%	21 23%	13 14%	3 3%	90

(Multiple responses possible so the percentages do not add up to 100)

Table 24 presents the responses on sanctions by the State. Arizona and Oregon, two of the oldest ASE States in the country, account for almost all jurisdictions in which misdemeanor or summary violations and defensive driving school are options. Of the 17 responding agencies that reported a combination of all three primary sanctions – points, fines, and defensive driving school, all but two of these programs were in Arizona. Of the two other programs that include all three primary sanctions, one is in Oregon and the other in the "Other States" category.

Other types of sanctions were also reported for ASE violations. One of the Washington State ASE programs noted that unpaid ASE violations are grounds for non-renewal of license plates. Another responding agency, in the "Other States" category, noted that failure to pay ASE violations could result in the violator's vehicle being "booted" (i.e., secured by a parking device) and/or being turned over to a collection agency. Another comment in the "Other States" category noted that the level of sanctions is dependent on how much over the posted speed limit the violator traveled.

**Table 24. State-Authorized Sanctions by State  
(Includes Current and Discontinued Programs)**

State	Misdemeanor or summary violation (i.e., monetary fine and/or driver license penalties)	Civil violation (i.e., monetary fine only)	Defensive driving school	Other	Don't know	Total N of Jurisdictions
AZ	15	17	17	4		17
CO		4				4
IA		3		1		4
LA		2			2	4
MD		20		1		20
MO		3		1		4
NM		2			1	3
OH		11				11
OR	3	1	2			3
TN		6				6
WA		8		2		8
Other States	2	4	2	4		6
Total Responses	20	81	21	13	3	90

(Multiple responses possible)

### **Sanctions for ASE Violations - Community Level**

All sanctions authorized by State law are not necessarily applied by local jurisdictions in their ASE programs. The following question was included in the survey to determine whether sanctions authorized at the State level (Table 24) are consistently applied at the local level (Table 26), "*In your community, what sanctions are applied for violations captured through ASE violations?*" [Question B5] As Table 25 shows, the most common sanction used by responding agencies, overall, was civil violations (90% of programs). Almost one-quarter (23%) of the responding ASE programs reported using defensive driving school sanctions and over one-fifth (22%) reported using misdemeanor/summary violations. More recent ASE programs were more likely to use civil fines and less likely to include misdemeanor/summary violations, defensive driving school, or other sanctions as compared to earlier programs. This contrast is primarily a reflection of sanctions used in AZ and OR, two of States with the earliest ASE programs.

**Table 25. Community Sanctions for ASE Violations by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Misdemeanor or summary violation	Civil violation	Defensive driving school	Other	Did not Answer	Total N of Jurisdictions
1987 to 2007	13 37%	31 89%	13 37%	7 20%	1 3%	35
2008 to 2011	7 13%	50 91%	8 15%	6 11%	2 4%	55
Total	20 22%	81 90%	21 23%	13 14%	3 2%	90

(Multiple responses possible so the percentages do not add up to 100)

When comparing State-by-State results (shown in Tables 24 and 26), there were no important differences between sanctions authorized at the State level and sanctions applied at the local level. The small differences between State and local sanctions (Tables 24 and 26) are largely due to respondents opting not to answer the question about local sanctions. In short, sanctions authorized at the State level are applied at the community level in almost all cases.

**Table 26. Community Sanctions for ASE Violations by State  
(Includes Current and Discontinued Programs)**

State	Misdemeanor or summary violation	Civil violation	Defensive driving school	Other	Did not answer	Total N of Jurisdictions
AZ	15	17	17	4		17
CO		4				4
IA		3		1		4
LA		2				4
MD		20		1		20
MO		3		1		4
NM		2			1	3
OH		11				11
OR	3	1	2			3
TN		6				6
WA		8		2		8
Other States	2	4	2	4		6
Total	20	81	21	13	1	90

## **Other Violations Authorized from ASE Photographic Evidence**

In some jurisdictions, the photographic evidence gathered as part of the ASE violation is also being used for citing additional offenses, such as seat belt violations or driver license suspension and/or revocation violations. In order to examine the extent of this practice, the survey included the following question, "*Under your ASE program, what other violations are authorized from the photographic evidence, if any?*" [Question B6] Of the agencies that responded to the survey, only four agencies (all in Arizona) reported that photographic images taken in their ASE programs were also used to enforce other violations. Of the four agencies reporting using images to identify other violations, all four used it to identify driver license violations (suspended, revoked, etc. and to identify vehicle registration plate violations (expired, etc.), and two used it to identify seat belt violations. One agency in Arizona reported that they can use the photos as evidence in any other civil or criminal case that applies. Of course, capturing an image of the driver is a requirement for these options and that practice is limited, by law, to a few States included in this study, one of which is Arizona.

Eight other responding agencies, mostly from Arizona and the eastern United States, mentioned that red light running violations in their jurisdictions can also be enforced via the same speed camera system (i.e., speed-on-green in combination with red light cameras). In this case, the speed violation is assessed for vehicles traveling through an intersection in excess of the posted speed limit even though the traffic signal may be displaying a green light. Typically, speed-on-green ASE camera systems are added on to red light running camera systems versus the other way around.

## **Types of ASE Devices Used**

There are four basic types of ASE devices:

- Fixed type pole-mounted cameras (usually at mid-block locations)
- Semi-fixed camera systems that are mounted in secure housings where the camera system can be moved to other secure housings as needed
- Red light camera systems that can also identify the speeds of vehicles passing through intersections (i.e., "speed-on-green")
- Mobile ASE units that are moved from location to location

In order to determine the type of ASE devices used in the surveyed jurisdictions respondents were asked, "*What types of ASE devices are used in your community?*" [Question B7] Mobile units were clearly the dominant choice (Table 27). Mobile ASE units were the most frequently reported; used by 60 of the 90 responding agencies. Not reflected in Table 27, there were 33 responding agencies that reported using only mobile units. For agencies using more than one type of ASE device, the most common combination of ASE devices was fixed units, speed on green, and mobile units. There were 14 responding agencies with ASE programs noting this three device combination.

**Table 27. Types of ASE Devices Used by Year of Program  
(Includes Current and Discontinued Programs)**

Year Program Began	Fixed enforcement	Semi-fixed enforcement	Red Light "Speed On Green" enforcement	Mobile enforcement	Other	Total N of Jurisdictions
1987 to 2007	16 46%	4 11%	17 49%	31 89%	5 14%	35
2008 to 2011	25 45%	12 22%	9 16%	29 53%	3 7%	55
Total	41 46%	16 18%	26 29%	60 67%	8 9%	90

(Multiple responses possible so the percentages do not add up to 100)

Table 28 presents the distribution of the types of ASE devices used by the State. Maryland accounted for 14 of the 16 semi-fixed ASE camera jurisdictions. Arizona accounted for 12 of the 26 "speed-on-green" jurisdictions and 13 of the mobile enforcement jurisdictions.

**Table 28. Types of ASE Devices Used by State  
(Includes Current and Discontinued Programs)**

State	Fixed enforcement	Semi-fixed enforcement	Red Light "Speed On Green" enforcement	Mobile enforcement	Other	Total N of Jurisdictions
AZ	9		12	13	3	17
CO				4		4
IA	3		3	4		4
LA	1		1	3		4
MD	7	14	1	10		20
MO	1			3		4
NM	1		2	2	1	3
OH	5		4	8	1	11
OR				3		3
TN	6		3	3		6
WA	7			1	2	8
Other States	1	2		6	1	6
Total	41	16	26	60	8	90

(Multiple responses possible)

The average number of devices used per responding agency is shown in Table 29. Agencies using mobile units reported an average of 3.4 mobile devices in use. For agencies using other types of devices, the average number of fixed camera units (8.9), speed on green cameras (9.4) and semi-fixed cameras (9.5) per agency greatly exceeded the average number of mobile ASE

units. This is not surprising since mobile units can be moved to cover many different locations; so there may be less of a need to acquire large numbers of these units.

**Table 29. Average Number of ASE Devices per Agency by Device Type (Includes Current and Discontinued Programs)**

ASE Device Type	Average Number of Devices
Mobile Units	3.4
Fixed Cameras	8.9
Speed-on-Green Cameras	9.4
Semi-Fixed Cameras	9.5

The average number of ASE devices per responding agency was generally much higher for agencies that implemented ASE programs that began pre-2008 as compared to programs that started 2008-2011 (see Table 30).

Of the 36 agencies responding regarding locations for mobile devices, the mean number of locations at which mobile units were deployed was 205 for agencies that implemented ASE programs pre-2008 versus 24 for programs implemented during 2008-2011. This is most likely a reflection that most of the older programs are permitted to use ASE on any type of roadway versus the trend of newer ASE programs to only use ASE in school zones or low speed residential roadways. Note, these figures are not shown in the table below.

**Table 30. Average Number of ASE Devices per Agency by Device Type and Year Program Began (Includes Current and Discontinued Programs)**

ASE Device Type	Pre-2008	2008-2011
Mobile Units	4.8	1.9
Fixed Cameras	12.7	6.2
Speed-on-Green Cameras	12.7	3.8
Semi-Fixed Cameras	8.3	10

### **Types of ASE Site Locations**

Where ASE devices are deployed is an important issue at the State and community level. Surveyed agencies were asked the following question, *"Which of the following locations are used for ASE in your community?"* [Question B8]

Surveyed agencies were also asked to provide the number of locations for each type of device. Mobile units are unique in that these portable devices can be easily rotated among numerous locations. Data not displayed in a table indicates that the number of locations within communities at which mobile units were deployed ranged from one to 650, with a mean of 119 sites. The responding agencies listing the highest numbers of mobile sites were all from States where ASE has been in operation for many years. These agencies have had the opportunity to explore their communities, in detail, to identify the greatest number of possible deployment locations for mobile ASE devices.

Table 31 summarizes the various types of locations agencies reported deploying ASE. School zones are the number one deployment option reported, by a wide margin, with speed cameras being used in school zones in nearly three-quarters (74%) of the responding jurisdictions.

Of the 67 agencies reporting using ASE in school zones, 23 agencies (34%) reported they only deployed ASE in school zones. For those agencies that reported using ASE in more than one type of location, the most common combination of deployment options was school zones and residential neighborhoods, with 34 agencies reporting that combination. The next most frequent combination was school zones, residential neighborhoods and arterial roads, with 26 agencies reporting that combination. The incidence of deploying ASE in locations other than school zones dropped significantly with the more recent (2008-2011) ASE Programs.

Other locations for ASE mentioned by responding agencies included city parks and recreation centers.

**Table 31. Locations for ASE Enforcement by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	School zones	Residential neighborhoods	Arterial roads	Expressways	Highway work zones	Other	Total N
1987 to 2007	28 80%	26 74%	23 66%	7 20%	8 23%	11 31%	35
2008 to 2011	39 71%	18 33%	19 35%	6 11%	3 5%	13 24%	55
Total	67 74%	44 49%	42 47%	13 14%	11 12%	24 27%	90

(Multiple responses possible so the percentages do not add up to 100)

The deployment of ASE on expressways was limited to 13 agencies - 8 agencies in Arizona, Iowa, Louisiana, Ohio and 5 agencies in the "Other States" category (see Table 32). Of these 13 agencies, 5 (38%) are agencies with discontinued programs. Similarly, while more evenly distributed across the country, three out of the 11 agencies (27%) reporting deploying ASE on highway work zones are discontinued programs.

For those agencies that responded “other” for location, the highest number (6) reported that they also used ASE on State highways. The next highest number of locations listed were for high speed and volume roadways (4) and roads near parks (4), and intersections (3).

**Table 32. Locations for ASE Enforcement by State  
(Includes Current and Discontinued Programs)**

State	School zones	Residential neighborhoods	Arterial roads	Expressways	Highway work zones	Other	Total N of Jurisdictions
AZ	10	12	14	4	1	6	17
CO	4	4			1	3	4
IA	2	3	3	2	2	1	4
LA	3	4	4	1			4
MD	16	6	2		1	1	20
MO	4	1	1			1	4
NM	2	2	3		1	2	3
OH	9	3	3	1	1	5	11
OR	3	3	3		1	1	3
TN	3	3	5			2	6
WA	8		2				8
Other States	3	3	2	5	3	2	6
Total	67	44	42	13	11	24	90

(Multiple responses possible)

### **Automated Speed Enforcement Signage Strategies**

Signage is an important component of automated speed enforcement. It alerts the public to the use of ASE in the community and may contribute to reductions in speeding. The agencies with ASE programs included in this survey were asked to provide information regarding the methods they used to alert the public to the presence of ASE. Signage for ASE can include general signage notifying drivers of ASE that can be placed anywhere in the jurisdiction, fixed signage in advance of ASE locations, or temporary advanced signage placed upstream of active enforcement activity. In addition, mobile ASE units may be marked (i.e., readily visible police markings) or unmarked. The following question was asked to determine sign deployment strategies used by the agencies surveyed, *"Did your agency use ASE strategies that included any of the following?"* [Question B9] Table 33 shows the types of ASE signage strategies used by responding agencies by year the programs began.

A majority of the responding agencies reported placing ASE signage at the entrance to their communities (52%) advising of its use. Permanent signage in advance of permanent fixed ASE locations was reported by 62% of the responding agencies. There were only 4 cases (4%) in which no advance signage was provided for either fixed or mobile ASE sites. Newer ASE programs reported they notify motorists entering their city limits of the presence of ASE in their community at much lower rate (44%) than older ASE programs (66%).

The majority of responding agencies said they provide signs and markings on mobile units alerting drivers to the presence of ASE. Regarding the use of unmarked ASE vehicles, there was no clear pattern around the nation on where that takes place. ASE agencies in nine States reported using unmarked ASE vehicles but, where multiple ASE agencies exist in those States, many other ASE agencies reported only using marked ASE vehicles. Two other agencies noted that they also mounted equipment on their mobile vans that notified passing drivers of their speeds. Many of the additional comments described where and how signs were deployed and specifics about the signs.

**Table 33. Types of ASE Signage Strategies by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	ASE permanent signs posted on major roads and entrances to the community	ASE permanent signs posted in advance of fixed speed cameras	ASE temporary signs posted in advance of mobile cameras	No advance ASE signage	Fully marked ASE mobile	Unmarked ASE mobile vehicles	Other	Total N of Jurisdictions
1987 to 2007	23 66%	21 60%	20 57%	2 6%	20 57%	7 20%	8 23%	35
2008 to 2011	24 44%	35 64%	14 25%	2 4%	10 18%	8 15%	14 25%	55
Total	47 52%	56 62%	34 38%	4 4%	30 33%	15 17%	22 24%	90

(Multiple responses possible so the percentages do not add up to 100)

### **Engineering Studies of Speed Limits**

Ensuring that all posted speed limits have been set appropriately is viewed as a fundamental requirement in all speed enforcement efforts. Responding agencies were asked, "*Prior to an initial deployment of ASE on a specific roadway segment, does a traffic engineer conduct a study to determine if the speed limit is appropriately set?*" [Question B10] As Table 34 indicates, over half of the responding ASE agencies (54%) reported conducting engineering studies to determine if speed limits were appropriate prior to implementing ASE operations at specific locations. This was essentially the same regardless of the year the ASE program began. Several respondents reported that engineering studies were deemed unnecessary when deploying in school zones.

**Table 34. Engineering Study Conducted Prior to Site Deployment by Year Program Began**  
**(Includes Current and Discontinued Programs)**

Year Program Began	Engineering Study Conducted	No Engineering Study Conducted	Don't Know	Total N of Jurisdictions
1987 to 2007	19 54%	11 31%	5 14%	35
2008 to 2011	30 55%	19 35%	6 11%	55
Total	49 54%	30 33%	11 12%	90

(Percentages do not add up to 100 due to rounding)

### **Other Measures Considered Before ASE Deployment**

Surveyed agencies were asked, "*Prior to an initial deployment of ASE on a specific roadway segment, are other measures first considered?*" [Question B11] Responses were combined into categories for analysis. This open-ended question was designed to elicit responses such as "engineering improvements," "posted speed limits reviewed," "traditional high visibility speed enforcement countermeasures deployed," etc. However, many respondents answered with respect to studies conducted rather than measures attempted (e.g., "speed studies conducted", "looked at crash data"), which were not considered "measures." Table 35 presents the distribution of measures by year the program began. The table includes the 73 responses that could be categorized. Due to the confusion between what the research team intended with this question and what the results yielded, there was limited utility in terms of the response sets. However, it is clear that, prior to ASE implementation, "Traditional or High Visibility Enforcement" was the measure most used by agencies (34%) responding to this question.

**Table 35. Other Measures Considered Before ASE Deployment by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	Traditional or High Visibility Enforce.	Traffic Calming, Warning Signs	Speed Limit/School Zone Signs	PSAs, Media	Engineering Study	Prepared for ASE	Other	Total N
1987 to 2007	4 16%	3 12%		1 4%	2 8%	14 56%	1 4%	25
2008 to 2011	21 44%	8 17%	2 4%		1 2%	15 31%	1 2%	48
Total	25 34%	11 15%	2 3%	1 1%	3 4%	29 40%	2 3%	73

(Multiple responses possible so the percentages do not add up to 100)

### **Ownership of ASE Camera Equipment**

Ownership of the ASE equipment has implications for program costs. We asked, "*Who owns the ASE camera equipment used by your agency?*" [Question B12] Table 36 shows that ASE vendors retain ownership of the equipment in almost all cases. Vendor ownership of the equipment has become almost universal in recent years, with none of the agencies launched in the 2008 to 2011 period reporting that a police department owned the ASE equipment. In the Other category, one agency during the 1987-2007 period noted that they had joint city-vendor ownership of some equipment and another that, while it was a city located ASE program, it was operated by the State Department of Transportation.

**Table 36. Ownership of ASE Equipment by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Police department	ASE vendor	Other	Total N of Jurisdictions
1987 to 2007	4 11%	29 83%	2 6%	35
2008 to 2011		55 100%		55
Total	4 4%	84 93%	2 2%	90

(Percentages do not add up to 100 due to rounding)

### **Maintenance of ASE Equipment**

In addition to ownership, maintenance of ASE equipment is an important cost factor for programs. We asked the following question, *"Who maintains the ASE camera equipment used by your agency?"* [Question B13] As was the case for ownership, maintenance of ASE equipment is almost exclusively a vendor responsibility. Only one police department in Arizona, an older ASE program, reported maintaining its own equipment.

### **Ownership of ASE Records and Data**

ASE systems generate a great deal of data and records on ASE traffic enforcement. Respondents were asked the following question, *"Who owns the ASE records and data for your program?"* [Question B14] Ownership of ASE records and data (Table 37) was almost evenly split between Police Departments and ASE vendors in the jurisdictions responding to our survey. There was a decrease between older and newer ASE programs regarding police department ownership of records and data, 40% and 32%, respectively. This correlated with an increase in the number of jurisdictions in which the ASE vendor owned the records and data from 34% for the older ASE programs to 42% for the newer ASE programs. Eight respondents reported that the city or agency retained ownership of records, but the data is housed with the ASE vendor. Eleven additional locations indicated government entities, other than the specific policy agency (i.e. the State, city or courts) owned the ASE records and data.

**Table 37. ASE Record and Data Ownership by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Police department	ASE vendor	Agency owned, Vendor housed data	State, Municipality, of Court owns the data	Don't Know	Did not answer	Total N
1987 to 2007	14 40%	12 34%	3 9%	6 17%			35
2008 to 2011	18 33%	23 42%	5 9%	5 9%	3 5%	1 2%	55
Total	32 36%	35 39%	8 9%	11 12%	3 3%	1 1%	90

(Multiple responses possible so the percentages do not add up to 100)

There were some differences in ownership by the State (Table 38), especially for those States with large numbers of ASE programs. More vendors than police departments owned ASE records and data in Arizona, Ohio, Oregon, all 1987-2007 ASE origination States, and Washington State, a 2008-2011 ASE origination State.

A review of the combinations of responses in the data indicated that 35 ASE programs reported that the ASE vendor was the sole owner of the ASE records and data and 32 reported that the ASE agency was the sole owner of the records and data.

**Table 38. ASE Record and Data Ownership by State  
(Includes Current and Discontinued Programs)**

State	Police Department	ASE Vendor	Police Department owned, Vendor housed Data	State, Municipality or Court owns the data	Don't Know	Did Not Answer	Total N of Jurisdictions
AZ	6	9	1	1			17
CO	1		1	2			4
IA	2	2					4
LA		3		1			4
MD	11	3	3	2	1		20
MO	1	2		1			4
NM		1	1		1		3
OH	3	6		2			11
OR		2	1				3
TN	5				1		6
WA	1	5	1			1	8
Other States	2	2		2			6
Total	32	35	8	11	3	1	90

## **Relationships Between ASE Agencies and Courts**

The relationship between agencies and the courts that adjudicate ASE violations is an important element in the overall success of ASE programs. We asked, "Regarding your ASE program, how would you characterize the relationship between your agency and the courts that adjudicate ASE cases?" [Question B15] Responding agencies' characterization of their relationship with the Courts that adjudicate their ASE cases is shown in Table 39. Nearly 9 out of 10 ASE agencies rated their relationship with the courts as "Excellent" or "Good." None of the agencies rated their relationship as "Poor."

**Table 39. Relationship Between Agency and Courts by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Excellent	Good	Fair	Poor	Did Not Answer	Don't Know	Total N of Jurisdictions
1987 to 2007	23 66%	7 20%	2 6%		1 3%	2 6%	35
2008 to 2011	29 53%	21 38%	2 4%		1 2%	2 4%	55
Total	52 58%	28 31%	4 4%		2 2%	4 4%	90

(Percentages do not add up to 100 due to rounding)

## **Encryption of ASE data**

Electronic encryption of speed enforcement data is intended to protect the privacy of suspected violators. In the event that an outside party is able to intercept or acquire the raw data, encryption prevents them from being able to interpret the data. We asked, "Are ASE data electronically encrypted from the capture point and placed onto secure networks?" [Question B16] Nine out of ten (91%) of the responding ASE agencies reported that data generated from ASE violations are encrypted. Seven agencies indicated they did not know if it was encrypted, and only one agency reported data were not encrypted. The research team contacted the vendor for the single agency reporting non-encrypted data and determined that it, in fact, is encrypted. Encrypting ASE data appears to be a rigidly followed industry standard.

## **Initial Public Information and Education Campaigns**

Informing the public about pending and operational traffic enforcement plans and practices via Public Information and Education (PI&E) campaigns is considered a basic tenet throughout the traffic safety community. When asked, "When your community first implemented ASE, was an initial public information and education (PI&E) campaign conducted?" [Question B17] nearly all (86) of the ASE agencies that responded reported initiating a dedicated Public Information and Education campaign prior to implementing their ASE programs. Only three agencies that

responded did not report initiating Public Information and Education campaigns, one program implemented prior to 2008 and two programs implemented from 2008 to 2011.

### **Elements of Public Information and Education Campaigns**

PI&E campaigns on ASE can include many components including promotion of the ASE program, the locations of speed cameras, information on violations and fines, and information on the dangers of speeding. We asked, "*Which of the following elements were included in the initial public information and education campaign?*" [Question B18] Table 40 shows the specific objectives the responding agencies reported having for their PI&E campaigns. Agencies consistently reported a high level of activity related to promoting awareness of their ASE programs. The percentage of agencies reporting various PI&E activities was somewhat higher for each type of activity for the more recently established ASE programs (2008 to 2011) as compared to the earlier ASE programs (1987 to 2007).

Many agencies reported including more than one element in their initial PI&E campaign. Of those responding, 52 ASE agencies reported that they did all three of the following: educate the public about the dangers of speeding, identify ASE locations, and explain the penalties for ASE violations in their communications. One of the agencies commented that they educate the public on how the revenues generated would be spent.

**Table 40. Elements of Public Information and Education Campaigns by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	Promote awareness of ASE program	Explain the dangers of speeding	Identify camera-enforced locations	Explain penalties for ASE violations	Other	Don't know	Did not answer	Total N
1987 to 2007	23 66%	17 49%	18 51%	16 46%	7 20%		3 9%	35
2008 to 2011	53 96%	41 75%	44 80%	43 78%	16 29%	1 2%	2 4%	55
Total	76 84%	58 64%	62 69%	59 66%	23 26%	1 1%	5 6%	90

(Multiple responses possible so the percentages do not add up to 100)

### **Continuity of Public Information and Education Campaign**

It is often recommended that communications with the public on traffic enforcement campaigns be sustained for most or all of those enforcement initiatives. The following question was asked to determine if that protocol was followed, "*Has the public information and education campaign been consistently maintained since the initial implementation period?*" [Question B19] After implementing ASE, 66% of the agencies reported that they continued to sustain public information and education campaigns regarding their ASE programs. No information was provided on how frequently and to what degree those efforts were sustained.

**Table 41. Public Information and Education Campaigns by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Sustained PI&E Campaign	Did not Sustain PI&E Campaign	Don't Know	Did Not Answer	Total N of Jurisdictions
1987 to 2007	21 60%	10 29%		4 11%	35
2008 to 2011	38 69%	13 24%	2 4%	2 4%	55
Total	59 66%	23 26%	2 2%	6 7%	90

(Percentages do not add up to 100 due to rounding)

### **Methods for Communicating With the Public**

There are many ways to communicate with the public about ASE programs. These include press conferences, press releases, video releases, and posting information on websites. The following question was asked to ascertain the technical means used by surveyed ASE agencies to communicate with the public, "*What mechanisms does your agency use to inform the public about your ASE program?*" [Question B20] Responding agencies reported using a number of standard methods to communicate with the public about their ASE programs (Table 42). Press releases and agency websites were reported at a very high rate and were a primary means of notifying the public. Press conferences appear to be a less used mechanism by the newer ASE programs. ASE agencies described a number of "other" methods for communicating with the public on ASE. These included town hall type meetings, brochures, Facebook, and community newsletters.

**Table 42. Methods for Communication With the Public by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Press conferences/interviews	Press releases	Video releases	Agency website	Other	Total N
1987 to 2007	24 69%	25 71%	6 17%	29 83%	11 31%	35
2008 to 2011	24 44%	43 78%	10 18%	39 71%	13 24%	55
Total	48 53%	68 76%	16 18%	68 76%	24 27%	90

(Multiple responses possible so the percentages do not add up to 100)

## **Warning Period Before ASE Implementation**

It is recommended in the *NHTSA Guidelines* that agencies establishing new ASE programs or new ASE locations inform the public and provide a warning period before enforcing the new ASE effort. Most law enforcement agencies routinely provide warning periods prior to introducing new traffic safety enforcement equipment or programs. The use and communication of a warning period of a reasonable length prior to implementing ASE is considered an important component of PI&E campaigns. When asked the following question, "*Was implementation of ASE in your community preceded by a publicized warning period?*" [Question B21] all of the responding ASE agencies, except for two, reported that they provided warning periods prior to commencing active enforcement. The two exceptions were older programs implemented prior to 2008.

The *NHTSA Guidelines* suggest that a minimum of 30 days is reasonable before actively enforcing ASE violations. This follow up question was asked regarding the duration of the warning period used by responding agencies, "*If yes, how long did that publicized warning period last?*" [Question B21sub] As shown in Table 43, only 5 (6%) of the agencies that responded to this question reported having warning periods of less than one month.

**Table 43. Length of Publicized Warning Period  
(Includes Current and Discontinued Programs)**

Year Program Began	1-2 Weeks	One Month	60-90 Days	Six Months	Did Not Answer	Total N of Jurisdictions
1987 to 2007	2	25	1	1	6	35
2008 to 2011	3	38	3	3	8	55
Total	5 6%	63 70%	4 4%	4 4%	14 16%	90

## **ASE Operations**

The survey included a number of questions about the operation of agencies ASE programs, such as whether jurisdictions publicized ASE locations and schedules and speed thresholds for violations, whether speed and crash data were examined to determine if ASE sites should be changed, and whether one person had authority over the ASE program. In addition, respondents were asked about staffing at ASE sites, whether equipment operation and procedure checklists were used, days and times ASE operated, and whether drivers received immediate feedback about violations (e.g., via a camera flash).

## **Communication of Specific ASE Sites to the Public**

Whether to advise the public, or not, on the specific locations where ASE is deployed is a matter of debate. When asked, "*Does your agency communicate the specific sites of ASE deployments in advance to the public?*" [Question C1] two-thirds of the responding ASE agencies (66%)

reported communicating the specific ASE deployment sites in advance to the public. The percentage of agencies reporting providing this information to the public was higher for newer programs than the older ASE programs, 69% and 60%, respectively (Table 44).

**Table 44. Public Notice of ASE Site Locations by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Specific Sites Publicized	Specific Sites Not Publicized	Don't Know	Total N of Jurisdictions
1987 to 2007	21 60%	14 40%		35
2008 to 2011	38 69%	16 29%	1 2%	55
Total	59 66%	30 33%	1 1%	90

Table 45 provides information on agencies in each State surveyed provide disclosure to the public on the location of ASE deployments. Responding agencies in Colorado and Oregon were unanimous in not disclosing ASE locations in advance.

**Table 45. Public Notice of ASE Site Locations by State  
(Includes Current and Discontinued Programs)**

State	Specific Sites Publicized	Specific Sites Not Publicized	Don't Know	Total N of Jurisdictions
AZ	12	5		17
CO		4		4
IA	4			4
LA	1	3		4
MD	17	3		20
MO	3	1		4
NM	1	2		3
OH	7	4		11
OR		3		3
TN	3	2	1	6
WA	7	1		8
Other States	4	2		6
Total	59 66%	30 33%	1 1%	90

## **Publication of ASE Deployment Schedules**

Along with publicizing deployment locations, it is of interest if ASE agencies notify the public regarding the schedule of when the ASE units (e.g., mobile units) will be deployed. When asked, *"Does your agency communicate the specific daily schedule of ASE deployments in advance to the public?"* [Question C2] one-third (34%) of agencies responding to the survey reported that they specifically publicize their deployment schedules in advance. The percentages for old and newer programs (Table 46) are similar, though a slightly higher percentage of newer program report publicizing their ASE schedules.

**Table 46. Publication of Daily ASE Deployments by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Deployments Publicized	Deployments Not Publicized	Did Not Answer	Don't Know	Total N of Jurisdictions
1987 to 2007	11 31%	24 69%			35
2008 to 2011	20 36%	32 58%	2 4%	1 2%	55
Total	31 34%	56 62%	2 2%	1 1%	90

(Percentages do not add up to 100 due to rounding)

As shown in Table 47, Washington State has the highest percentage (75%) of jurisdictions that publish ASE deployments on a daily basis. As with the location issue, none of the programs in Colorado and Oregon advertise their deployment schedules in advance, and only one of eleven programs in Ohio does.

**Table 47. Publication of Daily ASE Deployments by State  
(Includes Current and Discontinued Programs)**

State	Deployments Publicized	Deployments Not Publicized	Did Not Answer	Don't Know	Total N of Jurisdictions
AZ	7	10			17
CO		4			4
IA	1	3			4
LA	1	3			4
MD	8	12			20
MO	2	2			4
NM	2	1			3
OH	1	9	1		11
OR		3			3
TN	1	3	1	1	6
WA	6	2			8
Other States	2	4			6
Total	31 34%	56 62%	2 2%	1 1%	90

(Percentages do not add to 100% due to rounding)

### **Enforcement Speed Thresholds at Various Locations**

Enforcement speed thresholds are the lowest speeds at which speeding violations are issued. Thresholds for ASE enforcement should be the same as those for traditional speed enforcement. In order to target those who drive well above the speed limit, a threshold of 11 mph above the posted speed limit is common for many jurisdictions. Thresholds may be lower in areas where there is a lot of pedestrian traffic, school zones, and construction work zones.

This threshold for ASE is of interest to the public. We asked, *"What is the enforcement speed threshold (i.e., lowest speed... over a posted speed limit at which a violation is recorded) for ASE deployments on the following location types?"* [Question C3] With the exception of school zones, responding ASE agencies reported that they typically begin enforcement at about 11 mph over the posted speed limit (Table 48). For school zones, that enforcement threshold is typically 9 mph over the posted speed limit, though that threshold dipped for a number of agencies to 6 mph and one agency reported a 1 mph threshold in school zones. The minimum to maximum range for most road types ranged from 6 mph over the posted speed limit to as high as 15 mph over the posted speed limit.

**Table 48. Enforcement Speed Thresholds at Various Locations  
(Includes Current and Discontinued Programs)**

ASE Location	Average Speed Over Posted Speed	Minimum Enforcement Speed over Posted Speed Limit	Maximum Enforcement Speed Over Posted Speed Limit	N	Std. Dev.
School zones	9 mph	1 mph *	15 mph	70	2.89
Residential neighborhoods	11	6	15	45	1.31
Major (arterial) roads	11	6	15	47	1.33
Expressways	11	6	15	20	1.63
Highway work zones	11	6	15	23	1.57
Other	11	10	12	11	0.7

\*One agency reported that they allow "zero tolerance" in school zones. The research team confirmed that this agency begins enforcement at 1 mph over the posted speed limit in school zones.

On a State by State comparison, for school zones, Table 49 shows that Arizona, Louisiana, Tennessee, and Washington begin enforcement at much lower levels than most of the States in the survey. Looking at the ranges for ASE in each State, the table shows that the majority operates within very narrow ranges (1-2 mph). Louisiana and Ohio displayed the widest ranges across the enforcement site options. School zones also reflected wider ranges for enforcement than other enforcement sites.

**Table 49. Mean and Range Enforcement Speed Thresholds (in mph) at Various Locations by State (Includes Current and Discontinued Programs)**

		School Zones	Neighborhoods	Arterial Roads	Expressways	Highway Work Zones
	Mean	7 mph	11 mph	11 mph	11 mph	11 mph
	Range	3-11 mph	8-11 mph	8-11 mph	9-11 mph	9-11 mph
AZ	N	13	13	16	6	5
	Mean	10	10			10
	Range	10	10			10
CO	N	4	4			3
	Mean	12	12	12	12	11
	Range	11-12	11-12	11-12	11-12	11
IA	N	2	3	3	2	1
	Mean	5	8	8	6	6
	Range	3-6	6-10	6-10	6	6
LA	N	2	2	2	1	1
	Mean	12	12	12	12	12
	Range	12	12	12	12	12
MD	N	17	8	4	1	4
	Mean	10	10	11	11	10
	Range	10-11	10	10-11	10-11	10
MO	N	4	2	2	2	1
	Mean	8	11	11	11	11
	Range	5-11	11	10-11	11	11
NM	N	2	1	2	1	1
	Mean	9	12	12	13	13
	Range	5-15	11-15	10-15	11-15	11-15
OH	N	9	3	5	2	2
	Mean	11	11	11		11
	Range	10-11	10-11	10-11		11
OR	N	3	3	3		1
	Mean	6	10	11	10	10
	Range	1-10	10	10-12	10	10
TN	N	3	3	5	1	1
	Mean	7		11		
	Range	6-9		10-11		
WA	N	8		2		

**Table 49(cont'd). Mean and Range Enforcement Speed Thresholds  
(in mph) at Various Locations by State**

		School Zones	Neighborhoods	Arterial Roads	Expressways	Highway Work Zones
Other States	Mean	10	10	9	11	11
	Range	10-11	10-11	7-11	10-12	10-11
	N	3	3	3	4	2
Total	Mean	9	11	11	11	11
	Range	1-15 mph	6-15 mph	6-15 mph	6-15 mph	6-15 mph
	N	70	45	47	20	23

**Staffing of Mobile ASE Units**

In the course of this study, as will be discussed shortly, the definition of what constitutes “staffed” became an issue. The supposition in constructing this survey was that all mobile ASE units were physically staffed by assigned personnel. Based on this original assumption, the survey included the following question on staffing ASE units, *“Who staffs your mobile ASE units, if used?”* [Question C4] Of the 90 agencies responding to this survey, 60 reported using mobile ASE units. Table 50 shows the different types of personnel used to staff the mobile units. In 24 cases, police officers did all the staffing. Civilian employees did this task in 9 jurisdictions. Vendors, alone, were responsible in 17 jurisdictions. There were 3 jurisdictions with some combination of staffing: police and vendors share staffing in 2 jurisdictions and police, civilian employees, and vendors share the responsibility in 1 jurisdiction and State Departments of Transportation in 2 cases.

**Table 50. Staffing for ASE Mobile Units  
(Includes Current and Discontinued Programs)**

Police Officers	24
Other police civilian employees	9
ASE Vendors	17
Police and Vendors	2
Police, Civilian, and Vendors	1
Department of Transportation	2
Did Not Answer	5
Total N of Jurisdictions	60

The situation on staffing of mobile units varies across States. The most variation was observed in Maryland. Responding agencies in Maryland reported police staffing of mobile units in 2 cases, civilian in 4 cases, ASE vendor-staffed in 1 case, and police and vendors in 2 cases. The greatest reliance on vendors staffing mobile ASE units exists in Arizona and Louisiana.

**Table 51. Who Staffs ASE Mobile Units by State  
(Includes Current and Discontinued Programs)**

State	Police Officers	Other police civilian employees	ASE Vendor	Police and Vendors	Police, Civilians, and Vendors	Dept. of Transportation	Did Not Answer	Total N
AZ	3		10				1	14
CO	1	3						4
IA	2	1					1	4
LA			3					3
MD	2	4	1	2			1	10
MO	1						2	3
NM	1							1
OH	6		2					8
OR	3							3
TN	1	1	1					3
WA	1							1
Other States	3				1	2		6
Total	24	9	17	2	1	2	5	60

As stated earlier, during this study we discovered that a number of agencies had transitioned from using on-site staffing for mobile vehicles to having police officers or vendors remotely monitor unattended mobile units, such as vans or trailers. In this context, the respondents viewed these operations as being "staffed."

In our follow-up efforts, respondents were asked to provide additional details about mobile enforcement. The following question was asked to clarify whether or not agencies were using on-site or remote staff to monitor their mobile ASE units, *"Are your mobile enforcement ASE vehicles staffed? By staffed, we mean "a person physically present within the vehicle at all times when the vehicle is in operation."* [Question C4sub] A little over half (35) of the 60 agencies that responded to the original survey also responded to this follow-up question. Of the agencies responding to this follow-up question, one-third (34%) stated that their ASE mobile enforcement vehicles were remotely monitored. The differences between the older and newer programs are noticeable. Only 12% of the older programs reported using remotely monitored mobile units, compared to 56% for new programs (Table 52).

**Table 52. Staffing of ASE Mobile Enforcement Vehicles by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Staffed	Remotely monitored	Total N of Jurisdictions
1987 to 2007	15 88%	2 12%	17
2008 to 2011	8 44%	10 56%	18
Total	23 66%	12 34%	35

As previously stated, there was an extensive follow-up on staffing for agencies reporting mobile ASE units. Table 53 shows that different ASE programs within the same State may opt for staffed versus remotely monitored ASE mobile units.

**Table 53. Staffing of ASE Mobile Enforcement Vehicles by State  
(Includes Current and Discontinued Programs)**

State	Staffed	Remotely Monitored
AZ	Yes	Yes
CO	Yes	No
IA	Yes	Yes
LA	Yes	Yes
MD	Yes	Yes
MO	Unknown	Yes
NM	Yes	Unknown
OH	Yes	Unknown
OR	Yes	Unknown
TN	Yes	Yes
WA	Yes	Unknown
Other States	Yes	Unknown

## **Operation Checklist for ASE Equipment**

The use of a checklist is a traditional measure employed when using traditional speed enforcement tools (e.g., Radar, LIDAR ) and a building block for court acceptance. The checklist provides a method for ensuring that the procedures used to set up mobile ASE are proper and consistent. It should include items, such as verification of the site address, unit location, lanes monitored, equipment start-up and calibration.

When we asked, "*Does your agency use a checklist to ensure that ASE equipment is being properly operated during each mobile ASE enforcement deployment?*," [Question C5] Sixty five percent of the respondents reported using some form of checklist to ensure their mobile ASE equipment is operating properly (see Table 54). Of note, only 6 of 60 agencies (10%) that reported using mobile ASE units reported not using an ASE checklist.

**Table 54. ASE Equipment Operation Checklist by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Began	ASE Checklist Used	ASE Checklist Not Used	Did Not Answer	Don't Know	Total N of Jurisdictions
1987 to 2007	19 61%	5 16%	5 16%	2 6%	31
2008 to 2011	20 69%	1 3%	5 17%	3 10%	29
Total	39 65%	6 10%	10 17%	5 8%	60

## **Days and Hours of Operation for Mobile Units**

Traditional speed enforcement countermeasures are often directed at specific time periods during the day when the perceived need is greatest (high speeds, high levels of crashes). This is often the case with mobile ASE enforcement, as well. When asked, "*What are the typical days and hours of operation for your ASE enforcement sites for mobile units, if used?*," [Question C6] responding agencies reported that their mobile cameras are deployed, on average, about 13 hours per day on weekdays, and 7 to 8 hours on weekends. (Table 55) Due to the nature of ASE as compared to traditional law enforcement speed countermeasures (such as a motorcycle officer with LIDAR), ASE deployment periods can be, and often are, much longer.

**Table 55. Days and Hours of Operation of Mobile Units  
(Includes Current and Discontinued Programs)**

Day of Week	Mean	Minimum	Maximum
Sunday	7.1	0	24
Monday	13.4	0	24
Tuesday	13.5	2	24
Wednesday	13.6	2	24
Thursday	13.4	2	24
Friday	13.1	0	24
Saturday	8.2	0	24

**Number of Daily Deployment Hours for Mobile Units**

Mobile ASE units have traditionally been deployed for limited time periods on a daily basis at a specific site versus the 24 hours per day/7 days per week deployment typically used for fixed, semi-fixed and speed-on-green units.

To determine the daily deployment periods for mobile units for those agencies that use mobile units, we asked, "*For your mobile units (if applicable) what is the typical total number of daily ASE deployment hours at a site?*" [Question C7] Forty-seven of 60 agencies using mobile ASE units responded to this question. Their responses revealed a wide range in the number of daily hours ASE units are typically deployed at a specific site. Responses ranged from less than 5 hours per day at a given site to 24 hours a day at one site. Overall, a majority of agencies responding (70%) said they deployed their units 10 hours a day or less per site. For programs implemented prior to 2008, the most common deployment time for a site was less than 5 hours per day (54%); for programs implemented from 2008 to 2011, the most common deployment time for a site was more than 20 hours per day (33%). This may be a function of the increase in the use of remotely staffed ASE mobile units and ASE equipped trailers by newer ASE agencies.

**Table 56. Number of Daily Deployment Hours for Mobile Units  
(Includes Current and Discontinued Programs)**

Year Program Began	< 5 Hrs.	5-10 Hrs.	11-15 Hrs.	16-20 Hrs.	>20 Hrs.	Total N of Jurisdictions
1987 to 2007	14 54%	10 38%	1 4%		1 4%	26
2008 to 2011	4 19%	5 24%	5 24%		7 33%	21
Total	18 38%	15 32%	6 13%		8 17%	47

## **Oversight of Mobile ASE Deployment Schedules**

Who is responsible for the deployment schedules for mobile ASE units, the police or the vendors, is of interest. Agencies were asked, *"Who has primary oversight of your agency's ASE deployment schedule?"* [Question C8] For the 60 agencies responding that use mobile ASE units, police agencies were nearly always in charge of mobile ASE deployment schedules, regardless of whether they were older or newer programs (Table 57). There were two cases where the ASE vendor had oversight of deployment schedules. There were also two State Department of Transportation agencies, one of which currently with primary oversight over construction zone deployments and one that oversaw deployments for a city ASE program, which has been discontinued. Two additional ASE programs reported a dual responsibility by the police and ASE vendors for oversight of mobile ASE deployment schedules.

**Table 57. Oversight of ASE Deployment Schedule by Year Program Began  
(Includes Current and Discontinued Programs)**

Year	Police department	ASE vendor	State Department of Transportation	Dual Oversight Police/ASE Vendor	Did Not Answer	Total N
1987 to 2007	27 87%	1 3%	1 3%	2 6%		31
2008 to 2011	23 79%	1 3%	1 3%		4 14%	29
Total	50 83%	2 3%	2 3%	2 3%	4 7%	60

Total does not add to 100% due to rounding

## **Immediate Feedback to Drivers on ASE Violations**

It is important for drivers to make the connection between their speeding behavior and the penalty for that behavior. Without immediate feedback, drivers may forget the situation when their violation was recorded between the time of the violation and the arrival of the citation in the mail days or weeks later. For ASE, immediate feedback can be provided to drivers through things like flash photography or speed display boards at the ASE site. Immediate feedback to the motorist may impact both their future driving behavior and their acceptance of ASE enforcement.

The following question was asked regarding this feedback issue, *"Does the ASE equipment provide some type of immediate feedback to drivers indicating a violation has been recorded, for instance, through a camera flash, speed display board, or other means?"* [Question C9] As reported in Table 58, four out of five agencies that responded (80%) said their ASE equipment provides some kind of immediate notice to drivers that a speed violation has been recorded. Missouri was the only State that did not have any agencies responding that they provide immediate feedback to drivers.

**Table 58. ASE Equipment Immediate Feedback to Drivers by State  
(Includes Current and Discontinued Programs)**

State	Immediate Feedback	No Immediate Feedback	Did Not Answer	Total N of Jurisdictions
AZ	17			17
CO	3	1		4
IA	3		1	4
LA	4			4
MD	12	8		20
MO		4		4
NM	3			3
OH	10	1		11
OR	3			3
TN	5	1		6
WA	7	1		8
Other States	5	1		6
Total	72 80%	17 19%	1 1%	90

**Frequency of Traffic Enforcement Officers at ASE Sites**

When asked, "How often are traditional (LIDAR/radar) traffic enforcement officers posted at or near operational fixed or mobile ASE sites?," [Question C10] 57 percent of the responding agencies reported they "rarely" or "never" deployed traditional traffic officers using LIDAR, radar, etc. at or near ASE locations. Only 7 (8%) of the responding ASE agencies reported that they "often" deploy traditional traffic officers at or near ASE deployment locations (Table 59).

**Table 59. Frequency of Traffic Enforcement Officers at ASE Sites by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	Often	Occasionally	Rarely	Never	Did Not Answer	Don't Know	Total N of Jurisdictions
1987 to 2007	2 6%	10 29%	17 49%	5 14%		1 3%	35
2008 to 2011	5 9%	20 36%	20 36%	9 16%	1 2%		55
Total	7 8%	30 33%	37 41%	14 16%	1 1%	1 1%	90

## **Review of Speed and Crash Data**

A periodic review of speed and crash data for enforcement locations is often recommended to agencies conducting any kind of speed management initiative. When asked, “*Does your agency review ASE data and/or crash data to determine whether enforcement should be shifted to other locations?*,” [Question C11] the majority of responding ASE agencies said they review speed and/or crash data to assess whether ASE deployments should be shifted to other locations (Table 60). Comments from responding agencies, not shown in the table, indicate that most of these agencies (44) review both crash and speed data. The results were similar for older and new programs. Respondents were not asked how often such reviews take place.

**Table 60. Review of ASE Speed and Crash Data by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Yes, Review Speed Data	Yes, Review Crash Data	Do Not Review Either Speed or Crash Data	Don't Know	Did not answer	Total N of Jurisdictions
1987 to 2007	22 63%	22 63%	8 23%	1 3%		35
2008 to 2011	34 62%	35 64%	11 20%		1 2%	55
Total Responses	56 62%	57 63%	19 21%	1 1%	1 1%	90

(Multiple responses possible so the percentages do not add up to 100)

## **Protocols When Driver Image Is Not Taken**

States have different requirements for registered vehicle owners who contest violations. When no driver image is taken as part of the ASE photographic evidence, agencies must develop an accepted protocol for attributing the violation to the offender actually driving the vehicle recorded. The offender is presumed to be the registered owner of the vehicle unless the owner disputes that presumption. When we asked, “*Which of the following applies if no ASE driver image was taken and the vehicle’s registered owner contests the violation notice?*,” [Question C12] the most common response was requiring the identification of the driver by the registered owner (41%). That was followed by requiring evidence the vehicle was not in the owner’s possession (34%), and certification of innocence by the registered owner (19%). Many respondents from Arizona commented that their ASE programs record driver images. Other agencies noted that a driver image is not required under their State laws. For ASE agencies implementing programs since 2008, the requirement that evidence the vehicle was not in the legal possession of the registered owner appears to be higher than for agencies having programs in place prior to 2008 (Table 61).

**Table 61. Protocols When Driver Image Is Not Taken by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Certification of innocence required from the registered owner	Identification of the driver required from the registered owner	Evidence that the vehicle was not in the legal possession of the registered owner	Other	Not applicable	Don't Know	Total N of Jurisdictions
1987 to 2007	6 17%	13 37%	7 20%	11 31%	8 23%	1 3%	35
2008 to 2011	11 20%	24 44%	24 44%	13 24%	8 15%	1 2%	55
Total Responses	17 19%	37 41%	31 34%	24 27%	16 18%	2 2%	90

(Multiple responses possible so the percentages do not add up to 100)

Table 62 shows that States generally have a mix of these primary requirements to ascertain the identity of the offender driving the vehicle recorded in an ASE violation.

**Table 62. Protocols When Driver Image Is Not Taken by State  
(Includes Current and Discontinued Programs)**

State	Certification of innocence required from the registered owner	Identification of the driver required from the registered owner	Evidence that the vehicle was not in the legal possession of the registered owner	Other	Not Applicable	Don't Know	Total N of Jurisdictions
AZ		1		11	5		17
CO				2	2		4
IA	1	1	4	2			4
LA	1	3	3				4
MD	5	13	8	2	1		20
MO	1	2	3			1	4
NM		2	2	2	1		3
OH	4	6	3	2			11
OR	1		1		2		3
TN	1	5	4	1			6
WA	3	3	3	1	2		8
Other States		1		1	3	1	6
Total	17	37	31	24	16	2	90

(Multiple responses possible)

### **Single Person Responsible for Compliance**

The responsibility for reviewing all activities associated with ASE is an important issue. It is generally considered good practice to have one person identified as bearing the final responsibility of overseeing all agency ASE activities. When asked, “*Does your agency have one person in authority assigned to ensure all ASE activities are in compliance with laws and policies?*,” [Question C13] ninety percent of respondents reported their agency had one person overseeing ASE compliance with laws and policies (Table 63). Of the 7 agencies that reported not having a single person assigned, 4 agencies were in Arizona.

**Table 63. Single Person Responsible for Compliance by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	One Person Responsible	One Person Not Responsible	Don't Know	Total N of Jurisdictions
1987 to 2007	33 94%	2 6%		35
2008 to 2011	48 87%	5 9%	2 4%	55
Total	81 90%	7 8%	2 2%	90

### **Violation Processing, Delivery, and Adjudication**

Quality control procedures are an important aspect of ASE programs. These include procedures for reviewing ASE violations, procedures for determining the driver's identity (including when business or government vehicles were involved), who has final authority for reviewing violations, what happens when violators do not respond to mailed notices, and who appears in court for the agency in contested cases. Other important considerations for ASE programs include fine amounts, distribution of ASE revenues, and how large a role ASE played in overall speed management efforts.

### **Quality Control of ASE Processing**

The processing of ASE violations is an area of interest. Having one person deemed responsible for this function may help with overall credibility and effectiveness of this function. This question asked respondents to identify the specific person who was responsible for follow-up purposes, not just whether there was a person assigned. So, this question asked, *"In your agency's ASE program, who is responsible for maintaining control and supervision of the violation processing staff?"* [Question D1]<sup>21</sup> Table 64 shows that in 80% of the jurisdictions, a specific person was identified as being in charge of supervising violation-processing staff.

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<sup>21</sup> Only agencies with current ASE programs were asked this question.

**Table 64. Named Person in Charge of Supervising Violation-Processing Staff by Year Program Began**

Year Program Began	One Person Named As In Charge	No Person Named as In Charge	Total N of Jurisdictions
1987 to 2007	24 69%	11 31%	35
2008 to 2011	48 87%	7 13%	55
Total	72 80%	18 20%	90

**Quality Control Procedures**

Quality control for ASE violations is an important element in maintaining a high level of accuracy in the assessment of citations as well as the credibility of the ASE program from a community viewpoint. This question asked for input on specific quality control factors often ascribed to ASE programs. When asked, “*Are any of the following internal quality control procedures employed by your jurisdiction?*,” [Question D2]<sup>22</sup> a majority of the responding ASE agencies reported requiring at least two individuals to review ASE violations before citation issuance (57%) or spot-checking ASE violations by agency supervisors for violations deemed valid by processors (52%) (Table 64). Thirty ASE agencies reported requiring both. In reviewing the detail of the responses in the “Other” response category, in ten cases, one (or even multiple) reviews are performed by ASE vendor staff and the other by an ASE agency staff person who is a sworn or retired officer. In thirteen cases, all reviews were noted to be completely internal to the ASE agency.

**Table 65. Quality Control Review of ASE Violations by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	All violations reviewed and certified by at least two individuals	Police department supervisors spot-check violations deemed valid by processors	Other	None	Don't know	Did not answer	Total N
1987 to 2007	21 60%	18 51%	14 40%		2 6%		35
2008 to 2011	30 55%	29 53%	23 42%	2 4%		1 2%	55
Total	51 57%	47 52%	37 41%	2 2%	2 2%	1 1%	90

(Multiple responses possible so the percentages do not add up to 100)

<sup>22</sup> This was Question D2 for agencies with current ASE programs and D1 for discontinued ASE programs.

## **Standards for Issuing ASE Violations**

Technical standards for the issuance of ASE citations generally include vehicle and registration plate matching with an established State level database, gender matching (for those agencies that capture a driver image), and general image quality standards to ensure that the photographic evidence collected has sufficient clarity to process further. When asked, "*Which of the following does your agency employ to determine whether you will issue an ASE violation?*," [Question D3]<sup>23</sup> almost all respondents (97%) said their agencies required vehicle/registration plate matching and 88% said their agency had image quality standards (Table 66). Given that gender matching requires a driver image and many agencies do not use driver images, it was the least common. Most of the "Other" category comments described how the standards are applied.

**Table 66. Standards for Issuing ASE Violations by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	Vehicle/registration plate matching	Gender matching	Image quality standards	Other	Total N of Jurisdictions
1987 to 2007	35 100%	16 46%	33 94%	9 26%	35
2008 to 2011	52 95%	11 20%	46 84%	16 29%	55
Total	87 97%	27 30%	79 88%	25 28%	90

(Multiple responses possible so percentages do not add up to 100)

In looking at a State-by-State breakdown of ASE issuing standards (Table 67) we can see that most agencies using gender matching are located in Arizona, Colorado, and Oregon, the primary States that capture driver images. In addition, some ASE agencies in Arizona also reported under "Other" that they take the additional step of directly comparing the driver image captured with the Arizona State database of driver license photos before validating the citation. Additional information provided from many of the States reflected that video clips were reviewed, as well as still photos, to further affirm the presence of a speed violation.

<sup>23</sup> This was Question D3 for agencies with current ASE programs and D2 for discontinued ASE programs.

**Table 67. Standards for Issuing ASE Violations by State  
(Includes Current and Discontinued Programs)**

State	Vehicle/registration plate matching	Gender matching	Image quality standards	Other	Total N of Jurisdictions
AZ	17	17	17	5	17
CO	4	2	4		4
IA	4		4	1	4
LA	3		3	1	4
MD	20	1	19	3	20
MO	3		1	1	4
NM	2		2		3
OH	11		8	4	11
OR	3	3	3		3
TN	6		6	2	6
WA	8		7	4	8
Other States	6	4	5	4	6
Total	87	27	79	25	90

(Multiple responses possible)

Of the responding agencies, there were 49 programs that reported requiring both vehicle/registration plate matching and image quality standards. There were 27 programs reporting they required plate matching, image quality standards and gender matching. There were 11 programs that required just vehicle/registration plate matching and 3 programs that only required image quality standards (Table 68).

**Table 68. Combinations of Standards for Issuing ASE Violations  
(Includes Current and Discontinued Programs)**

N of Jurisdictions	Vehicle/registration plate matching	Gender matching	Image quality standards
49	X		X
27	X	X	X
11	X		
3			X
90			

## **Maximum Time for Processing Violations**

A longstanding approach to the effectiveness of general traffic safety enforcement is that the penalty should follow the offense as closely in time as practical. When ASE agencies were asked, "*Briefly describe your agency's policy on the maximum time targeted for processing ASE violations?*" [Question D4]<sup>24</sup> Nearly a third (30%) of the responding agencies said they processed their ASE violations for mailing within 10 calendar days. Another 41 percent said they processed their violations for mailing within between 10 days to 20 days (Table 69).

**Table 69. Maximum Time in Calendar Days for Processing ASE Violations  
(Includes Current and Discontinued Programs)**

Year Program Began	Within 10 days	11-20 days	21-30 days	>30 days	No Maximum	Cannot be determined based on response	Did not answer	Total N
1987 to 2007	13 37%	7 21%	4 11%	3 9%	1 3%	4 11%	3 9%	35
2008 to 2011	14 25%	30 55%	1 2%	3 5%	3 5%	3 5%	1 2%	55
Total	27 30%	37 41%	5 6%	6 7%	4 4%	7 8%	4 4%	90

(Percentages do not add up to 100 due to rounding)

## **Final Responsibility for ASE Violation Review**

The issue of who has final responsibility for reviewing ASE violations before they are issued is a matter of public interest. We asked, "*Who has final responsibility for reviewing ASE violations to determine if a violation notice should be issued?*" [Question D5]<sup>25</sup> An overwhelming majority (88%) of responding ASE agencies reported that a police officer was responsible for the final review of ASE violations. The data suggests that this practice is even more prevalent with ASE programs implemented since 2008, with 98% of those agencies responding that police officers are responsible for final review versus 71% for those agencies implementing programs prior to 2008 (Table 70). It should be noted that one agency in Iowa reported that both a police officer and civilian employee of the department could possess final authority for reviewing ASE violations.

<sup>24</sup> This was Question D4 for agencies with current ASE programs and D3 for discontinued ASE programs.

<sup>25</sup> This was Question D5 for agencies with current ASE programs and D4 for discontinued ASE programs.

**Table 70. Final Responsibility for Reviewing ASE Violations by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	Police Officer	Civilian Employee of Police Department	ASE Vendor	Don't Know	Did Not Answer	Total N of Jurisdictions
1987 to 2007	25 71%	5 14%	3 9%	1 3%	2 6%	35
2008 to 2011	53 96%		1 2%		1 2%	55
Total	78 87%	5 6%	4 4%	1 1%	3 3%	90

(Multiple responses possible so percentages do not add up to 100)

Only four agencies reported permitting the final review of ASE violations by the ASE vendor. All four of these agencies were located in Arizona and Colorado (Table 71). One of these four agencies reported that, for several years, they had assigned total responsibility for ASE violation review to their ASE vendor. The agency advised that they have established firm “business rules” for reviewing ASE violations with their vendor and are confident that these rules are strictly followed. Agency staff only review the most unusual ASE violations, which average about 1 out of every 200 ASE violations issued. In that agency’s opinion, this decision has not diminished citizen support for their program.

**Table 71. Final Responsibility for Reviewing ASE Violations by State (Includes Current and Discontinued Programs)**

State	Police officer	Civilian employee of police department	ASE vendor	Don't Know	Did Not Answer	Total N of Jurisdictions
AZ	11	3	2		1	17
CO	2		2			4
IA	4	1				4
LA	2	1			1	4
MD	20					20
MO	4					4
NM	3					3
OH	11					11
R	3					3
TN	6					6
WA	8					8
Other States	4			1	1	6
Total	78	5	4	1	3	90

(Multiple responses possible so percentages do not add up to 100)

**Personal “Notice to Appear” for Non-Responding Violators**

In most States, the failure to respond to a traffic citation has consequences. Either that failure is entered into a database for specific court ordered actions if that violator is encountered by a police officer and/or further steps are taken, including the option of a personal service of the violation by a representative of the court (police officer, civilian process server, etc.). When agencies were asked, "*Does your ASE program use personal service (i.e., a hand delivered notice to appear) as an option for ASE violations when there is no response to the mailed violation?*" [Question D6],<sup>26</sup> 23% of the responding ASE agencies reported they personally serve either the majority or, at least, a selected portion of the ASE violators. Nearly three quarters (72%) reported they did not initiate personal service at all (Table 72). Under Other, agencies mentioned a potential license suspension, an additional \$25 penalty added to the fine, and the use of a process server or collection agency.

**Table 72. Personal "Notice to Appear" for Non-Responding Violators by Year Program Began**

Year Program Began	Yes, the majority of mailed ASE violations not responded to by the alleged violator are followed up by personal service.	Yes, selected mailed ASE violations not responded to by the alleged violator are followed up by personal service.	No, our ASE program does not involve personal service of ASE violations.	Other	Don't Know	Total N of Jurisdictions
1987 to 2007	8 23%	3 9%	22 63%	2 6%		35
2008 to 2011	6 11%	3 5%	43 78%	2 4%	1 2%	55
Total	14 16%	6 7%	65 72%	4 4%	1 1%	90

<sup>26</sup> This was Question D6 for agencies with current ASE programs and D5 for discontinued ASE programs.

Table 73 shows that the agencies that reported they personally serve non-responders are located in Arizona, Colorado and New Mexico.

**Table 73. Personal "Notice to Appear" for Non-Responding Violators by State (Includes Current and Discontinued Programs)**

State	Yes, the majority of mailed ASE violations not responded to by the alleged violator are followed up by personal service.	Yes, selected mailed ASE violations not responded to by the alleged violator are followed up by personal service.	No, our ASE program does not involve personal service of ASE violations.	Other	Don't Know	Total N of Jurisdictions
AZ	12	4		1		17
CO	2	1	1			4
IA			4			4
LA			4			4
MD			19	1		20
MO			4			4
NM		1	2			3
OH			10	1		11
OR			3			3
TN			6			6
WA			7		1	8
Other States			5	1		6
Total	14	6	65	4	1	90

**Who Appears in Court on Contested Mobile ASE Violations**

As with any traffic violation, the alleged violator typically has a right to be heard before a court official if he or she wants to contest the violation. When agencies were asked, “*For contested court appearances involving mobile unit ASE violations, if applicable, who appears in court on behalf of the agency?*” [Question D7],<sup>27</sup> 48 percent of responding agencies said it was the police officers who reviewed the ASE violation and 33 percent said it was the police officers who staffed the mobile units who were appearing on behalf of the agency for contested ASE violations involving mobile units. This represents a total of 81 percent for police testifying on ASE cases for the responding agencies. Police civilian employees were mentioned by 10% of the

<sup>27</sup> This was Question D7 for agencies with current ASE programs and D6 for discontinued ASE programs.

respondents as representing the agency in these cases. Vendors who either staffed the mobile unit or reviewed the citation were mentioned as appearing in court to represent the ASE agency by a total of 20 percent of the respondents. It is noted that multiple responses are possible for responding agencies.

One ASE program reported no requirement for anyone to appear in court. The evidence consists of the images; the deployment log signed by the sworn police officer, indicating that the unit was set up, tested, and was operated properly during the deployment; and an overlay cone showing the targeted vehicle. This practice appears to be unique among all of the programs that returned surveys.

**Table 74. Who Appears in Court on Contested Mobile ASE Violations by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	Police officer who staffed the mobile unit	Civilian employee of Police department who staffed the mobile unit	Vendor employee who staffed the mobile unit	Police officer who reviewed the ASE violation	Civilian employee of Police department who reviewed the ASE violation	Vendor employee who reviewed the ASE violation	Total N of Jurisdictions
1987 to 2007	8 26%	6 19%	5 16%	11 35%	3 10%	3 10%	31
2008 to 2011	12 41%		2 7%	18 62%	1 3%	2 7%	29
Total Responses	20 33%	6 10%	7 12%	29 48%	4 7%	5 8%	60

(Multiple responses possible so the percentages may not add up to 100)

### **Who Appears in Court on Fixed, Semi-Fixed Unit, or Speed-on-Green Violations**

Like ASE mobile unit violations, alleged violators can also appear in court to contest violations resulting from fixed, semi-fixed or "speed-on-green" ASE citations. It should be noted that the options for those appearing for these kinds of ASE violations on behalf of the agency are more limited as compared to mobile unit violations.

When asked, "*For contested court appearances involving either fixed-unit, semi-fixed unit, or red light intersection "speed-on-green" ASE violations, if applicable, who appears in court on behalf of the agency?*" [Question D8],<sup>28</sup> 49 percent of responding agencies said that the police officers reviewing the ASE violation were most likely to testify on Fixed, Semi Fixed, and Speed-on-Green ASE violations, followed by civilian employees of the police department (13%), and vendor employees (7%).

<sup>28</sup> This was Question D8 for agencies with current ASE programs and D7 for discontinued ASE programs.

Respondents checked "other" in 39 cases (56%). In many of these cases (18), a police officer other than the one who actually reviewed the ASE violation appears in court. The next largest groups were a vendor employee who did not review the ASE violation (4), a civilian who did not review the ASE violation (2), and the town attorney (2). Two agencies advised that no one is required to appear in court or that the court will not hear an appeal of ASE violations.

Only 70 jurisdictions are represented because some ASE agencies responding do not have these types of devices. Additional comments mostly focused on which police officers would attend the court proceedings (e.g., ASE Unit Supervisor) or that ASE vendor representatives would only appear if requested.

**Table 75. Who Appears in Court on Fixed, Semi-Fixed Unit, or “Speed-On-Green” Violations by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	Police officer who reviewed the ASE violation	Civilian employee of PD who reviewed violation	Vendor employee who reviewed the violation	Other	Total N of Jurisdictions
1987 to 2007	13 46%	8 29%	2 7%	14 50%	28
2008 to 2011	21 50%	1 2%	3 7%	25 60%	42
Total Responses	34 49%	9 13%	5 7%	39 56%	70

(Multiple responses possible so the percentages do not add up to 100)

### **Identification of Violators Driving Government or Business Vehicles**

Alleged speed violators in government or commercial vehicles provide special challenges with the regard to actively pursuing the identity of the person driving the vehicle at the time of the ASE violation. Agencies surveyed were asked, “*When issuing violation notices to vehicles owned by a government agency or a business, does the agency or business request identification of the person driving at the time of the violation?*” [Question D9]<sup>29</sup> Nearly one-third (31%) of the responding ASE agencies stated that drivers of government or commercial vehicles who receive ASE violations are identified. For older ASE programs, 49% of the programs pursue the identity compared to 20% for ASE programs implemented since 2008.

<sup>29</sup> This was Question D9 for agencies with current ASE programs and D8 for discontinued ASE programs.

**Table 76. Identification of Violators Driving Government or Business Vehicles by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	Government or Commercial Vehicle Driver Identified	Government or Commercial Vehicle Driver Not Identified	Don't Know	Did Not Answer	Total N of Jurisdictions
1987 to 2007	17 49%	17 49%	1 3%		35
2008 to 2011	11 20%	42 76%	1 2%	1 2%	55
Total	28 31%	59 66%	2 2%	1 1%	90

Table 77 shows a stark contrast between Arizona, where respondents in 12 of 17 jurisdictions responding reported that drivers of government or business vehicles who had ASE violations were pursued versus Maryland, where they were pursued in only 1 of 20 jurisdictions responding. This is likely related to the fact that Arizona records a photo of the driver while Maryland does not.

**Table 77. Identification of Violators Driving Government or Business Vehicles by State (Includes Current and Discontinued Programs)**

State	Government or Commercial Vehicle Driver Identified	Government or Commercial Vehicle Driver Not Identified	Don't Know	Did Not Answer	Total N of Jurisdictions
AZ	12	5			17
CO	3	1			4
IA		4			4
LA		3	1		4
MD	1	19			20
MO	1	3			4
NM	1	2			3
OH	2	9			11
OR	3				3
TN		6			6
WA		7	1		8
Other States	5			1	6
Total	28	59	2	1	90

**Review of Citizen Calls by Managers**

Responsiveness of ASE agencies to contacts from the public regarding their ASE program is important for public acceptance of ASE programs. It is especially important to look for patterns or recurring areas of public concern so that these can be addressed. When asked, “*Are calls from citizens regarding your ASE program reviewed by program managers to identify recurring concerns about the ASE program?*” [Question D10],<sup>30</sup> 90 percent of the ASE programs responding reported their agency reviews communications received from citizens to identify potential problems with the agency’s ASE program (Table 78).

<sup>30</sup> This was Question D10 for agencies with current ASE programs and D9 for discontinued ASE programs.

**Table 78. Review of Citizen Calls by Managers by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	Citizen Calls Reviewed	Citizen Calls Not Reviewed	Don't Know	Total N of Jurisdictions
1987 to 2007	32 91%	3 9%		35
2008 to 2011	49 89%	4 7%	2 4%	55
Total	81 90%	7 8%	2 2%	90

**Total ASE Violations Forwarded to Alleged Violators and Fines Paid**

The following two questions were directed at identifying how many processed and confirmed ASE violations are sent annually to alleged speeders and how many of those persons actually paid a fine as a result of the ASE violation. Agencies in operation for only a brief period of time, which we established as less than one year, were not required to respond to this question. We first asked, "*Over the most recent complete year of operation, how many total ASE violations were forwarded to alleged violators?*" [Question D11]<sup>31</sup> A total of 56 agencies responded (Table 79), almost evenly split between older and newer programs. The range of violations sent out was from 1,949 to 664,538. The average number of citations sent per agency was higher (73,523) for older agencies compared to newer ones (60,305).

**Table 79. Total Number of Citations Forwarded to Alleged Violators by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	Range of Citations Sent	Total Citations Sent	Average Number of Citations per Agency	Total N of Jurisdictions
1987 to 2007	1,949-664,538	1,985,110	73,523	27
2008 to 2011	1,172-550,000	1,748,845	60,305	29

For those agencies that responded, a follow up question was asked, "*Of those ASE violations, how many violators paid a fine?*" [Question D12]<sup>32</sup> Only 41 agencies responded with data regarding the number of violators who paid a fine, again, almost evenly split between older and newer programs. Of note, while the average number of citations sent out was higher for older agencies (previous table), the percentage of fines paid was higher for newer programs (71%)

<sup>31</sup> This was Question D11 for agencies with current ASE programs and D10 for discontinued ASE programs.

<sup>32</sup> This was Question D12 for agencies with current ASE programs and D11 for discontinued ASE programs.

versus older programs (44%). There was no information made available about why this may be the case, but it may be related to the fact that the ASE fines for newer programs are significantly lower than for some of the older programs (See discussion with Tables 80 through 83 below).

**Table 80. Percentage of Citations Where a Fine was Paid by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	Total Citations Sent	Number of Violators who paid a fine	% of Total Citations with Fine Paid	Total N of Jurisdictions
1987 to 2007	1,985,110	872,281	44%	19
2008 to 2011	1,748,845	1,244,931	71%	22

**Amount of Fines for ASE Violations**

Monetary fines are a principal sanction for most traffic violations, ASE included. This survey examined how those fines are assessed by type of roadway, average fine by type of roadway and average fine amounts by State. Surveyed ASE programs were asked, “*What are the fines assessed for the following ASE violations, if applicable?*” [Question D13]<sup>33</sup> Table 81 shows the 85 jurisdictions providing information on fines designated for each type of road type where ASE is deployed. While there was little difference with regard to having fines for school zone violations, programs implemented prior to 2008 were much more likely than newer programs to have fines for ASE violations in residential neighborhoods (60% versus 18%) and on arterial roads (51% versus 24%). This reflects earlier data presented in this report that newer agencies are much more likely to focus their ASE efforts on school zones.

**Table 81. Jurisdictions That Had Fines by Roadway Type by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	School zones	Residential neighborhoods	Arterial roads	Expressways	Highway work zones	Don't Know	Did Not Answer	Total N of Jurisdictions
1987 to 2007	23 66%	21 60%	18 51%	6 19%	9 26%	2 6%	1 3%	35
2008 to 2011	35 64%	10 18%	13 24%	7 13%	8 15%	1 2%	1 2%	55
Total	58 64%	31 34%	31 34%	13 14%	17 19%	3 3%	2 2%	90

(Multiple responses possible so the percentages may not add up to 100)

<sup>33</sup> This was Question D13 for agencies with current ASE programs and D12 for discontinued ASE programs.

Grouping all of the 85 responding agencies, the average monetary fine for ASE violations fell within a narrow range, from \$107 in residential neighborhoods, to \$140 on expressways (Table 82). Overall, school zones were the most frequently mentioned as having ASE penalties (52), followed by residential neighborhoods (30), and major arterial roads (30). However, the range for fines for ASE violations nationwide was extremely wide (\$40 to \$445). For school zones, residential neighborhoods, major arterial roads, highway work zones, and other location types, the range was large but substantially less than for expressways. This wide variation on expressways is possibly driven by the potential for observed higher speeds compared to the other location types, resulting in significantly higher fines.

**Table 82. Amount of Fines for ASE Violations by Location Type  
(Includes Current and Discontinued Programs)**

ASE Location	Average Fine for ASE Violation	Minimum Fine for ASE Violation	Maximum Fine for ASE Violation	Total N	Std. Dev.
School zones	\$109	\$40	\$323	58	\$78.1
Residential neighborhoods	\$107	\$40	\$267	31	\$74.5
Major (arterial) roads	\$121	\$40	\$267	31	\$70.8
Expressways	\$140	\$40	\$445	13	\$113.7
Highway work zones	\$113	\$40	\$251	17	\$75.8

Table 83 shows that fines in Arizona and Oregon, two of oldest States using ASE, are much higher than in other States. Fines levied in these States are much more in line with what the violator would have received if stopped and cited by a police officer for speeding.

**Table 83. Average Amount of Fines for ASE Violations by State  
(Includes Current and Discontinued Programs)**

State	Variable	School zones	Residential Neighborhoods	Major (arterial) roads	Expressways	Highway Work Zones
AZ	Mean	\$250	\$213	\$212	\$224	\$220
	N	8	8	9	3	2
CO	Mean	\$80	\$40	\$40		\$67
	N	4	4	1		3
IA	Mean	\$65	\$65	\$65	\$65	\$117
	N	1	1	1	1	2
LA	Mean					
	N					
MD	Mean	\$40	\$40	\$40	\$40	\$40
	N	15	5	2	1	2
MO	Mean	\$100	\$100	\$100	\$100	\$100
	N	2	1	1	1	1
NM	Mean	\$88	\$88	\$88	\$100	\$88
	N	2	2	2	1	2
OH	Mean	\$113	\$93	\$101	\$98	\$143
	N	8	3	4	3	2
OR	Mean	\$197	\$166	\$166		\$251
	N	2	2	2		1
TN	Mean	\$50	\$50	\$50	\$50	\$50
	N	3	3	5	1	1
WA	Mean	\$131		\$113		
	N	6		2		
Other States	Mean	\$50	\$50	\$50	\$248	
	N	1	1	1	2	
Total	Mean	\$109	\$107	\$121	\$140	\$113
	N	52	30	30	13	16

**Distribution of ASE Revenue**

Revenues generated from ASE violations are allocated in a variety of ways and are often divided among multiple entities. Surveyed ASE agencies were asked, “*How is the revenue generated from your ASE program distributed?*” [Question D14]<sup>34</sup> Respondents were provided space to enter the percentage of revenues going to different entities. In all, 49 respondents reported at least some percentage distribution between the entities mentioned in Table 84 below. In nine cases, the percentage reported was significantly less than 100 percent and in five cases it added up to over 100 percent.

<sup>34</sup> This was Question D14 for agencies with current ASE programs and D13 for discontinued ASE programs.

It is clear, however, that the framing and complexity of this question caused the responding agencies difficulty in appropriately responding. For example, only 27 responding agencies noted that the ASE vendor receives a portion of the revenue generated. A number of respondents advised that the ASE vendor is paid a flat fee. A flat fee typically involves a set fee paid to the vendor by contract, usually on a monthly basis, for providing the ASE equipment, maintenance, citation processing, etc. Therefore, flat fees were not considered "revenue" by most agencies.

In general, the research team found less value in the percentage information provided as compared to information on where the revenues were distributed. Table 84 clearly shows that Local Government is the greatest recipient of revenue generated by ASE with 41 agencies choosing that entity followed by ASE vendors with 28 agencies reporting that entity. Again, it should be made clear that all of the ASE vendors are compensated in some manner for their services, but only some are supported directly with ASE fine revenue.

**Table 84. Distribution of ASE Revenue**

State	Police Agency Traffic Safety Fund	Police Agency General Fund	Local Government	County Government	State Government	Courts	ASE Vendor	Don't Know	Did Not Answer
AZ	2	4	6	7	1	4	6	3	3
CO			4				1		
IA			3				1	1	
LA	2	1		2				1	
MD	4	7	7	4	5		8	1	1
MO		1	2				1	1	
NM		1	2				1	1	
OH	3	1	7				3		1
OR	1	2	2	2	1		1		1
TN			3				2		3
WA	4		2	1		1	2	1	
Other States		2	3	1	4		2		1
Total	16	19	41	17	17	5	28	9	10

(Multiple responses possible)

### **ASE Violations as a Percentage of All Speed Violations**

ASE violations are only a portion of all speeding violations. In order to determine the share of speed violations that were ASE violations, surveyed agencies were asked, “*Over the most recent complete year of operation by your ASE program, what approximate percentage of all speeding violations issued by your agency (including ASE, radar, LIDAR, air speed timing, vehicle pacing, and other traditional enforcement methods) were ASE violations?*” [Question D15]<sup>35</sup>

<sup>35</sup> This was Question D15 for agencies with current ASE programs and D14 for discontinued ASE programs.

This question involved the collection of data that was clearly the most complex and time consuming issue for ASE agencies responding to this survey. As a result, 44 percent of the ASE agencies did not provide the percentage of ASE violations issued over the most recent year. In many cases, the agencies cited "Don't Know." In others, the respondents commented that this information was either not available or would require too much effort to gather. For other agencies that implemented their programs in late 2010 or anytime in 2011 (the year that the questionnaire was distributed), their programs had not been in operation for the full year stipulated in the question.

For the 51 responding agencies that provided percentages of ASE violation for this question (Table 85), there was a wide range of percentages of speed citations that were ASE violations. Of the agencies providing percentages of ASE violations to other speeding violations, nearly one in five (18%) of all respondents reported having between 81 to 100 percent of all their speeding violations resulting from ASE.

**Table 85. ASE Violations as a Percentage of All Speed Violations by Year Program Began (Includes Current and Discontinued Programs)**

Year Program Began	1-20%	21-40%	41-60%	61-80%	81-100%	Did Not Answer	Don't Know	Total N of Jurisdictions
1987 to 2007	2 6%	5 14%	3 9%	3 9%	8 23%		14 40%	35
2008 to 2011	7 13%	2 4%	7 13%	6 11%	8 15%	6 11%	19 35%	55
Total	9 10%	7 8%	10 11%	9 10%	16 18%	6 7%	33 37%	90

### **ASE Program Evaluations**

In order to understand how an ASE program is affecting traffic safety and how the public perceives the program, an evaluation of the ASE program is required. The survey included several questions to determine if agencies had conducted or planned to conduct speed, crash, or public acceptance studies.

Of the 90 agencies with ASE programs responding to this survey, 49 agencies (54%) reported that they have not conducted any type of evaluation (crash, speed, or public acceptance). Ten agencies (11%) reported that they had conducted only crash evaluations, 9 agencies (10%) reported that they had evaluated only speeds, and 3 (3%) have evaluated just public acceptance. There were also nine agencies (10%) that had conducted both crash and speed evaluations, 4 (4%) that had conducted both speed and public acceptance evaluations and 1 (1%) that had conducted both crash and public acceptance evaluations. Five agencies (6%) reported having conducted all three types— crash, speed, and public acceptance evaluations (Table 86).

**Table 86. Evaluations of Crashes, Speeds, Public Acceptance  
(Includes Current and Discontinued Programs)**

Crashes	Traffic Speeds	Public Acceptance	N of Jurisdictions
.	.	.	49
X			10
X	X		9
	X		9
X	X	X	5
	X	X	4
		X	3
X		X	1
Total N of Jurisdictions			90

### **Evaluation of ASE Impact on Crashes**

The ultimate goal of ASE is to reduce crashes. In order to determine if the ASE agencies had made efforts to measure changes in crashes associated with their ASE programs, when asked, “*Has your agency conducted an evaluation of the effects of ASE on crashes, or is such an evaluation planned?*” [Question E1] Nearly half (48%) of the agencies responding stated they had not conducted, and did not plan to conduct, evaluations of crashes associated with their ASE program. Twenty-eight percent of responding agencies reported having conducted crash evaluations, and 22 percent said they were planning to conduct crash evaluations (Table 87). There was little difference between the percentage of older and newer ASE programs that had not conducted and did not plan to conduct a crash evaluation for their ASE programs.

Six of these agencies conducted rudimentary evaluations of the impact of their ASE programs on crashes. Agencies varied with respect to how many years (or months) of crash data were used in comparisons. It is important to note that the potential bias shared by these studies is that they did not account for traffic volumes or other threats to validity, such as regression to the mean, which can be addressed by more rigorous study designs.

The results of these basic crash studies are varied. One agency used a three-year average of crashes prior to ASE, but did not report a significant difference in crashes before versus after ASE implementation. Two other agencies respectively reported 11 and 35 percent reductions in total crashes compared to one year prior to ASE. Another agency reported a 52 percent decrease in speed-related crashes at monitored and unmonitored approaches over a three-year period. Two agencies reported inconclusive results from their crash studies.

One city did not specifically analyze crashes at their mobile ASE locations, but instead analyzed the total number of fatal crashes in the city. They reported a decrease in fatal crashes in their city since ASE deployment, and overall speed reductions, that they interpreted as having resulted in fewer crashes.

**Table 87. Evaluation of ASE Impact on Crashes by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Yes, conducted an evaluation	Yes, plan to conduct an evaluation	No	Don't Know	Total N of Jurisdictions
1987 to 2007	12 34%	6 17%	17 49%	2 6%	35
2008 to 2011	13 24%	14 25%	26 47%	2 4%	55
Total	25 28%	20 22%	43 48%	4 4%	90

(Multiple responses possible so the percentages do not add up to 100)

### **Evaluation of ASE Impact on Speeds**

For speed management countermeasures, the impact of the enforcement efforts on overall traffic speeds, especially speeds in excess of the posted speed limit are of interest. This question focused on evaluation efforts by the ASE agencies responding in regard to traffic speeds. When asked, “*Has your agency conducted an evaluation of the effects of ASE on traffic speeds, or is such an evaluation planned?*,” [Question E2] 48 percent of the agencies responding stated they had not conducted, and did not plan to conduct, evaluations of traffic speeds associated with their ASE program. Thirty percent of the responding agencies reported they had conducted speed evaluations, and 16 percent reported they planned to conduct a speed evaluation in the future (Table 88). A greater percentage of the newer ASE programs (56%) stated that had not conducted and did not plan to conduct a speed evaluation for their ASE programs as compared to the older ASE programs (34%).

Similar to the crash-based evaluations, the studies did not account for potential biases. All of the agencies that conducted speed evaluations reported decreases in overall speed. However, some agencies reported speed reduction in mph and others reported percentage decreases. The results ranged from 2.5 and 8 mph reductions in mean speed in two cities, respectively, to a 12 percent reduction in another city responding to the survey. Because agencies reported in different units and over varying time-periods, comparing results was not possible.

In addition to ASE effects on speed, a number of agencies examined the number of speeding violations and citations over time. Evaluation periods ranged from three months to eight years, and all agencies reported reductions in citations and/or violations after ASE implementation.

**Table 88. Evaluation of ASE Impact on Speeds by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Yes, conducted an evaluation	Yes, plan to conduct an evaluation	No	Don't Know	Did not answer	Total N or Jurisdictions
1987 to 2007	13 37%	4 11%	12 34%	5 14%	1 3%	35
2008 to 2011	14 25%	10 18%	31 56%	1 2%		55
Total	27 30%	14 16%	43 48%	6 7%	1 1%	90

(Multiple responses possible so percentages do not add up to 100)

### **Evaluation of ASE Impact on Public Acceptance**

The public's perception of ASE in a community is an important component of the overall success and longevity of an agency's ASE program. This question focused on evaluation efforts on this issue by those ASE agencies responding. When asked, *“Has your agency conducted an evaluation of the effects of ASE on public acceptance of ASE, or is such an evaluation planned?”* [Question E3] 66 percent of the agencies responding stated they had not conducted, and did not plan to conduct, evaluations of public acceptance associated with their ASE program. Another 14 percent of responding ASE agencies reported having conducted an evaluation of their ASE program with respect to public opinion, and 9 percent reported they were planning to conduct a public acceptance evaluation (Table 89). A greater percentage of the newer ASE programs (73%) stated that had not conducted and did not plan to conduct a public acceptance evaluation for their ASE programs as compared to the older ASE programs (54%).

Of the 13 agencies that assessed public opinion, 4 agencies conducted robust studies via telephone surveys. In one jurisdiction, a randomly selected sample of 409 residents overwhelmingly supported ASE, with 88 percent supporting intersection speed photo enforcement and 83 percent supporting mobile photo radar speed enforcement. In another jurisdiction, of the 400 people surveyed, 68 percent agreed with the use of ASE in school zones.

Three agencies assessed public opinion via non-telephone survey methods. One of these agencies included a survey with their monthly water bill as well as a link to the survey on their city website. Another held a town meeting to gauge support for ASE. A survey in the third city found that 75 percent favored use of speed cameras on roads with high death rates and serious injury crashes, and 73 percent accepted ASE use in school zones. None of these studies discussed response rates.

**Table 89. Public Acceptance Evaluations by Year Program Began  
(Includes Current and Discontinued Programs)**

Year Program Began	Yes, conducted an evaluation	Yes, plan to conduct an evaluation	No	Don't Know	Did not answer	Total N of Jurisdictions
1987 to 2007	9 26%	2 6%	19 54%	5 14%		35
2008 to 2011	4 7%	6 11%	40 73%	3 5%	2 4%	55
Total	13 14%	8 9%	59 66%	8 9%	2 2%	90

**Alignment with the NHTSA Guidelines**

A major objective of the project was to determine the extent to which ASE programs were aligned with the *NHTSA Guidelines*. To achieve this objective, the research team first identified provisions of the *NHTSA Guidelines* that had clear guidance terms such as "shall," "should," "critical," and "must." Then, working with NHTSA, the team developed survey questions to assess conformance with each of these provisions. A review of these alignment issues is contained in Table 90, below. All percentages are calculated on the sample size of 90 responses unless specifically indicated otherwise.

Each provision was classified as having a very low, low, medium, high, or very high level of alignment based on the percentage of responding programs that were in alignment with each provision, as follows.

- Very low alignment 0 – 19.9
- Low 20 – 39.9
- Medium 40 – 59.9
- High 60 – 79.9
- Very high alignment 80 - 100

In the following section, the direct quotations shown in the left column are the relevant NHTSA Guideline provisions. The text in the right column provides additional context to the percentage reported in the center column.

**Table 90. ASE Program Alignment With NHTSA Guidelines**

NHTSA GUIDELINES	% Agencies Aligned	ASE STUDY FINDING
<b>Very Low Alignment (&lt;20%)</b>		
<i>If drivers are not photographed in the jurisdiction, a certification of innocence should be required.</i>	19%	A certification of innocence by the registered owner is not a requirement in most programs.
<b>Low Alignment (≥20 and ≤39.9%)</b>		
<i>Of all evaluation methods, formal surveys are typically the most appropriate way to assess public awareness, understanding, and acceptance.</i>	23%	Just under a quarter (23%) of agencies which responded to this question reported conducting, or planning to conduct, an evaluation of their ASE program with respect to public opinion, of which seven were included with the survey response.
<i>A combination of fines and license sanctions is consistent with traditional enforcement penalties and the U.S. DOT Speed Management Strategic Initiative (U.S. DOT, 2005) recommends this combination as the most effective way to deter speeding.</i>	23%	Only 23 percent of the programs can also assess additional license sanctions. All but two of these agencies were located in two of the oldest ASE use States, Arizona and Oregon.
<i>A committee or advisory panel of stakeholder representatives should be formed during the planning process to guide program development and ensure that stakeholders can provide input from their unique perspectives.</i>	27%	Just under 3 in 10 responding agencies (27%) had advisory panels involved when developing their ASE programs. The degree of alignment with this Guideline element was higher for older ASE programs. Of the 28 programs which responded and were implemented between 1987 and 2007, 31 percent indicated that a stakeholder committee was formed versus 24% for newer programs.
<i>Every ASE violation committed by a government vehicle (including emergency vehicles while not on an emergency call) should be reviewed by the driver's supervisor or a fleet manager. Penalties and procedures to contest the violation should be the same as for the general public, though government vehicle drivers may face additional disciplinary action in accordance with department policies</i>	31%	About one-third of the agencies (31%) which answered this question reported actively pursuing the identity of drivers receiving ASE violations while driving government or commercial vehicles. The majority of these agencies are located in Arizona, Colorado, and Oregon. The degree of alignment was higher for older ASE programs.
<i>Identifying the driver is consistent with laws regulating traditional speed enforcement.</i>	32%	Driver images are currently collected by 29 ASE agencies (32%) in 4 States: Arizona, Colorado, Louisiana, Oregon and four of the States in the "Other States" group. All agencies in the study from Arizona, Colorado, and Oregon reported collecting a driver image. Of note, 3 out of 4 of the "Other States" reporting that they had taken driver images were discontinued ASE programs.

**Table 90. ASE Program Alignment with NHTSA Guidelines (cont'd)**

NHTSA GUIDELINES	% Agencies Aligned	ASE STUDY FINDING
<i>Citizen complaints can help to identify locations with speeding-related safety problems.</i>	32%	About one-third of agencies (32%) regularly accept citizen input in identifying deployment locations for ASE. The degree of alignment with this Guideline element was higher for older ASE programs; 40 percent of programs implemented between 1987 and 2007 reported including citizen input versus 27% for newer programs.
<i>If drivers are not photographed in the jurisdiction, evidence that the vehicle was not in the legal possession of the registered owner at the time of the violation should be required.</i>	34%	Just over one third of agencies (34%) reported requiring a registered owner to provide evidence that the vehicle was not in his/her legal possession at the time of the violation.
<i>A strategic plan for ASE should provide the link between the ASE program's overarching objectives (e.g., to reduce the occurrence of speeding and speeding-related crashes) and the short-term and long-term benchmarks that indicate the degree of success in achieving objectives.</i>	34%	Just over a third (34%) of the responding agencies had written strategic plans to reduce speeding violations and crashes.
<i>The vendor contract should ensure that the jurisdiction has ownership of ASE records.</i>	36%	In just over a third (36%) of the responding agencies, the jurisdictions clearly owned the ASE records and data.
<i>The duration of mobile enforcement shifts should reflect the span of time when speeding is most problematic at a given site. For instance, a two- to three-hour shift might encompass an evening rush hour. Enforcement should typically be scheduled in shifts of no more than four hours to provide ASE operators with break time and variety.</i>	38%	Of the 60 responding agencies that use mobile ASE units, 38 percent reported deployments of less than 5 hours. On average, mobile cameras are deployed about 13 hours per day on weekdays, and 7 to 8 hours on weekends. These longer deployment periods reflect the use of remotely monitored mobile units on a greater basis than in years past when all mobile units were staffed. It should be noted that there was a very high non-response rate to this question.
<b>Medium Alignment (≥40 and ≤59.9%)</b>		
<i>ASE and traditional traffic law enforcement can also be used in combination. One option is to station a traffic law enforcement officer simultaneously on the same road as an ASE unit.</i>	41%	Slightly over 4 in 10 (41%) of the responding agencies reported "often" or "occasionally" deploying traditional traffic officers using LIDAR, radar, etc. at or near ASE locations. Only 7 (8%) ASE agencies reported that they "often" deploy traditional traffic officers at or near ASE deployment locations.
<i>The identification of the actual driver at the time of the violation should be required if drivers are not photographed in the jurisdiction.</i>	41%	Over 4 in 10 (41%) of the agencies reported requiring the owner to identify the driver of the vehicle if it was not him/her.

**Table 90. ASE Program Alignment with NHTSA Guidelines (cont'd)**

NHTSA GUIDELINES	% Agencies Aligned	ASE STUDY FINDING
<i>To analyze overall program effects, speed data should be collected at mobile ASE sites when ASE is not present.</i>	46%	Less than half (46%) of the agencies responding indicated that they have conducted or plan to conduct evaluations of traffic speeds associated with their ASE program. Twenty-seven agencies reported conducting evaluations of their ASE programs with respect to traffic speeds.
<i>Crash effects are the most direct measure of an ASE program's effectiveness. It is important to focus on speed-related crashes and to establish clear definitions for categories of severity.</i>	50%	Half (50%) of the respondents answering this question indicated their agency had already conducted or planned to conduct a crash evaluation. Twenty-five respondents (28%) reported crash evaluations had already been conducted.
<i>Site selection should be the first step in system startup and should be done collaboratively with the traffic engineering or transportation department.</i>	51%	City traffic engineers were involved in site selection decisions in 46 (51%) jurisdictions. Police departments were involved in site selection decisions in 80 (89%) of the jurisdictions.
<i>At a minimum, violations deemed valid by processors should be spot checked by law enforcement supervisors.</i>	52%	A majority (52%) of ASE agencies reported that violations are spot checked by supervisors.
<i>At a minimum, traffic authorities should confirm that the posted speed limit is appropriate and complies with the Manual on Uniform Traffic Control Devices and State or local guidelines.</i>	54%	Just over half (54%) of the responding agencies reported conducting engineering studies to determine if speed limits were appropriate prior to implementing ASE operations at specific locations. In places where much of the ASE enforcement takes place in school zones, these studies were often deemed unnecessary.
<i>Ideally, all violations should be reviewed and certified by at least two individuals.</i>	57%	Nearly 6 in 10 agencies (57%) require that violations be reviewed by at least two individuals; however, in some cases, one of the reviews is performed by ASE vendor staff.
<b>High Alignment (≥60 and ≤79.9%)</b>		
<i>It is unwise to reveal the schedule in advance of site deployment.</i>	62%	Sixty-two percent of agencies which responded do not publicize their deployment schedules in advance.
<i>Speed data and crash data should be reviewed on a regular basis to determine whether resources should be shifted to respond to changing patterns.</i>	62%/63%	Over 60 percent of responding agencies reported reviewing speed (62%) or crash data (63%) to determine whether deployment locations should be changed. Forty-four responding agencies reported doing both speed and crash assessments.
<i>Equipment should be tested and proper operations should be verified before beginning an enforcement session (mobile ASE units).</i>	65%	More than 6 in 10 (65%) of the responding agencies indicated use of some form of checklist to ensure proper use of their mobile ASE equipment.
<i>It is also possible to make public the specific locations of sites.</i>	66%	Two-thirds of the ASE agencies (66%) responding reported that they publicize-the specific ASE deployment sites in advance, often on their agency websites.

**Table 90. ASE Program Alignment with NHTSA Guidelines (cont'd)**

NHTSA GUIDELINES	% Agencies Aligned	ASE STUDY FINDING
<i>It is possible to use a combination of different types of ASE units, but to achieve the broadest possible effect of ASE; mobile units should be the cornerstones of an ASE program under most circumstances.</i>	67%	Mobile units are clearly the dominant choice, with 60 of the responding agencies (67%) using them, including 33 agencies (37%) that only use them. Older programs had much higher use of mobile units compared to newer programs; 89 percent of agencies implemented prior to 2008 used mobile units compared to 53% for newer ASE agencies.
<i>The program may begin with a warning period, during which the program is in full operation but violations do not carry fines or license sanctions. If used, a warning period should not exceed one month.</i>	70%	For 7 in 10 agencies agencies responding (70%) the duration of the warning period was one month.
<i>Press releases or video releases can be used to provide important information to the media and to announce program milestones or changes.</i>	76%	Although only 16 (18%) of agencies reported using video releases, 68 responding agencies (76%) publicized via press releases.
<b>Very High Alignment (≥80 and ≤100%)</b>		
<i>It is essential that the program managers maintain adequate control and supervision of the violation processing staff.</i>	80%	Four out of 5 (80%) of the agencies responding to this question identified a person who is directly in charge of violation processing.
<i>To the extent possible, drivers should immediately be made aware when their vehicles are recorded committing violations. Flash photography can present a passive indication that the vehicle has been photographed.</i>	80%	Four out of 5 agencies (80%) reported that their ASE equipment provides some kind of immediate notice to drivers that they have been recorded as violating a speed law.
<i>Program managers should maintain oversight; if not direct control, of the enforcement schedule to ensure that the schedule is consistent with best practices identified in the jurisdiction, the goals of the strategic plan, and the resources available for ASE.</i>	83%	Police agencies (89%) were most often in charge of deployment schedules for mobile ASE units.
<i>The purposes and outcomes of support calls should be recorded and regularly reviewed by program managers to determine what confusions and misunderstandings people have about the program and to improve informational materials to address these issues.</i>	90%	Of those agencies responding, nine out of ten agencies (90%) reported that managers review communications received from citizens to identify potential recurring problems with the agency's ASE program.
<i>No matter who operates ASE units, the jurisdiction's program manager must maintain control and oversight of all ASE activities and monitor the operation to ensure that operators are in full compliance with laws and policies.</i>	90%	Nine out of 10 (90%) of the agencies responding to this question reported that their agency has one person overseeing ASE compliance with laws and policies.

**Table 90. ASE Program Alignment with NHTSA Guidelines (cont'd)**

NHTSA GUIDELINES	% Agencies Aligned	ASE STUDY FINDING
<i>When planning an ASE program, it is critical to understand all State and local laws relevant to ASE and to consider all possible interpretations of these laws.</i>	90%	Nine out of 10 (90%) of the respondents reported legal reviews were sought prior to implementation of their ASE programs.
<i>Violation data and photographs should be electronically encrypted at the time of their capture to prevent unauthorized access or tampering.</i>	91%	Nine out of 10 (91%) of the responding ASE agencies reported that data generated from ASE violations are encrypted. Encrypting ASE data appears to be a rigorously followed industry standard.
<i>The enforcement speed threshold should be the same that is used for traditional speed enforcement. Many jurisdictions begin enforcement at speeds 11 mph above the speed limit. Lower enforcement thresholds are more appropriate in areas with low speed limits, especially where pedestrians and children might be present. The enforcement speed threshold set in these areas should be no less than 6 mph above the speed limit.</i>	Given the multiple responses allowed in this question, percentages are not provided in this table. Please see Results Section for more information.	ASE agencies across the nation typically begin enforcement at about 11 mph over the posted speed limit. For school zones, Arizona, Louisiana, Tennessee and Washington begin enforcement at much lower levels than the remainder of the States in the survey. One State, Louisiana, enforces school zone violations at 5 mph over the speed limit.
<i>If the violation was recorded by a manned mobile ASE unit, the operator whose unit recorded the violation may represent the ASE program. If the violation was recorded by an unmanned unit, an ASE expert from either the jurisdiction or the vendor should represent the ASE program. However, vendor experts may be perceived as less credible if they have a financial stake, so jurisdiction experts are generally preferable</i>	Given the multiple responses allowed in this question, percentages are not provided in this table. Please see Results Section for more information.	Police officers were reported most often as appearing on behalf of the agency for contested ASE violations involving mobile units. ASE vendor employees were reported as testifying on behalf of the agency in Arizona, Louisiana, Maryland, Ohio, and Texas.

## **VI. Discussion**

### **Awareness of the *NHTSA Guidelines***

A fundamental objective of this study was to determine the extent to which *NHTSA Guidelines* were used in the development and implementation of ASE programs in the United States. The results indicate that most respondents (63%) were unaware of the ASE guidelines prior to participating in the study. One potential reason for the response rate on the guidelines could be that the person assigned to complete the survey may not have been involved when the program was first established. For current ASE programs, it appears that most of the agency staff assigned to complete the survey had operational responsibilities and/or oversight for ASE. Other persons within the agency, especially higher-level decision makers, may have been aware of the *NHTSA Guidelines*. Regardless, there would seem to be value in having those persons responsible for the operation of an ASE program to have an awareness of the NHTSA guidelines and the survey data indicates that this does seem to be the case.

During the follow-up phase, the research team asked respondents who did not know about the *NHTSA Guidelines* or who did not answer this question whether any other person inside or outside the ASE agency may have known about the *NHTSA Guidelines*. Unfortunately, limited additional information was gained from this effort. Overall, the results indicate that the *NHTSA Guidelines* were not well known within the ASE programs reviewed.

### **Alignment With the *NHTSA Guidelines***

A principal objective of this study was to determine the extent to which current and recently discontinued ASE programs align to key recommendations contained in the *NHTSA Guidelines*. Although 63 percent of the respondents were not aware of the *NHTSA Guidelines*, there was still alignment on many specific issues. This varied, with little alignment on some of the guidelines and nearly complete alignment on others.

One guideline recommendation that is poorly aligned with agency practice is the formation, during the planning process, of a committee or advisory panel of stakeholder representatives to guide program development and ensure that stakeholders can provide input. Just over a quarter (27%) of all agencies reported forming a community task force of stakeholders to provide input on the implementation phase of their ASE program. Given the controversial nature of ASE, the formation of an advisory panel appears to be a reasonable step toward obtaining stakeholder input and promoting public support. This is another example where greater use and closer alignment with the NHTSA guidelines would serve to benefit ASE programs.

Two related provisions of the *NHTSA Guidelines* that are less aligned with agency practice call for a combination of fines and license sanctions for ASE violations (23%) and the identification of the driver via photographic evidence (32%). The purpose is to provide consistency with traditional enforcement penalties and requirements for identifying the driver when conducting traditional speed enforcement. The basis for these *NHTSA Guidelines* recommendations is to promote the most effective method to deter speeding. There is empirical evidence that the

imposition of monetary fines without license sanctions and the use of registered vehicle owner liability (no driver identification) can be effective in deterring speeding violations (Retting, Farmer, & McCartt, 2008b). However, this approach helps feed ASE criticism that these programs are created for the mere purpose of collecting fines and do not serve legitimate traffic safety goals.

Another *NHTSA Guidelines* recommendation that has low alignment is the duration of mobile enforcement shifts to reflect the span of time when speeding is most problematic at a given site: “Enforcement should typically be scheduled in shifts of no more than four hours to provide ASE operators with break time and variety.” In light of changes in ASE technology that allow for remotely monitored mobile operations, and the widespread adoption of this new approach, agencies are routinely leaving ASE equipment deployed and in operation for much longer time periods, with an average of 13 hours per day on weekdays and 7 to 8 hours per day on weekends. As the guidance suggests, ASE should only be deployed during times when speeding is an issue. An emphasis on safety and reducing speeding, focusing on times and places where speeding is a problem, earns public confidence. Programs that permit much longer deployments run the risk of being classified as fine collection programs by critics and discontinued.

Another guideline recommendation that has only medium alignment (50%) is the evaluation of the impact of ASE on crashes – the ultimate measure of program effectiveness. Agencies may not conduct crash evaluations for a number of reasons. Resource constraints can be an issue as well as lack of the research expertise required to conduct rigorous crash evaluations.

### **Effect of Legislation and Technology**

As noted in the Results Section, the enabling legislation and technology employed varied greatly by State and by agency. These differences had a large effect on how programs operated. For example, States with enabling legislation that allows them to cite vehicle owners instead of drivers typically collect less evidence as a basis to issue a citation (e.g., no photograph of the driver is needed). Similarly, agencies that use primarily fixed systems consider the duration of enforcement and rotation schedules differently than those that primarily use mobile systems. These differences have an effect on the alignment of the ASE programs with the *NHTSA Guidelines*.

## **Implementation Year and ASE Program Characteristics**

There were striking differences in how ASE programs are administered between States that first implemented ASE and those beginning more recently. Arizona, Colorado, and Oregon, with the oldest ASE programs in the United States, are different from other States and the District of Columbia in some key areas. However, these differences do not appear to be related to the *NHTSA Guidelines* but instead to other factors, such as technology choices, program duration, and laws in the individual States.

Arizona, Colorado, and Oregon have the largest majority of the jurisdictions that capture an image of the driver (24 of 29 jurisdictions). States implementing ASE after 2000 generally do not capture driver images. Consequently, newer ASE programs generally charge the registered vehicle owner with an ASE violation.

In two of the States with the oldest programs, Arizona and Oregon, the monetary fines are substantially higher, by as much as four to five times, compared to ASE violations in other States. In addition, Arizona and Oregon impose more severe sanctions than in other States. Arizona and Oregon treat ASE speed violations essentially the same as if the driver was stopped by an officer. Points on the driver license (and potentially higher insurance rates), requirements for defensive driving classes, and even driver license suspensions are used in Arizona and Oregon. In fact, 18 of 20 ASE agencies that have these types of sanctions are in these two States. Other States treat ASE violations as civil violations, only resulting in monetary fines.

## **Remotely Monitored ASE Mobile Units and ASE Equipped Trailers**

Until recently, mobile ASE units have been almost universally comprised of vans or patrol vehicles, staffed with personnel from either the ASE agency or contracted vendor. In some States, staffing mobile ASE units is a legal requirement. In some other States where it is not, that protocol appears to be changing in favor of remotely monitored mobile units.

ASE equipped trailers have been introduced in several States over the past few years. ASE trailers are set up for operation and monitored from the ASE agency or an ASE vendor control center. ASE agencies in five States reported using ASE equipped trailers; however, this may underestimate the number of agencies using ASE trailers.

Like ASE trailers, ASE agencies are increasingly setting up unattended ASE mobile vans at deployment locations for remote monitoring.

The radio-based technology that allows remote monitoring of ASE mobile units has only recently been developed and become cost effective. There are obvious cost saving implications for ASE agencies and vendors. The *NHTSA Guidelines* do not address this new use of technology and the impact that it may have on how a program is structured, operated, and perceived.

## **Limitations of the Study**

This retrospective study of ASE programs has a number of limitations. One limitation is that the person who completed the questionnaire may not have been involved in the initial development and implementation of the ASE program, a major focus of the study. Similarly, even if the person completing the questionnaire was involved in ASE development and implementation, in some cases, programs were implemented years ago, thus potentially limiting accurate recall of information.

Another potential limitation is that not all of the identified eligible ASE programs participated. Although 90 of 107 identified programs completed questionnaires, it is possible that the 17 that did not were different in significant ways from those that did participate and these differences may have affected their decision to participate.

A related limitation with unknown impact is that the research team identified several eligible programs that began ASE operations after the cutoff for beginning data collection and these were not included in the study. To the extent that ASE programs were not identified and included in the study when other programs were in fact eligible, this would undermine the census nature of the study.

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# Appendices

**Appendix A:**  
**ASE Site List By Program Status at Time of the Survey**

<b>Agency ASE Status</b>	<b>Agency</b>	<b>State</b>
Current	Chandler Police Department	AZ
Current	El Mirage Police Department	AZ
Current	Mesa Police Department	AZ
Current	Eloy Police Department	AZ
Current	Globe Police Department	AZ
Current	Paradise Valley Police Department	AZ
Current	Phoenix Police Department	AZ
Current	Pima County Sheriff's Department	AZ
Current	Prescott Valley Police Department	AZ
Current	Scottsdale Police Department	AZ
Current	Town of Star Valley	AZ
Current	Surprise Police Department	AZ
Current	Tucson Police Department	AZ
Current	Show Low Police Department	AZ
Current	Sierra Vista Police Department	AZ
Current	Superior Police Department	AZ
Current	Boulder Police Department	CO
Current	Denver Police Department	CO
Current	Fort Collins Police Services	CO
Current	Metropolitan Police Department	DC
Current	Cedar Rapids Police Department	IA
Current	Davenport Police Department	IA
Current	Des Moines Police Department	IA
Current	Sioux City Police Department	IA
Current	Illinois Department of Transportation	IL
Current	Gretna Police Department	LA
Current	Lafayette Police Department	LA
Current	New Orleans Police Department	LA
Current	Westwego Police Department	LA
Current	Zachary Police Department	LA
Current	Baker Police Department	LA
Current	Baltimore City Depart. of Transportation	MD
Current	Baltimore County Police Department	MD
Current	Berwyn Heights Police Department	MD
Current	Bowie Police Department	MD

<b>Agency ASE Status</b>	<b>Agency</b>	<b>State</b>
Current	Chestertown Police Department	MD
Current	Cheverly Police Department	MD
Current	Chevy Chase Village Police Department	MD
Current	City of College Park Department of Public Services	MD
Current	Forest Heights Police Department	MD
Current	Frederick Police Department	MD
Current	Gaithersburg Police Department	MD
Current	Howard County Police Department	MD
Current	Landover Hills Police Department	MD
Current	Laurel Police Department	MD
Current	Montgomery County Police Department	MD
Current	New Carrollton Police Department	MD
Current	Prince George's County Police Department	MD
Current	Princess Anne Police Department	MD
Current	Rockville City Police Department	MD
Current	Salisbury Police Department	MD
Current	Maryland Department of Transportation	MD
Current	Takoma Park Police Department	MD
Current	St. Ann Police Department	MO
Current	Berkeley Police Department	MO
Current	Cool Valley Police Department	MO
Current	Sugar Creek Police Department	MO
Current	Las Cruces Police Department	NM
Current	Rio Rancho Police Department	NM
Current	Santa Fe Police Department	NM
Current	Akron Police Department	OH
Current	East Cleveland Police Department	OH
Current	Hamilton Police Department	OH
Current	Northwood Police Department	OH
Current	Parma Police Department	OH
Current	Toledo Police Department	OH
Current	West Carrollton Police Department	OH
Current	Cleveland Police Department	OH
Current	Columbus Police Department	OH
Current	Trotwood Police Department	OH
Current	Beaverton Police Department	OR
Current	Medford Police Department	OR
Current	Portland Police Bureau	OR
Current	Milwaukie Police Department	OR
Current	Bluff City Police Department	TN
Current	Chattanooga Police Department	TN
Current	Jackson Police Department	TN

<b>Agency ASE Status</b>	<b>Agency</b>	<b>State</b>
Current	Jonesborough Police Department	TN
Current	Mount Carmel Police Department	TN
Current	Oak Ridge Police Department	TN
Current	Red Bank Police Department	TN
Current	Huntingdon Police Department	TN
Current	Issaquah Police Department	WA
Current	Lynnwood Police Department	WA
Current	Monroe Police Department	WA
Current	Seattle Police Department	WA
Current	Tacoma Police Department	WA
Current	Redmond Police Department	WA
Current	Federal Way Police Department	WA
Current	Longview Police Department	WA
Current	Renton Police Department	WA
Discontinued	Tempe Police Department	AZ
Discontinued	Arizona Department of Public Safety	AZ
Discontinued	San Jose Police Department	CA
Discontinued	Colorado Springs Police Department	CO
Discontinued	Juno Beach Police Department	FL
Discontinued	Sulphur Police Department	LA
Discontinued	Livingston Parish Sheriff's Office	LA
Discontinued	Charlotte-Mecklenburg Police Department	NC
Discontinued	Albuquerque Police Department	NM
Discontinued	Ashtabula Police Department	OH
Discontinued	Chillicothe Police Department	OH
Discontinued	Heath Police Department	OH
Discontinued	Ridgeland Police Department	SC
Discontinued	Marble Falls Police Department	TX
Discontinued	Rhome Police Department	TX
Current & Discontinued	Selmer Police Department	TN

**Appendix B:**  
**Current and Discontinued ASE Questionnaire Variable Map**

The following table provides a comparison of the items in the two questionnaires – one for current ASE programs and the other for discontinued ASE programs. For questions included on both questionnaires, current program questions use present tense and discontinued program questions use past tense; otherwise they are the same.

QUESTION TOPIC	QUESTION NUMBER		COMMENTS
	CURRENT ASE PROGRAMS	DISCONTINUED ASE PROGRAMS	
<b>SECTION A - General Considerations and Planning</b>			
Year of ASE program implementation	A1	A1	
Year of ASE program termination		A2	
Aware of NHTSA ASE Guidelines	A2	A3	
Reviewed Guidelines for possible use (pre-2008 programs)	A3		
Used Guidelines (post-2008 programs)	A4	A4	For current ASE – use to implement/for discontinued ASE used to try and save program
Who primarily responsible for ASE start	A5	A5	
Has automated red light enforcement	A6	A6	If yes, asked how many
Legal review prior to ASE implementation	A7	A7	
Written strategic plan on speeding	A8	A8	
Who provides enforcement locations	A9	A9	
Factors in termination of ASE program		A10	
<b>SECTION B - Program Startup/Implementation</b>			
Factors used to determine deployment	B1	B1	
Used task force in implementation	B2	B2	
Images collected for ASE citations	B3	B3	
ASE sanctions authorized by State	B4	B4	
ASE sanctions authorized used	B5	B5	
Other violations authorized for ASE	B6	B6	
ASE devices used	B7	B7	
Locations ASE deployed	B8	B8	
ASE strategies used	B9	B9	
Engineering study prior to ASE at site	B10	B10	
Other measures used prior to ASE	B11	B11	If yes, what measures typically considered
Who owns ASE camera equipment used	B12	B12	
Who maintains the ASE equipment	B13	B13	
Who owns the ASE records and data	B14	B14	
Relationship with adjudicating courts	B15	B15	
Data electronically encrypted/secured	B16	B16	
Conducted initial PI&E campaign	B17	B17	
What included in initial PI&E campaign	B18	B18	
PI&E campaign maintained over time	B19	B19	
Mechanisms used to inform the public	B20	B20	
Publicized warning period at ASE start	B21	B21	

<b>SECTION C - Operations</b>			
Communicate ASE sites in advance	C1	C1	
Communicate ASE schedule in advance	C2	C2	
Enforcement speed thresholds	C3	C3	
Who staffs mobile ASE units	C4	C4	
Use checklist for mobile ASE equipment	C5	C5	If yes, please attach copy of checklist
Typical days/hours of mobile ASE	C6	C6	
Typical # hours of ASE at mobile site	C7	C7	
Who has primary oversight of mobile ASE deployment schedule	C8	C8	
ASE gives driver immediate feedback	C9	C9	
Traditional enforcement at or near ASE	C10	C10	
Review ASE data/crash data to determine if shift of location needed	C11	C11	
If no driver image, how address contested ASE violation notices	C12	C12	
Have one person assigned to ensure all ASE in compliance with laws and policies	C13	C13	For current programs, if yes, ask for this person's contact info/for discontinued, position defunct
<b>SECTION D - Violation Processing, Delivery and Adjudication</b>			
			Attach sample violation notice
Who is responsible for overseeing violation processing staff	D1		Get contact info for current programs
Quality control procedures used	D2	D1	
How determine if issue ASE citation	D3	D2	
Describe policy on target time for processing ASE violations	D4	D3	
Who had final responsibility to determine if citation issued	D5	D4	
Use personal service for non-responses	D6	D5	
Who appears in court – mobile ASE	D7	D6	
Who appears in court – fixed ASE	D8	D7	
ID drivers of government vehicles	D9	D8	
ID recurrent concerns per citizen calls	D10	D9	
How many ASE violations past year	D11	D10	For programs more than one year old
How many of these paid fine	D12	D11	For programs more than one year old
ASE fines by road type	D13	D12	
Distribution of ASE revenue	D14	D13	
Percentage of speeding violations ASE	D15	D14	

<b>SECTION E - Program Evaluation</b>			
Conducted evaluation of ASE effects on crashes	E1	E1	Ask to provide copy of evaluation if available/For current ASE, also ask about planned evaluation
Conducted evaluation of ASE effects on traffic speeds	E2	E2	Ask to provide copy of evaluation if available/For current ASE, also ask about planned evaluation
Conducted evaluation of public acceptance of ASE program	E3	E3	Ask to provide copy of evaluation if available/For current ASE, also ask about planned evaluation
Other comments on ASE program	E4	E4	Open question
Other agency contact information			

## **Appendix C: Cover Letters**

## Current ASE Programs Letter



U.S. Department  
of Transportation  
**National Highway  
Traffic Safety  
Administration**  
<Date>

1200 New Jersey Avenue SE.  
Washington, DC 20590

<Chief of Police>  
<Police Department/Agency Name>  
<Address>  
<City, State, Zip Code>

Dear <Salutation>:

The National Highway Traffic Safety Administration (NHTSA) is conducting a national study of United States law enforcement agencies that are currently using Automated Speed Enforcement (ASE) or that have used ASE in the past. The information collected in this study will help NHTSA gain a better understanding of how ASE is being or has been utilized around the country. This information will be used to improve NHTSA's *Speed Enforcement Camera Systems Operational Guidelines* with the continued objective of assisting State and local agencies in efficiently implementing or modifying ASE programs based on the experiences of law enforcement agencies nationwide.

Your agency has been identified as one that either has a current ASE program or has had an ASE program in the past. By completing this questionnaire on your agency's experiences utilizing ASE in traffic safety enforcement, you will make a significant contribution to highway safety efforts across the United States. In addition to helping improve the information available on ASE programs, the time spent completing the questionnaire may also provide an opportunity to review your program's operations. Most importantly, the final report from this study will provide insights from ASE programs throughout the country.

In about a week, NHTSA's contractor for this study, M. Davis and Company, Inc., will be sending you a questionnaire packet in the mail. We ask that your agency complete the questionnaire and return it to the contractor. The study is voluntary. The information collected will be aggregated for analysis; no agency comparisons will be made. Your participation in the study will be of great assistance to other jurisdictions with ASE programs and jurisdictions that are starting a new ASE program.

Thank you for your time. If you have any questions, please feel free to contact me.

Sincerely,  
Randolph Atkins, Ph.D.  
Office: W46-500  
202-366-5597  
[randolph.atkins@dot.gov](mailto:randolph.atkins@dot.gov)



## Discontinued ASE Programs Letter



U.S. Department  
of Transportation  
**National Highway  
Traffic Safety  
Administration**  
<Date>

1200 New Jersey Avenue SE.  
Washington, DC 20590

<Chief of Police>  
<Police Department/Agency Name>  
<Address>  
<City, State, Zip Code>

Dear <Salutation>:

The National Highway Traffic Safety Administration (NHTSA) is conducting a national study of United States law enforcement agencies that are currently using Automated Speed Enforcement (ASE) or that have used ASE in the past. The information collected in this study will help NHTSA gain a better understanding of how ASE is being or has been utilized around the country. This information will be used to improve NHTSA's *Speed Enforcement Camera Systems Operational Guidelines* with the continued objective of assisting State and local agencies in efficiently implementing or modifying ASE programs based on the experiences of law enforcement agencies nationwide.

Your agency has been identified as one that either has a current ASE program or has had an ASE program in the past. By completing this questionnaire on your agency's experiences utilizing ASE in traffic safety enforcement, you will make a significant contribution to highway safety efforts across the United States. In addition to helping improve the information available on ASE programs, the time spent completing the questionnaire may also provide an opportunity to review your program's operations. Most importantly, the final report from this study will provide insights from ASE programs throughout the country.

In about a week, NHTSA's contractor for this study, M. Davis and Company, Inc., will be sending you a questionnaire packet in the mail. We ask that your agency complete the questionnaire and return it to the contractor. The study is voluntary. The information collected will be aggregated for analysis; no agency comparisons will be made. Your participation in the study will be of great assistance to other jurisdictions with ASE programs and jurisdictions that are starting a new ASE program.

Thank you for your time. If you have any questions, please feel free to contact me.

Sincerely,  
Randolph Atkins, Ph.D.  
Office: W46-500  
202-366-5597  
[randolph.atkins@dot.gov](mailto:randolph.atkins@dot.gov)



**Appendix D:  
Current ASE Program Cover Letter and  
Questionnaire**



U.S. Department  
of Transportation  
**National Highway  
Traffic Safety  
Administration**

<Chief of Police>  
<Police Department/Agency Name>  
<Address>  
<City, State, Zip Code>



Dear <Salutation>:

The U.S. Department of Transportation’s National Highway Traffic Safety Administration (NHTSA) is conducting a study of current and discontinued Automated Speed Enforcement (ASE) programs throughout the United States. M. Davis and Company, Inc. (MDAC) is collecting the data for NHTSA and your agency has been identified as currently using ASE technology in your overall efforts to reduce speeding and save lives in your community.

In April 2008, NHTSA published *Speed Enforcement Camera Systems Operational Guidelines*. These Guidelines were meant to provide a list of “pros” and “cons” of various communication approaches and law enforcement practices and describe how jurisdictions have implemented and conducted their ASE programs.

The goal of this NHTSA study is to develop a better understanding of existing ASE programs around the country, as well as programs that have recently been terminated. There are no right and no wrong answers. NHTSA will use the findings to improve the *NHTSA Guidelines* with the continued objective of assisting State and local agencies nationwide in efficiently implementing or modifying ASE programs. Your completion of this questionnaire will not only contribute to improving national highway safety efforts, it can also provide you with a good opportunity to review your own ASE program in light of existing *NHTSA Guidelines* as well as gain insights from the operations of other ASE agencies.

This project will not rank, grade, or otherwise directly compare ASE jurisdictions to each other. It is expected that the average time needed to complete this questionnaire will be about one hour.

NHTSA is interested in obtaining information about how your community’s ASE program has been implemented. The attached questionnaire consists of a series of questions specifically directed at learning about the background and operational aspects of your ASE program. We ask that this written questionnaire be completed no later than November 4, 2011 and mailed to M. Davis and Company, Inc. in the envelope provided. After the MDAC research team has had the opportunity to review your responses to these questions, an ASE expert from the MDAC team may contact your agency to follow up on responses to this questionnaire if clarification or more detail is needed.

If you have questions regarding NHTSA’s goals in conducting this study, please contact Dr. Randolph Atkins, the NHTSA Contracting Officer Technical Representative for this project, at 202-366-5597 or [randolph.atkins@dot.gov](mailto:randolph.atkins@dot.gov).

If you have questions about how to complete the questionnaire, please contact me. For your convenience, a PDF fillable form version of this questionnaire is also available. If you would prefer to complete a PDF version instead of a paper version, please send me an email or give me a call.

Sincerely,

Richard J. Miller, Principal Investigator  
M. Davis and Company, Inc.  
3000 Market Street, Suite 202, Philadelphia, PA 19104  
Tel: [redacted], E-mail: richard@mdavisco.com

### **Paperwork Reduction Act Burden Statement**

A Federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2127-0676. Public reporting for this collection of information is estimated to be approximately 60 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are voluntary. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, National Highway Traffic Safety Administration, 1200 New Jersey Avenue SE., Washington, DC, 20590

**National Highway Traffic Safety Administration Automated Speed Enforcement  
Census**

Agency \_\_\_\_\_

Person Completing Questionnaire \_\_\_\_\_

Phone Number \_\_\_\_\_ Email \_\_\_\_\_

Address \_\_\_\_\_

**CENSUS QUESTIONS**

Please check the box (or boxes) within each question that best describes your answer.

**Section A. General Considerations and Planning**

**A1 What year did your community first implement Automated Speed Enforcement (ASE)?**

Program began \_\_\_\_\_

**A2 Before you had the opportunity to review this questionnaire, were you aware that the NHTSA Automated Speed Enforcement (ASE) Guidelines existed?**

Yes IF YES, CONTINUE TO QUESTION A3

No IF NO, SKIP TO QUESTION A5

Don't know IF DON'T KNOW, SKIP TO QUESTION A5

**A3 [For programs that began before April 2008]**

**Has your community reviewed the NHTSA Automated Speed Enforcement Guidelines for possible incorporation into your existing program?**

Yes

No

Don't know

Not Applicable

**A4 [For programs that began from April 2008 to date]**

**Did your community use the NHTSA Automated Speed Enforcement Guidelines in the development and implementation of the ASE program?**

- Yes
- No
- Don't know
- Not applicable

**A5 Who was primarily responsible for advocating for the implementation of ASE in your community? (Please check all that apply)**

- Police department
- City manager/council
- Mayor/other elected officials
- Public demand
- ASE vendor(s)
- Other (please elaborate)

---

- Don't know

**A6 In addition to ASE, does your community use automated red light enforcement?**

- Yes
- No
- Don't know

**If yes, approximately how many intersections are currently monitored?**

---

**A7 Prior to implementing ASE in your community, was a legal review or opinion provided by a person such as a city attorney or county attorney to clarify issues related to legal authority for use of ASE?**

- Yes
- No
- Don't know

**A8 Does your community have a written strategic plan to reduce speeding violations and crashes?**

- Yes
- No
- Don't know

**A9 Who provides ASE enforcement location recommendations in your community? (Please check all that apply)**

- Police department
- City traffic engineers
- ASE Vendor Company
- The public
- Others (please elaborate)

\_\_\_\_\_

- Don't know

**Section B. Program Startup/Implementation**

**B1 What factors (such as crash data, engineering data, revenue potential, etc...) are used to determine ASE deployment sites in your community?**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**B2 When implementing ASE programs, some communities form a committee or task force of stakeholders to increase interagency communication and community support. As part of implementing ASE in your community, was such a stakeholder committee formed?**

- Yes
- No
- Don't know

**B3 What images does your agency collect for use in issuing ASE citations? (Please check all that apply)**

- Driver image
- Front vehicle license plate
- Rear vehicle license plate
- Other (Please elaborate)

---

- Don't know

**B4 In your State, what kinds of sanctions are authorized by law for ASE violations?  
(Please check all that apply)**

- Civil violation (i.e., monetary fine only)
  
- Misdemeanor or summary violation (i.e., monetary fine and/or driver license penalties)
  
- Defensive driving school
  
- Other (Please elaborate)  
\_\_\_\_\_
  
- Don't know

**B5 In your community, what sanctions are applied for violations captured through ASE violations? (Please check all that apply)**

- Civil Violation (i.e., monetary fine only)
  
- Misdemeanor or summary violation (i.e., monetary fine and/or driver license penalties)
  
- Defensive driving school
  
- Other (Please elaborate)  
\_\_\_\_\_
  
- Don't know

**B6 Under your ASE program, what other violations are authorized from the photographic evidence, if any? (Please check all that apply)**

- Seat belt violations
- Driver license violations (i.e., suspended, revoked, etc.)
- Vehicle registration violations (i.e., expired, improper, etc.)
- Other violations (Please elaborate)\_\_\_\_\_
- Not applicable
- Don't know

**B7 What types of ASE devices are used in your community? (Please check all that apply)**

- Fixed enforcement (i.e., permanent pole-mounted cameras at non intersection locations). If so, at how many locations? \_\_\_\_\_
- Semi-fixed enforcement (ground mounted cameras in secure housings that can remain on site for several days or weeks). If so, at how many locations? \_\_\_\_\_
- Red Light "Speed On Green" enforcement. If so, at how many locations? \_\_\_\_\_
- Mobile enforcement?  
If so, how many mobile units? \_\_\_\_\_ and at how many locations? \_\_\_\_\_
- Other (Please elaborate) \_\_\_\_\_
- Don't know

**B8 Which of the following locations are used for ASE in your community? (Please check all that apply)**

- School zones
  - Residential neighborhoods
  - Arterial roads
  - Expressways
  - Highway work zones
  - Other (Please elaborate)
- 

Don't know

**B9 What ASE strategies does your agency use? (Please check all that apply)**

- ASE permanent signs posted on major roads and entrances to the community
  - ASE permanent signs posted in advance of fixed speed cameras (i.e., non intersection, permanent locations)
  - ASE temporary signs posted in advance of mobile cameras
  - No advance ASE signage
  - Fully marked ASE mobile vehicles
  - Unmarked ASE mobile vehicles
  - Other (Please elaborate)
- 

Don't know

**B10 Prior to an initial deployment of ASE on a specific roadway segment, does a traffic engineer conduct a study to determine if the speed limit is appropriately set?**

- Yes
- No
- Don't know

**B11 Prior to an initial deployment of ASE on a specific roadway segment, are other measures first considered?**

- Yes
- No
- Don't know

**If yes, what other measures are typically considered?**

---

---

**B12 Who owns the ASE camera equipment used by your agency?**

- Police department
- ASE vendor
- Other (Please elaborate)  

---
- Don't know

**B13 Who maintains the ASE camera equipment used by your agency?**

- Police department
- ASE vendor
- Other (Please elaborate)  

---

Don't know

**B14 Who owns the ASE records and data for your program?**

Police Department

ASE Vendor

Other (Please elaborate)

---

Don't know

**B15 Regarding your ASE program, how would you characterize the relationship between your agency and the courts that adjudicate ASE cases?**

Excellent (e.g., work closely, communicate frequently)

Good (e.g., coordinate and communicate as needed)

Fair (e.g., some limited coordination and communication)

Poor (e.g., little or no communication or coordination)

Don't know

**B16 Are ASE data electronically encrypted from the capture point and placed onto secure networks?**

Yes

No

Don't know

**B17 When your community first implemented ASE, was an initial public information and education campaign conducted?**

Yes IF YES, CONTINUE TO QUESTION B18

No IF NO, SKIP TO QUESTION B20

Don't know IF DON'T KNOW, SKIP TO QUESTION B20

**B18 Which of the following elements were included in the initial public information and education campaign? (Please check all that apply)**

- Promote awareness of ASE program
  - Explain the dangers of speeding
  - Identify camera-enforced locations
  - Explain penalties for ASE violations
  - Other (please elaborate)
- 

Don't know

**B19 Has the public information and education campaign been consistently maintained since the initial implementation period?**

- Yes
- No
- Don't know

**B20 What mechanisms does your agency use to inform the public about your ASE program? (Please check all that apply)**

- Press conferences/interviews
  - Press releases
  - Video releases
  - Agency website
  - Other (Please elaborate)
- 

Don't know

**B21 Was implementation of ASE in your community preceded by a publicized warning period?**

Yes

No

Don't know

If yes, how long did that publicized warning period last?

---

**Section C. Operations**

**C1 Does your agency communicate the specific sites of ASE deployments in advance to the public?**

- Yes
- No
- Don't know

**C2 Does your agency communicate the specific daily schedule of ASE deployments in advance to the public?**

- Yes
- No
- Don't know

**C3 What is the enforcement speed threshold (i.e., lowest speed in miles per hour (mph) over a posted speed limit at which a violation is recorded) for ASE deployments on the following location types? (For those that apply to your community, please specify the number for miles over the speed limit).**

School zones	_____mph over speed limit
Residential neighborhoods	_____mph over speed limit
Major (arterial) roads	_____mph over speed limit
Expressways	_____mph over speed limit
Highway work zones	_____mph over speed limit
Other (please elaborate) _____	_____mph over speed limit

**C4 Who staffs your mobile ASE units, if used? (Please check all that apply)**

- Police officers
- Other police civilian employees
- ASE vendor
- Other (Please elaborate) \_\_\_\_\_
- Not applicable  
IF NOT APPLICABLE, SKIP TO QUESTION C9

**C5 Does your agency use a checklist to ensure that ASE equipment is being properly operated during each mobile ASE enforcement deployment?**

- Yes (If yes, please attach a copy of the checklist)
- No
- Don't know

**C6 What are the typical days and hours of operation for your ASE enforcement sites for mobile units, if used?**

Sunday

---

Monday

---

Tuesday

---

Wednesday

---

Thursday

---

Friday

---

Saturday

---

**C7 For your mobile units (if applicable), what is the typical total number of daily ASE deployment hours at a site?**

---

**C8 Who has primary oversight of your agency's ASE deployment schedule?**

Police department staff

ASE vendor

Other (please elaborate)

---

Don't know

**C9 Does the ASE equipment provide some type of immediate feedback to drivers indicating a violation has been recorded, for instance, through a camera flash, speed display board, or other means?**

- Yes
- No
- Don't know

**C10 How often are traditional (lidar/radar) traffic enforcement officers posted at or near operational fixed or mobile ASE sites?**

- Often
- Occasionally
- Rarely
- Never
- Don't Know

**C11 Does your agency review ASE data and/or crash data to determine whether enforcement should be shifted to other locations? (Please check all that apply)**

- Yes, review speed data
- Yes, review crash data
- No
- Don't Know

**C12 Which of the following applies if no ASE driver image is taken and the vehicle's registered owner contests the violation notice?**

- Certification of innocence required from the registered owner
- Identification of the driver required from the registered owner
- Evidence that the vehicle was not in the legal possession of the registered owner (i.e., stolen)
- Other (Please elaborate)  
\_\_\_\_\_
- Not applicable
- Don't Know

**C13 Does your agency have one person in authority assigned to ensure all ASE activities are in compliance with laws and policies?**

- Yes
- No
- Don't know

If yes, please identify this person and provide contact information

Name &  
Title: \_\_\_\_\_

Phone  
Number: \_\_\_\_\_

E-mail  
address: \_\_\_\_\_

**Section D. Violation Processing, Delivery and Adjudication**

(Please attach a sample violation notice to this questionnaire. Thank you)

**D1 In your agency's ASE program, who is responsible for maintaining control and supervision of the violation processing staff? (Please provide contact information)**

Name &  
Title: \_\_\_\_\_

Phone  
Number: \_\_\_\_\_

Email  
address: \_\_\_\_\_

**D2 Are any of the following internal quality control procedures employed by your jurisdiction? (Please check all that apply)**

- All violations are reviewed and certified by at least two individuals
- Police department supervisors spot-check violations deemed valid by processors
- Other (please elaborate)  
\_\_\_\_\_
- None
- Don't know

**D3 Which of the following does your agency employ to determine whether you will issue an ASE violation? (Please check all that apply)**

Vehicle/registration plate matching

Gender matching

Image quality standards

Other (please elaborate)

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None

Don't know

**D4 Briefly describe your agency's policy on the maximum time targeted for processing ASE violations?**

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**D5 Who has final responsibility for reviewing ASE violations to determine if a violation notice should be issued?**

- Police officer
- Civilian employee of Police department
- ASE vendor employee
- Don't know
- Other (please elaborate)

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**D6 Does your ASE program use personal service (i.e., a hand delivered notice to appear) as an option for ASE violations when there is no response to the mailed violation?**

- Yes, the majority of mailed ASE violations not responded to by the alleged violator are followed up by personal service
- Yes, selected mailed ASE violations not responded to by the alleged violator are followed up by personal service.
- No, our ASE program does not involve personal service of ASE violations.
- Other (please elaborate)

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- Don't know

**D7 For contested court appearances involving mobile unit ASE violations, if applicable, who appears in court on behalf of the agency? (Please check all that apply)**

- Police officer who staffed the mobile unit
- Civilian employee of Police department who staffed the mobile unit
- Vendor employee who staffed the mobile unit
- Police officer who reviewed the ASE violation
- Civilian employee of Police department who reviewed the ASE violation
- Vendor employee who reviewed the ASE violation
- Other (please elaborate)  

---
- Not applicable
- Don't know

**D8 For contested court appearances involving either fixed unit, semi-fixed unit, or red light intersection “speed on green” ASE violations, if applicable, who appears in court on behalf of the agency? (Please check all that apply)**

- Police officer who reviewed the ASE violation
- Civilian employee of Police department who reviewed the ASE violation
- Vendor employee who reviewed the ASE violation
- Other (please elaborate)  
\_\_\_\_\_
- Not applicable
- Don't know

**D9 When issuing violation notices to vehicles owned by a government agency or a business, does the ASE agency request identification of the person driving at the time of the violation?**

- Yes
- No
- Don't know

**D10 Are calls from citizens regarding your ASE program reviewed by program managers to identify recurring concerns about the ASE program?**

- Yes
- No
- Don't know

**IF YOUR ASE PROGRAM IS MORE THAN ONE YEAR OLD, PLEASE ANSWER QUESTIONS D11 AND D12. IF IT IS LESS THAN ONE YEAR OLD, PLEASE SKIP TO QUESTION D13**

**D11 Over the most recent complete year of operation, how many total ASE violations were forwarded to alleged violators?**

---

**D12 Of those ASE violations, how many violators paid a fine?**

---

**D13 What are the fines assessed for the following ASE violations, if applicable?  
(Please insert the dollar amount on the blank line)**

- School zones \$ \_\_\_\_\_
- Residential neighborhoods \$ \_\_\_\_\_
- Arterial roads \$ \_\_\_\_\_
- Expressways \$ \_\_\_\_\_
- Highway work zones \$ \_\_\_\_\_
- Other (Please elaborate) \_\_\_\_\_ \$ \_\_\_\_\_
- Don't know

**D14 How is the revenue generated from your ASE program distributed? (Please check all that apply)**

- Police department – traffic safety fund \_\_\_\_\_%
- Police department – general fund \_\_\_\_\_%
- Local government \_\_\_\_\_%
- County government \_\_\_\_\_ %
- State government \_\_\_\_\_%
- ASE vendor \_\_\_\_\_%
- Other (please elaborate) \_\_\_\_\_ %
- Don't know

**D15 Over the most recent complete year of operation by your ASE program, what approximate percentage of all speeding violations issued by your agency (including ASE, RADAR, LIDAR, air speed timing, vehicle pacing, and other traditional enforcement methods) were ASE violations?**

- 1-20%
- 21-40%
- 41-60%
- 61-80%
- 81-100%
- Don't know

**Section E. Program Evaluation**

**E1 Has your agency conducted an evaluation of the effects of ASE on crashes, or is such an evaluation planned?**

- Yes, conducted an evaluation
- Yes, plan to conduct an evaluation (If so, when?)\_\_\_\_\_
- No
- Don't know

**If yes, please provide a copy of the evaluation or the evaluation plan methodology if you are in the planning stages of an evaluation.**

**E2 Has your agency conducted an evaluation of the effects of ASE on traffic speeds, or is such an evaluation planned?**

- Yes, conducted an evaluation
- Yes, plan to conduct an evaluation study (If so, when?)\_\_\_\_\_
- No
- Don't know

**If yes, please provide a copy of the evaluation or the evaluation plan methodology if you are in the planning stages of an evaluation.**

**E3 Has your agency conducted an evaluation of public acceptance of ASE, or is such an evaluation planned?**

- Yes, conducted an evaluation
- Yes, plan to conduct an evaluation (if so, when?)\_\_\_\_\_
- No
- Don't know

**If yes, please provide a copy of the evaluation or the evaluation plan methodology if you are in the planning stages of an evaluation.**

**E4 Please take this opportunity to add any comments about your ASE program that you think are relevant that were not addressed in the preceding questions. (Please attach additional pages, if necessary)**

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**For your convenience, here is a list of the items requested in the questionnaire as attachments, if available:**

- ASE equipment checklist for each mobile ASE enforcement deployment
- Sample ASE violation notice
- Evaluation (or evaluation plan) of the effects of ASE on crashes,
- Evaluation (or evaluation plan) of the effects of ASE on traffic speeds
- Evaluation (or evaluation plan) of public acceptance of ASE

**SUPPLEMENTARY CONTACT INFORMATION**

**Please provide the names and contact information of any additional individuals whose input you believe would be beneficial to this very important NHTSA data collection effort. (Please attach additional pages, if necessary)**

Name &  
Title: \_\_\_\_\_  
Phone  
Number: \_\_\_\_\_  
Email  
address: \_\_\_\_\_

Name &  
Title: \_\_\_\_\_

Phone  
Number: \_\_\_\_\_

Email  
address: \_\_\_\_\_

Name &  
Title: \_\_\_\_\_  
Phone  
Number: \_\_\_\_\_

Email  
address: \_\_\_\_\_

Name &  
Title: \_\_\_\_\_

Phone  
Number: \_\_\_\_\_

**On behalf of the U.S. Department of Transportation, National Highway Traffic Safety Administration, we would like to thank you for taking the time to complete this questionnaire on your Automated Speed Enforcement program. Please mail this questionnaire in the postage-paid envelope provided to:**

**M. Davis and Company, Inc.  
3000 Market Street, Suite 202  
Philadelphia, PA 19104  
Attention: NHTSA ASE Questionnaire**

**Appendix E:  
Discontinued ASE Program Cover letter and  
Questionnaire**



U.S. Department  
of Transportation  
**National Highway  
Traffic Safety  
Administration**



<Police Chief's name>  
<Police Department/Agency>  
<Address>  
<City, State, Zip code>

Dear <Salutation>,

The U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) is conducting a study of current and discontinued Automated Speed Enforcement (ASE) programs throughout the United States. M. Davis and Company, Inc. (MDAC) is collecting the data for NHTSA and your agency has been identified as one that recently discontinued the use of ASE.

In April 2008, NHTSA published *Speed Enforcement Camera Systems Operational Guidelines*. These Guidelines were meant to provide a list of "pros" and "cons" of various communication approaches and law enforcement practices and describe how jurisdictions have implemented and conducted their ASE programs.

The goal of this study is to develop a better understanding of existing ASE programs around the country as well as programs that have recently been terminated. There are no right and no wrong answers. NHTSA will use the findings to improve the *NHTSA Guidelines* with the continued objective of assisting State and local agencies nationwide in efficiently implementing or modifying ASE programs. Your completion of this questionnaire will not only contribute to improving national highway safety efforts, it can also provide you with a good opportunity to review your own ASE program in light of existing Guidelines as well as gain insights from the operations of other ASE agencies.

This project will not rank, grade, or otherwise directly compare ASE jurisdictions to each other. It is expected that the average time needed to complete this questionnaire will be about one hour.

NHTSA is interested in obtaining information about how your community's ASE program was implemented as well as reasons why it was terminated. The attached questionnaire consists of a series of questions specifically directed at learning about the background and operational aspects of your ASE program. We ask that this written questionnaire be completed no later than November 4, 2011 and mailed to M. Davis and Company, Inc. in the envelope provided. After the MDAC research team has reviewed your responses to these questions, an ASE expert from the MDAC team may contact your agency to follow up on responses to this questionnaire if clarification or more detail is needed.

If you have questions regarding NHTSA's goals in conducting this study, please contact Dr. Randolph Atkins, the NHTSA Contracting Officer Technical Representative for this project, at 202-366-5597 or [randolph.atkins@dot.gov](mailto:randolph.atkins@dot.gov).

If you have questions about how to complete the questionnaire, please contact me. For your convenience, a PDF fillable form version of this questionnaire is also available. If you would prefer to complete a PDF version instead of a paper version, please send me an email or give me a call.

Sincerely,

Richard J. Miller, Principal Investigator  
M. Davis and Company, Inc.  
3000 Market Street, Suite 202, Philadelphia, PA 19104  
Tel: [redacted], E-mail: [richard@mdavisco.com](mailto:richard@mdavisco.com)

## **Paperwork Reduction Act Burden Statement**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2127-0676. Public reporting for this collection of information is estimated to be approximately 60 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are voluntary. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, National Highway Traffic Safety Administration, 1200 New Jersey Avenue SE., Washington, DC, 20590

National Highway Traffic Safety Administration Automated Speed Enforcement Census

Agency \_\_\_\_\_

Person Completing Questionnaire \_\_\_\_\_

Phone Number \_\_\_\_\_ Email Address \_\_\_\_\_

**CENSUS QUESTIONS**

Please check the box (or boxes) within each question that best describes your answer.  
**Section A. General Considerations and Planning**

**A1 What year did your community first implement Automated Speed Enforcement (ASE)?**  
Program began \_\_\_\_\_

**A2 What year did your community terminate ASE?**  
Program ended \_\_\_\_\_

**A3 Before you had the opportunity to review this questionnaire, were you aware that the NHTSA Automated Speed Enforcement (ASE) Guidelines existed?**

- Yes IF YES, CONTINUE TO QUESTION A4
- No IF NO, SKIP TO QUESTION A5
- Don't know IF DON'T KNOW, SKIP TO QUESTION A5

**A4 If your ASE program was still in operation after April 2008, were the NHTSA Automated Speed Enforcement Guidelines used in any attempts to keep the ASE program going and avoid its termination?**

- Yes (If yes, please elaborate)
  - No
  - Don't know
- 
-

**A5 Who was primarily responsible for advocating for the implementation of ASE in your community? (Please check all that apply)**

- Police department
  - City manager/council
  - Mayor/other elected officials
  - Public demand
  - ASE vendor(s)
  - Other (please elaborate)
- 

Don't know

**A6 Does your community use automated red light enforcement?**

- Yes
- No
- Don't know

**If yes, approximately how many intersections are currently monitored?**

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**A7 Prior to implementing ASE in your community, was a legal review or opinion provided by a person such as a city attorney or county attorney to clarify issues related to legal authority for use of ASE?**

- Yes
- No
- Don't know

**A8 Does your community have a written strategic plan to reduce speeding violations and crashes?**

- Yes
- No
- Don't know

**A9 Who provided the ASE enforcement location recommendations in your community? (Please check all that apply)**

- Police department
- City traffic engineers
- ASE Vendor Company
- The public
- Others (please elaborate)  
\_\_\_\_\_
- Don't know

**A10 Which of the following factors, if known, played a role in the termination of your community's ASE program? (Please check all that apply)**

- Economics (i.e., not sustainable due to costs of the program)
- Citizen referendum
- Litigation against the program
- Legislative action at the local level
- Legislative action at the State level
- Decision by Mayor, City Council, or other elected leaders
- Other (please elaborate) \_\_\_\_\_
- Don't know

**Section B. Program Startup/Implementation**

**B1 What factors (such as crash data, engineering data, revenue potential, etc.) were used to determine ASE deployment sites in your community?**

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**B2 When implementing ASE programs, some communities form a committee or task force of stakeholders to increase interagency communication and community support. As part of implementing ASE in your community, was such a stakeholder committee formed?**

- Yes
- No
- Don't know

**B3 What images did your agency collect for use in issuing ASE citations? (Please check all that apply)**

- Driver image
- Front vehicle license plate
- Rear vehicle license plate
- Other (Please elaborate)

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- Don't know

**B4 In your State, at the time your ASE program was in effect, what kinds of sanctions were authorized by law for ASE violations? (Please check all that apply)**

- Civil violation (i.e., monetary fine only)
  
- Misdemeanor or summary violation (i.e., monetary fine and/or driver license penalties)
  
- Defensive driving school
  
- Other (Please elaborate)  
\_\_\_\_\_
  
- Don't know

**B5 In your community, what sanctions were applied for violations captured through ASE violations? (Please check all that apply)**

- Civil violation (i.e., monetary fine only)
  
- Misdemeanor or summary violation (i.e., monetary fine and/or driver license penalties)
  
- Defensive driving school
  
- Other (Please elaborate)  
\_\_\_\_\_
  
- Don't know

**B6 Under your ASE program, what other violations were authorized from the photographic evidence, if any? (Please check all that apply)**

- Seat belt violations
  
- Driver license violations (i.e., suspended, revoked, etc.)
  
- Vehicle registration violations (i.e., expired, improper, etc.)
  
- Other violations (Please elaborate)  
\_\_\_\_\_
  
- Not applicable
  
- Don't know

**B7 What types of ASE devices were used in your community? (Please check all that apply)**

- Fixed enforcement (i.e., permanent pole-mounted cameras at non intersection locations).  
If so, at how many locations? \_\_\_\_\_
- Semi-fixed enforcement (ground mounted cameras in secure housings that can remain on site for several days or weeks). If so, at how many locations? \_\_\_\_\_
- Red Light “Speed On Green” enforcement? If so, at how many locations?  
\_\_\_\_\_
- Mobile enforcement?  
If so, how many mobile units? \_\_\_\_\_ and at how many locations?  
\_\_\_\_\_
- Other (Please elaborate) \_\_\_\_\_
- Don’t know

**B8 Which of the following locations were used for ASE in your community? (Please check all that apply)**

- School zones
- Residential neighborhoods
- Arterial roads
- Expressways
- Highway work zones
- Other (Please elaborate) \_\_\_\_\_
- Don’t know

**B9 Did your agency use ASE strategies that included any of the following? (Please check all that apply)**

- ASE permanent signs posted on major roads and entrances to the community
- ASE permanent signs posted in advance of fixed speed cameras (i.e., non intersection, permanent locations)
- ASE temporary signs posted in advance of mobile cameras
- No advance ASE signage
- Fully marked ASE mobile vehicles
- Unmarked ASE mobile vehicles
- Other (Please elaborate) \_\_\_\_\_
- Don't know

**B10 Prior to an initial deployment of ASE on a specific roadway segment, did a traffic engineer conduct a study to determine if the speed limit was appropriately set?**

- Yes
- No
- Don't know

**B11 Prior to an initial deployment of ASE on a specific roadway segment, were other measures first considered?**

- Yes
- No
- Don't know

**If yes, what other measures are typically considered?**

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**B12 Who owned the ASE camera equipment used by your agency?**

- Police department
- ASE vendor
- Other (Please elaborate) \_\_\_\_\_
- Don't know

**B13 Who maintained the ASE camera equipment used by your agency?**

- Police department
- ASE vendor
- Other (Please elaborate) \_\_\_\_\_
- Don't know

**B14 Who owned the ASE records and data for your program?**

- Police Department
- ASE Vendor
- Other (Please elaborate) \_\_\_\_\_
- Don't know

**B15 Regarding your ASE program, how would you characterize the relationship between your agency and the courts that adjudicated ASE cases?**

- Excellent (e.g., work closely, communicate frequently)
- Good (e.g., coordinate and communicate as needed)
- Fair (e.g., some limited coordination and communication)
- Poor (e.g., little or no communication or coordination)
- Don't know

**B16 Were your ASE data electronically encrypted from the capture point and placed onto secure networks?**

- Yes
- No
- Don't know

**B17 When your community first implemented ASE, was an initial public information and education campaign conducted?**

- Yes                      IF YES, CONTINUE TO QUESTION B18
- No                            IF NO, SKIP TO QUESTION B20
- Don't know                IF DON'T KNOW, SKIP TO QUESTION B20

**B18 Which of the following elements were included in the initial public information and education campaign? (Please check all that apply)**

- Promote awareness of ASE program
- Explain the dangers of speeding
- Identify camera-enforced locations
- Explain penalties for ASE violations
- Other (please elaborate) \_\_\_\_\_
- Don't know

**B19 Was the public information and education campaign consistently maintained throughout the life of the program?**

- Yes
- No
- Don't know

**B20 What mechanisms did your agency use to inform the public about your ASE program? (Please check all that apply)**

- Press conferences/interviews
- Press releases
- Video releases
- Agency website
- Other (Please elaborate) \_\_\_\_\_
- Don't know

**B21 Was implementation of ASE in your community preceded by a publicized warning period?**

- Yes
- No
- Don't know

If yes, how long did that publicized warning period last? \_\_\_\_\_

**Section C. Operations**

**C1 Did your agency communicate the specific sites of ASE deployments in advance to the public?**

- Yes
- No
- Don't know

**C2 Did your agency communicate the specific daily schedule of ASE deployments in advance to the public?**

- Yes
- No
- Don't know

**C3 What was the enforcement speed threshold (i.e., lowest speed in miles per hour (mph) over a posted speed limit at which a violation was recorded) for ASE deployments on the following location types? (For those that apply to your community, please specify the number for miles over the speed limit).**

School zones \_\_\_\_\_mph over speed limit

Residential neighborhoods \_\_\_\_\_mph over speed limit

Major (arterial) roads \_\_\_\_\_mph over speed limit

Expressways \_\_\_\_\_mph over speed limit

Highway work zones \_\_\_\_\_mph over speed limit

Other (please elaborate) \_\_\_\_\_mph over speed limit

**C4 Who staffed your mobile ASE units, if used? (Please check all that apply)**

Police officers

Other police civilian employees

ASE vendor

Other (Please elaborate) \_\_\_\_\_

Not applicable

IF NOT APPLICABLE, SKIP TO QUESTION C9

**C5 Did your agency use a checklist to ensure that ASE equipment was being properly operated during each mobile ASE enforcement deployment?**

Yes (If yes, please attach a copy of the checklist)

No

Don't know

**C6 What were the typical days and hours of operation for your ASE enforcement sites for mobile units, if used?**

Sunday\_\_\_\_\_

Monday\_\_\_\_\_

Tuesday\_\_\_\_\_

Wednesday\_\_\_\_\_

Thursday\_\_\_\_\_

Friday\_\_\_\_\_

Saturday\_\_\_\_\_

**C7 For your mobile units (if applicable), what was the typical total number of daily ASE deployment hours at a site?**

\_\_\_\_\_

**C8 Who had primary oversight of your agency's ASE deployment schedule?**

Police department staff

ASE vendor

Other (please elaborate)

\_\_\_\_\_

Don't know

**C9 Did the ASE equipment provide some type of immediate feedback to drivers indicating a violation has been recorded, for instance, through a camera flash, speed display board, or other means?**

Yes

No

Don't know

**C10 How often were traditional (lidar/radar) traffic enforcement officers posted at or near operational fixed or mobile ASE sites?**

- Often
- Occasionally
- Rarely
- Never
- Don't Know

**C11 Did your agency review ASE data and/or crash data to determine whether enforcement should be shifted to other locations? (Please check all that apply)**

- Yes, review speed data
- Yes, review crash data
- No
- Don't Know

**C12 Which of the following applied if no ASE driver image was taken and the vehicle's registered owner contests the violation notice?**

- Certification of innocence required from the registered owner
- Identification of the driver required from the registered owner
- Evidence that the vehicle was not in the legal possession of the registered owner (i.e., stolen)
- Other (Please elaborate) \_\_\_\_\_
- Not applicable
- Don't know

**C13 Did your agency have one person in authority assigned to ensure all ASE activities were in compliance with laws and policies?**

- Yes
- No
- Don't know

If yes, please identify this person and provide contact information

Name & Title: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email address: \_\_\_\_\_

**Section D. Violation Processing, Delivery and Adjudication**

**(Please attach a sample violation notice to this questionnaire. Thank you)**

**D1 Were any of the following internal quality control procedures employed by your jurisdiction? (Please check all that apply)**

- All violations were reviewed and certified by at least two individuals
- Police department supervisors spot-checked violations deemed valid by processors
- Other (please elaborate) \_\_\_\_\_
- None
- Don't know

**D2 Which of the following did your agency employ to determine whether you will issue an ASE violation? (Please check all that apply)**

- Vehicle/registration plate matching
- Gender matching
- Image quality standards
- Other (please elaborate) \_\_\_\_\_
- None

Don't know

**D3 Briefly describe your agency's policy on the maximum time targeted for processing ASE violations?**

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**D4 Who had final responsibility for reviewing of ASE violations to determine if a violation notice should be issued?**

- Police officer
- Civilian employee of Police department
- ASE vendor employee
- Don't know
- Other (please elaborate)

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---

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**D5 Did your ASE program use personal service (i.e., a hand delivered notice to appear) as an option for ASE violations when there is no response to the mailed violation?**

- Yes, the majority of mailed ASE violations not responded to by the alleged violator were followed up by personal service
- Yes, selected mailed ASE violations not responded to by the alleged violator were followed up by personal service.
- No, our ASE program did not involve personal service of ASE violations.
- Other (please elaborate)

---

---

Don't know

**D6 For contested court appearances involving mobile unit ASE violations, if applicable, who appeared in court on behalf of the agency? (Please check all that apply)**

- Police officer who staffed the mobile unit
- Civilian employee of Police department who staffed the mobile unit
- Vendor employee who staffed the mobile unit
- Police officer who reviewed the ASE violation
- Civilian employee of Police department who reviewed the ASE violation
- Vendor employee who reviewed the ASE violation
- Other (please elaborate)  
\_\_\_\_\_
- Not applicable
- Don't know

**D7 For contested court appearances involving either fixed unit, semi-fixed unit, or red light intersection "speed on green" ASE violations, if applicable, who appeared in court on behalf of the agency? (Please check all that apply)**

- Police officer who reviewed the ASE violation
- Civilian employee of Police department who reviewed the ASE violation
- Vendor employee who reviewed the ASE violation
- Other (please elaborate)  
\_\_\_\_\_
- Not applicable
- Don't know

**D8 When issuing violation notices to vehicles owned by a government agency or a business, did the ASE agency request identification of the person driving at the time of the violation?**

- Yes
- No
- Don't know

**D9 Were calls from citizens regarding your ASE program reviewed by program managers to identify recurring concerns about the ASE program?**

- Yes
- No
- Don't know

**IF YOUR ASE PROGRAM WAS LESS THAN ONE YEAR OLD WHEN IT WAS TERMINATED, PLEASE SKIP TO D12**

**D10 Over the last complete year of operation, how many total ASE violations were forwarded to alleged violators?**

\_\_\_\_\_

**D11 Of those ASE violations, how many violators paid a fine?**

\_\_\_\_\_

**D12 What were the fines assessed for the following ASE violations, if applicable? (Please insert dollar amount on blank lines))**

- School zones \$ \_\_\_\_\_
- Residential neighborhoods \$ \_\_\_\_\_
- Arterial roads \$ \_\_\_\_\_
- Expressways \$ \_\_\_\_\_
- Highway work zones \$ \_\_\_\_\_
- Other (Please elaborate) \_\_\_\_\_ \$ \_\_\_\_\_
- Don't know

**D13 How was the revenue generated from your ASE program distributed? (Please check all that apply.)**

- Police department – traffic safety fund \_\_\_\_\_ %
- Police department – general fund \_\_\_\_\_ %
- Local government \_\_\_\_\_ %
- County government \_\_\_\_\_ %
- State government \_\_\_\_\_ %
- ASE vendor \_\_\_\_\_ %
- Other (please elaborate) \_\_\_\_\_ %
- Don't know

**D14 Over the most recent complete year of operation by your ASE program, what approximate percentage of all speeding violations issued by your agency (including ASE, RADAR, LIDAR, air speed timing, vehicle pacing, and other traditional enforcement methods) were ASE violations?**

- 1-20%
- 21-40%
- 41-60%
- 61-80%
- 81-100%
- Don't know

**Section E. Program Evaluation**

**E1 Did your agency conduct an evaluation of the effects of ASE on crashes?**

- Yes, conducted an evaluation
- No
- Don't know

**If yes, please provide a copy of the evaluation.**

**E2 Did your agency conduct an evaluation of the effects of ASE on traffic speeds?**

- Yes, conducted an evaluation
- No
- Don't know

**If yes, please provide a copy of the evaluation.**

**E3 Did your agency conduct an evaluation of public acceptance of ASE?**

Yes, conducted an evaluation

No

Don't know

**If yes, please provide a copy of the evaluation.**

**E4 Please take this opportunity to add any comments about your ASE program that you think are relevant that were not addressed in the preceding questions. (Please attach additional pages, if necessary)**

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**For your convenience, here is a list of the items requested in the questionnaire as attachments, if available:**

- ASE equipment checklist for each mobile ASE enforcement deployment
- Sample ASE violation notice
- Evaluation of the effects of ASE on crashes,
- Evaluation of the effects of ASE on traffic speeds
- Evaluation of public acceptance of ASE

**SUPPLEMENTARY CONTACT INFORMATION**

**Please provide the names and contact information of any additional individuals whose input you believe would be beneficial to this very important NHTSA data collection effort. (Please attach additional pages, if necessary)**

Name & Title: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email address: \_\_\_\_\_

Name & Title: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email address: \_\_\_\_\_

Name & Title: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email address: \_\_\_\_\_

Name & Title: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email address: \_\_\_\_\_

**On behalf of the U.S. Department of Transportation, National Highway Traffic Safety Administration, we would like to thank you for taking the time to complete this questionnaire on your Automated Speed Enforcement program. Please mail this questionnaire in the postage-paid envelope provided to:**

**M. Davis and Company, Inc.  
3000 Market Street, Suite 202  
Philadelphia, PA 19104  
Attention: NHTSA ASE Questionnaire**

DOT HS 812 257  
April 2016



U.S. Department  
of Transportation  
**National Highway  
Traffic Safety  
Administration**



12297-040116-v2