**System Analysis of Automated Speed Enforcement (ASE) Implementation**

**Revised Supporting Statement for Information Collection Request**

Approval is requested to conduct information collection for

System Analysis of Automated Speed Enforcement (ASE) Implementation.

**A. JUSTIFICATION**

Speeding is a major factor in a large proportion of traffic crashes, injuries, and fatalities. A great many enforcement strategies are in use to combat speeding today. Automated Speed Enforcement (ASE) is one important approach increasingly being used in the United States. A number of studies have shown the use of speed cameras for ASE to be highly effective in reducing excessive traffic speeds[[1]](#footnote-1) [[2]](#footnote-2) [[3]](#footnote-3) and crashes.[[4]](#footnote-4) [[5]](#footnote-5) However, despite the effectiveness of speed cameras, it can be difficult to establish the high levels of public acceptance needed to establish and maintain these programs. The objectives of this study are to (1) determine how existing speed camera programs in the United States were developed and implemented; (2) examine other variables that have affected these speed camera programs; and (3) determine how all of these variables have affected the establishment and maintenance of these programs.

The National Highway Traffic Safety Administration (NHTSA) proposes to conduct a **census** of existing ASE programs in the United States and gather information from each site to address the objectives described above. Information will be collected from key personnel in the existing programs with a mailed questionnaire. Respondents can also choose to provide the information by completing a PDF form questionnaire. The research team will follow-up with emails and phone calls, as needed, to collect missing information. This census is expected to provide data relevant to ASE development and delivery that will improve ASE programs and broaden public acceptance. More effective and acceptable ASE programs will enhance traffic safety and reduce economic costs of crashes, which are at the core of NHTSA’s mission.

The variables to be addressed include specific target sites for the ASE (school zones, work zones, etc.), program funding and revenue flow (who pays for it and how, who profits from revenue, how it is promoted--as a revenue generator or a safety measure), nature of citations issued (cite vehicle or cite driver), penalties for violations (level of fines, points on license, etc.), presence of other automated enforcement (red light cameras), level of traditional speed law enforcement, existence and results of program evaluations, media reports and level of media exposure, level of public acceptance, and the degree to which programs were set up and implemented according to NHTSA’s *Speed Enforcement Camera Systems Operational Guidelines.[[6]](#footnote-6)*

**A.1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.**

***a. Circumstances necessitating the data collection.***

* *National Highway Traffic Safety Administration (NHTSA) mission*

The NHTSA was established by the Highway Safety Act of 1970 (23 U.S.C. 101). Its Congressional mandate is to reduce the number of deaths, injuries, and economic losses resulting from motor vehicle crashes on our nation’s highways. To accomplish this mission, NHTSA sets and enforces safety performance standards for motor vehicle equipment and provides funding to State and local governments for their use in supporting highway safety activities, including demonstration and evaluation programs. NHTSA also conducts research on driver behavior and traffic safety to develop efficient and effective means of bringing about safety improvements.

* *Severity of Speeding Problem*

Traffic crashes are complex and often have multiple contributing factors; speeding is often one of the primary factors. Over thirty percent of all fatal crashes are estimated to be speeding-related crashes, defined as racing, exceeding the speed limit, or driving too fast for conditions. Speeding-related crashes resulted in 11,674 lives lost in 2008 and an estimated cost of $40.4 billion in 2000. Speeding is especially dangerous because it reduces the driver’s ability to maneuver around obstacles in a timely manner, increases the distance a vehicle requires to stop, and increases the severity of injuries.[[7]](#footnote-7) [[8]](#footnote-8)

Drivers’ speed choices impose risks that affect severity of crashes. Speeding is directly related to injury severity in a crash. The relationship between speeding and crash severity is indisputable. Reflecting the laws of physics, injury severity increases as the speed of the vehicle increases. However, this is not a linear relationship; rather, the energy release is proportional to the square of the impact speed. Therefore, decrease in driving speed can decrease the severity of injury.

Speeding is a pervasive behavior with about three-quarters of drivers reporting in the 2002 Speeding and Unsafe Driving Survey that they drove over the speed limit on all types of roads within the past month, and one-quarter reported speeding over the limit on the day of interview.[[9]](#footnote-9)

Controlling speed is difficult because most drivers do not see speeding as a risky or dangerous behavior. An interdisciplinary approach involving engineering, enforcement, and education is needed to change drivers’ speeding behavior, thereby, reducing speeding-related crashes, fatalities and injuries.

In order to design interventions and countermeasure strategies that are likely to lead to reductions in speeding, it is important to examine existing programs to determine what is and is not working and why. The use of ASE as a countermeasure is spreading, but it is often seen as a controversial program, and there are a number of recently discontinued ASE programs. This study will take a close look at factors related to the planning, implementation and operations of ASE programs (current and discontinued) across the United States.

To date, there has been no comprehensive examination of ASE programs on a national scale to examine these factors and their relationship to establishment and maintenance of ASE programs. The data to be gathered in this system analysis of ASE has the potential to provide significant new information for the improvement and further development of ASE as a countermeasure to reduce speeding-related crashes, fatalities, and injuries.

***b. Legal basis for collecting data***

NHTSA has statutory authority to conduct crash injury research and collect relevant data in the interest of public health (see Attachment A). Specifically, NHTSA is authorized to: (1) engage in research on all phases of highway safety and traffic conditions; (2) undertake collaborative research and development projects with non-federal entities for the purposes of crash data collection and analysis; and (3) conduct research and collect information to determine the relationship between motor vehicles and accidents, and personal injury or deaths resulting from such accidents (See 23 U.S.C. 403(a)(1), 23 U.S.C. 403(f) and 49 U.S.C. 30168(a)). The term “safety” is defined as “highway safety and highway safety-related research and development, including research and development relating to highway and driver characteristics, crash investigations, communications, emergency medical care, and transportation of the injured” (23 U.S.C. 403(a)(3)).

**A.2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.**

NHTSA will use this new information collection to help State Highway Safety Offices, law enforcement agencies, and other organizations establish and sustain Automated Speed Enforcement (ASE) programs aimed at traffic speed regulation, with the goal of reducing the number of speeding-related crashes on America’s roadways. The data will be used for planning and policy-related issues as they arise.

Despite the effectiveness of speed cameras programs for ASE, it is often difficult to establish and maintain public acceptance for these programs and put them into place. The establishment and maintenance of speed camera programs often depends on the way they are introduced.[[10]](#footnote-10) In March 2008, NHTSA published its *Speed Enforcement Camera Systems Operational Guidelines* to assist program managers, administrators, law enforcement, and traffic safety personnel with the implementation of speed camera programs for ASE. This study will examine how various aspects of speed camera program implementation affect the establishment and maintenance of ASE programs.

Many factors in ASE development and delivery can affect the level of public acceptance and the establishment and maintenance of speed camera programs. These factors include:

* Specific target sites for the ASE (school zones, work zones, etc.),
* Program funding and revenue flow (who pays for it and how, who profits from revenue, how it is promoted as a revenue generator or a safety measure),
* Nature of citations issued (cite vehicle or cite driver),
* Penalties for violations (level of fines, points on license, etc.),
* Presence of other automated enforcement (red light cameras),
* Level of traditional speed law enforcement,
* Existence and results of program evaluations, and
* Media reports and level of media exposure.

NHTSA is interested in examining how speed camera programs for ASE were developed and implemented. More specifically, NHTSA wants to examine the degree to which existing and discontinued speed camera programs used the NHTSA’s *Speed Enforcement Camera Systems Operational Guidelines* when developing and implementing their programs. In addition, NHTSA wants to better understand how various ASE program characteristics, including adherence or lack of adherence to the NHTSA Guidelines and other factors, such as those listed above, are related to program longevity, to programs being discontinued, and to traffic safety objectives, such as reducing traffic speeds and reducing crashes.

Specific research questions for this project include:

1. How were the ASE programs in this study developed and implemented?
2. To what degree have these ASE programs complied with NHTSA Guidelines for ASE programs?
3. How are various factors in the establishment and maintenance of these ASE programs related to the longevity of these programs and/ or their discontinuance?
4. What is the relationship between these ASE programs’ adherence to NHTSA Guidelines and the longevity and/or discontinuance of thee programs?
5. How are various factors in the establishment and maintenance of these ASE programs related to traffic safety outcomes, such as reductions in traffic speeds and reductions in crashes?
6. How is the adherence or lack of adherence to NHTSA Guidelines related to traffic safety outcomes, such as reductions in traffic speeds and reductions in crashes, in these ASE programs?
7. How are traffic safety outcomes, such as reductions in traffic speeds and reductions in crashes, related to the longevity and/or discontinuance of these ASE programs?

Three basic types of ASE programs are targeted in this information collection (established ASE programs, new ASE programs, and discontinued ASE programs). Including these three program types (or stages) will yield a fuller understanding of ASE programs. Established ASE programs will provide in-depth information on what has worked for them and how they have sustained their programs. Since most of the established programs existed prior to the publication of NHTSA’s ASE Guidelines, personnel involved in those programs are much less likely to be aware of the Guidelines or to have used the Guidelines to establish their programs. However, the new ASE programs began after the Guidelines were published, so they will provide unique information regarding awareness and use of the Guidelines. Finally, the discontinued programs will provide a unique perspective regarding problems encountered and reasons why ASE programs are terminated. These data will yield insights that will enable NHTSA to improve the guidelines and provide support to stakeholders who are interested in using ASE programs to help address problems with speeding in their jurisdictions.

The data collected in this study will be used to assist NHTSA in its ongoing responsibilities for: (a) planning and designing program activities which reduce speeding on our nation’s roadways; (b) providing support to groups involved in carrying out speeding management programs and public safety; and (c) identifying countermeasure strategies that are most acceptable and effective in deterring speeding.

The results will assist governmental agencies and private organizations in directing the implementation of strategies and action plans that will reduce the incidence of speeding-related crashes.

**A.3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology. Also describe any consideration of using information technology to reduce burden.**

A cover letter and hardcopy questionnaire will be mailed to each police chief. The cover letter will include a link where they can download a PDF form version of the questionnaire. Offering the PDF form option is expected to reduce burden for those who dislike completing paper questionnaires, and it will help boost response rates and reduce the need for follow-up contacts. Follow-up emails will be sent and telephone calls will be made to encourage participation for those that do not respond in a timely manner, as well as to clarify questionnaire responses.

**A.4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.**

A review of the existing literature on Automated Speed Enforcement (ASE) shows that, while a national examination of ASE programs has taken place in the United Kingdom, there has never been a systematic, national census of existing ASE programs in the United States. Previous ASE studies have focused on specific provinces in other countries or specific ASE programs (city or county) in the United States. Except for a national study in the United Kingdom, which examined both mobile and fixed camera site ASE programs, other studies have focused on only one type of camera program. Furthermore, the previous studies were conducted as before/after assessments of the effectiveness of the ASE programs, and these studies occurred prior to the publication of NHTSA’s *Speed Enforcement Camera Systems Operational Guidelines*, which is a major focus of the present study.

This information collection will not duplicate any previous studies. This will be the first national census of U.S. ASE programs. It will be the first study to focus primarily on process – a system analysis of ASE implementation. It will also be the first ASE study to examine ASE programs in light of the NHTSA guidelines for ASE programs published in 2008. This study will provide detailed data on key aspects of ASE programs and will provide new information that is critical for evaluating and improving NHTSA guidelines on this important countermeasure.

**A.5. If the collection of information impacts small businesses or other small entities, describe methods used to minimize burden.**

There will be no impact on small businesses or other small entities. The collection of information involves a national census of current Automated Speed Enforcement (ASE) programs; and will also include information collection from some recently discontinued programs. The target ASE programs are found in law enforcement agencies large enough to maintain divisions specifically focused on traffic safety, not small businesses.

**A.6. Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.**

The speed management program at NHTSA plays a crucial role in providing guidance for State and local governments in designing and applying a balanced and effective speed management program to reduce 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 in order to reduce speeding-related crashes, fatalities, and injuries.

This project focuses on Automated Speed Enforcement, a relatively new countermeasure that has demonstrated effectiveness in reducing speeding. 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, many jurisdictions are considering shutting down existing programs or have recently done so. This project will provide new scientific evidence to answer questions currently being debated across the country.

Study results will provide crucial information on applying automated speed enforcement efforts and appropriate technology to effectively reduce speeding; marketing communication and educational messages that focus on ASE and speeding drivers; soliciting the cooperation, support and leadership of traffic safety stakeholders; and providing updated information on ASE programs in the United States.

This information collection is necessary to support safety programs at the local level and to inform national policy and guidance. Without this study, many local decisions will be made without the benefit of this scientific evidence, ASE programs may remain controversial, programs may not be optimally designed, and resources will be wasted.

This is a one-time data collection effort. Jurisdictions are not required to participate.

**A.7. Explain any special circumstances that would cause the information collection to be conducted in a manner inconsistent with the guidelines set forth in 5 CFR 1320.6.**

No special circumstances require the collection to be conducted in a manner inconsistent with the guidelines in 5 CFR 1320.6.

**A.8. Provide a copy and identify the date and page number of publication in the Federal Register of the agency’s notice, required by 5 CFR 1320.8 (d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the agency in response to these comments. Describe efforts to consult with persons outside the agency to obtain their views.**

1. *Federal Register Notice*

NHTSA published a notice in the *Federal Register* with a 60-day public comment period to announce this proposed information collection on September 13, 2010 (Volume 75, Number 176, pages 55627-55628). A copy of this Federal Register Notice is provided in Attachment B.

NHTSA published a notice in the *Federal Register* on May 13, 2011 with a 30-day public comment period to announce forwarding of the information collection request to OMB for approval (Volume 76, No. 93, pages 28128-28129). A copy of this Federal Register Notice is provided in Attachment B.

1. *Responses to the Federal Register Notice*

We received no comments in response to the Federal Register Notice.

1. *Consultation with outside experts*

National experts at NHTSA and M. Davis and Company have collaborated on the data collection methodology.

**A.9. Explain any decision to provide any payment or gift to respondents, other than remuneration of contractors or grantees.**

No payment, honorarium, or gift will be provided to any respondent in this study.

**A.10. Describe any assurance of confidentiality provided to respondents.**

Participants will be informed that their answers will be used for research purposes to improve NHTSA’s ASE guidelines. Responses will only be reported in the aggregate. Specifically, the cover letters for the information collection questionnaire will state:

Cover Letter for Current ASE Programs:

“There are no right or wrong answers. NHTSA will use the findings to improve the ASE guidelines with the continued objective of assisting State and local agencies nationwide in implementing or modifying ASE programs. 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.”

Cover Letter for Discontinued ASE Programs:

“There are no right or wrong answers. NHTSA will use the findings to assist State and local agencies nationwide in implementing or modifying ASE programs. 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.”

Police chiefs – the first point of contact -- will also be informed that participation in the data collection is voluntary.

**A.11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.**

The data collection does not contain any questions related to matters that are commonly considered sensitive or private. Participants will be providing information on traffic safety law enforcement programs and any identifying information will be obscured and/or protected using protocols approved by the contractor’s Institutional Review Board (Federal-wide Assurance Number FWA00017136).

**A.12. Provide estimates of the hour burden of the collection of information on the respondents.**

Data Collection will include both a mailed questionnaire and phone follow-up calls. The paper and pencil questionnaire is comprised primarily of close-ended multiple-choice questions with several fill-in-the-blank and short answer questions.

The respondent burden includes three components: 1) administrative activities, 2) completing the questionnaire; and 3) supplementary information and follow-up calls and emails.

Administrative Activities

The police chief will need to approve collection of the information, delegate questionnaire completion to staff, and will probably review the questionnaire before it is returned. The nature of law enforcement agency bureaucratic processes usually will require a number of staff from the Chief's office down to review the initial information request and discuss the implications of the request in one or two staff meetings. They will participate in subsequent discussions as needed, and provide direction to the person(s) selected as the respondent, and then several people may be involved with reviewing the responses before the questionnaire is returned.  While the time that each individual spends on the process may be brief, the total time needed for all parties involved to respond to the information collection from beginning to end is estimate to add up to 4 hours (240 minutes).

Completing the Questionnaire

This will probably be done by the person in the department who is most familiar with the ASE program. The questionnaire was pilot-tested in two ASE jurisdictions and the two respondents each took less than an hour to complete the questionnaire. The two pilot-test respondents stated that the questionnaire was easy to understand and navigate. We estimate 60 minutes for completing the questionnaire.

Supplementary Information and Follow-up Calls / Emails

Additional time may be expended by the person(s) delegated to complete the questionnaire or other personnel. This time includes looking for supplementary ASE materials, as well as time on phone calls or emails with the contractor. These calls and emails could involve obtaining clarifications from the contractor during the questionnaire completion process, responding to requests for missing or unclear information once the questionnaire has been submitted, and discussing the contractor’s requests for supplementary documents. On phone calls, the contractor will record information in a written format and minimize the burden on respondents.

The research staff will then attach this information with participant questionnaires for data analysis, minimizing the data-recording burden on participants. Specifically, respondents can answer questions unencumbered by the need to write down information. Appropriate contacts and phone numbers for the follow-up telephone calls will be collected in the questionnaire. We estimate 3 hours (180 minutes) for this process.

Thus, the maximum time estimate, for a single responding jurisdiction, is 8 hours (240 minutes + 60 minutes + 180 minutes).

Number of Responding Jurisdictions

To arrive at an estimate of total respondent hours, we need to estimate the number of respondents. The first *Federal Register* notice stated 80 jurisdictions would be included and an estimated 12 hours per responding jurisdiction. The project team has identified additional jurisdictions with ASE programs since the first *Federal Register* notice was submitted in September 2010. The number of identified jurisdictions is now 118. We are seeking approval to contact as many as 118 police chiefs in these jurisdictions to gain their approval to participate in the study. The 118 jurisdictions include 54 well established ASE programs, 50 relatively new ASE programs (established after NHTSA Guidelines available), and 14 agencies that discontinued ASE programs within the last few years and are likely to still have records and/or the necessary knowledge base to provide useful information through the questionnaire.

Despite the larger number of jurisdictions, the overall respondent burden hours are lower than the original 960 hours. This is because the original estimate per jurisdiction has gone down from 12 hours to 8 hours. After pretests and resulting changes to the research design, and deciding some questions were just too complex, the number of overall hours has gone down from the original estimate of 960 to 944 hours.

Although we do not expect all 118 police chiefs to grant permission and actually provide full data, to be conservative, we are using 118 in estimating burden. In summary, the figure of 944 overall hours expended by all respondents is based on 8 hours to complete the information collection in 118 jurisdictions (8 hours \* 118).

**TABLE 1**

**ESTIMATED BURDEN HOURS**

|  |  |
| --- | --- |
|  | **TOTAL** |
| Respondents | 118 |
| Hours | 8 |
| Burden Hours | 944 |

Participants will not be remunerated; they will be filling out the questionnaire while at work with the approval of their supervisor. The total number of estimated reporting burden hours on the respondent agencies would be 944 total hours for the proposed information collection.  At $37.78\* per hour, the total annual estimated cost associated with the burden hours is $37.78 x 944 hours for a total of $35,664.32.  Respondents would not incur any other reporting cost from the information collection.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TABLE 2**  **COST BURDEN ON RESPONDENTS** | | | | |
| **Population** | **N** | **Cost per Hour** | **Total Burden Hours** | **Total Cost** |
| ASE Programs | 118 | $37.78 | 8.0 | $35,664.32 |
| **TOTAL** | **118** | **$37.78** | **8.0** | **$35,664.32** |

\*From From <http://www.bls.gov/oes/current/oes_nat.htm#b00-0000>, First Line Managers / Supervisors of Police and Detectives, Mean Hourly Wage Estimate; viewed February 8, 2011.

**A.13. Provide an estimate of the total annual cost burden to respondents or record keepers resulting from the collection of information.**

There are no record keeping or reporting costs to the respondents. Respondents will be volunteers from jurisdictions with ASE programs. Each respondent participates by completing the questionnaire and reporting existing program information. Thus, there is no preparation of data required or expected of respondents. Respondents do not incur: (a) capital and start up costs, or (b) operation, maintenance, or purchase costs from participating in the information collection.

**A.14. Provide estimates of annualized cost to the Federal government.**

We use 88 jurisdictions here (representing a 75% response rate) to estimate the cost per questionnaire.

Total estimated cost to the government for conducting the data collection is as follows:

Estimated number of completed questionnaires 88

Total estimated cost of project $399,901.54

Cost per completed questionnaire $4,544.34

This estimate is based on the total cost budgeted for the project in the awarded research contract (which includes all costs for administration, planning, identifying target sites, conduct site visits, questionnaire design, data collection, data analysis, and writing reports) divided by the estimated number of completed questionnaires.

Achieving a high participation rate is important in this project and the contractor is optimistic that a high participation rate can be achieved. NHTSA and the contract team have many connections with police chiefs in the ASE jurisdictions, a very good case can be made that the jurisdictions will benefit from the study, and much effort has been put into streamlining the questionnaire and the whole data collection process.

**A.15. Explain the reasons for any program changes or adjustments reported in Items 13 or 14 of the OMB Form 83-1.**

This is a new IC, a first-time-ever one-time-only national census of Automated Speed

Enforcement (ASE) Programs to collect information to improve our understanding of ASE

programs and what is going on across the country with ASE programs in order to provide crucial

information on applying ASE technology appropriately to reduce speeding and speeding-related

crashes and improve traffic safety throughout the United States.

**A.16. For collections of information whose results will be published, outline plans for tabulation, and publication.**

NHTSA plans to publish results of the study in one volume:

The Final Report will include an Executive Summary, an Introduction, a Methodology section with descriptions of the protocols used for conducting the information collection and analyzing the data, the Results of the census, and a section of Conclusions. It will also contain an Appendix with the questionnaires used (both the questionnaire for current ASE programs and the questionnaire for discontinued ASE programs).

Reports and summary sheets will be published at the conclusion of the study. These will identify recurring themes and issues regarding ASE programs. Comparisons of key themes and issues will be made between current and discontinued ASE programs.

**A.17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.**

No such approval is sought. The OMB approval number and expiration date will be displayed on the questionnaires that participants will complete and the accompanying cover letter.

**A.18. Explain each exception to the certification statement identified in Item 19, Certification for Paperwork Reduction Act Submissions,” of OMB Form 83-1.**

No exceptions to the certification statement are made.

1. Decina, Lawrence E., Thomas, Libby, Srinivasan, Raghavan, Staplin, Loren. (2007*). Automated Enforcement: A Compendium of Worldwide Evaluations of Results*. (DOT HS 810 763). Washington, DC. National Highway Traffic Safety Administration. [↑](#footnote-ref-1)
2. Freedman, M., DeLeonardis, D., Raisman, G., InyoSwan, D., Davis, A., Levi, S., Rogers, I., Bergeron, E. (2006). *Demonstration of Automated Speed Enforcement in School Zone in Portland, Oregon*. . (DOT HS 810 764). Washington, DC. National Highway Traffic Safety Administration. [↑](#footnote-ref-2)
3. Retting, Richard A., Farmer, Charles M., McCartt, Anne T. ‘Evaluation of Automated Speed Enforcement in Montgomery County, Maryland.’ *Traffic Injury Prevention*. 9:5,440-445. [↑](#footnote-ref-3)
4. Pilkington, P. and Kinra, S. 2005. Effectiveness of speed cameras in preventing road traffic collisions and related casualties: systematic review. *British Medical Journal* 330:331-34. [↑](#footnote-ref-4)
5. Wilson, C.; Willis, C.; Hendrikz, J.K.: and Bellamy, N. 2006. Speed enforcement detection devices for preventing road traffic injuries. Cochrane Database of Systematic Reviews 2006, Issue 2. Art. No.: CD004607, DOI: 10.1002/14651858.CD004607.pub2. [↑](#footnote-ref-5)
6. NHTSA. (2008). *Speed Enforcement Camera Systems Operational Guidelines*. (DOT HS 810 916). Washington, DC. National Highway Traffic Safety Administration. [↑](#footnote-ref-6)
7. NHTSA (2009). Traffic Safety Facts-2008: Speeding DOT HS 810 814 [↑](#footnote-ref-7)
8. The National Highway Traffic Safety Administration determines it to be speeding-relating crashes: if the driver was charged with or if an officer indicated that racing, driving too fast for conditions, or exceeding the posted speed limit was a contributing factor in the crash. [↑](#footnote-ref-8)
9. NHTSA. (2004). National Survey of Speeding and Other Unsafe Driving Attitudes and Behaviors: 2002. (DOT HS 809 730). Washington, DC. National Highway Traffic Safety Administration.. [↑](#footnote-ref-9)
10. Transportation Research Board. (1998). *Special Report 254 Managing Speed: Review of Current Practice for Setting and Enforcing Speed Limits*. Washington, D.C. National Academy Press: 152-158. [↑](#footnote-ref-10)