

# **Request for Proposals:** **Effectiveness and Efficacy of Technologies to Reduce Older Driver Crashes**

**Deadline: 5:00 PM Eastern Time Tuesday November 1, 2011**

## **Objective**

The AAA Foundation for Traffic Safety is seeking proposals for research that would identify and develop objective measures that can be used to construct a rating system that would be used to compare and contrast the effectiveness and efficacy of a wide range of in-vehicle technologies that are relevant to the safety of older drivers.

- Examples of technologies to be rated include, but are not limited to, back-up cameras, intelligent cruise control, lane-departure warning systems, collision-avoidance systems, steering wheel based monitors, drowsy driver detectors, inflatable seatbelts, or adaptive beam headlights.
- Technologies would be evaluated with respect to a number of different factors relevant to safety. Illustrative examples of such factors might include:
  - estimates of the number of crashes/injuries/fatalities reduced based on previously published research or new estimates developed under this project
  - cognitive workload measures
  - driving performance as measured by a simulator and/or instrumented car
  - cognitive workload
  - efficacy of the technology
  - the usability of the technology
  - self-reported use of the technology (e.g., deactivation or use of “bypass” feature)

*Note:* Ratings should be derived primarily from unbiased objective measures of how the technology increases or decreases the safety of older drivers. Self-reported data (e.g., surveys of drivers) may be included but should be at most a minor component of the overall rating system.

Ratings of technologies should be reported in the form of a matrix that shows how a given technology was rated on each of the measures that you propose to use. The reporting matrix will ultimately be used as a tool to inform consumers on the value and usefulness of various in-vehicle safety technologies for older drivers. As envisioned, the

reporting matrix should be suitable for the general consumer and backed up with comprehensive research findings.

In your proposal please include a rank ordered priority list of all technologies that can be evaluated by your proposed system, as well as a list of technologies (or types of technologies) that cannot be evaluated. For the top 5 technologies, provide an explanation as to how practical it will be to rate the technology for each factor proposed. For each rating factor clearly specify whether you will be able to determine or calculate a “rating” from existing research and/or existing data, or if new primary data collection will have to be initiated.

In order for us to judge the merit of your proposal in relation to other proposals, please use “Back-up Cameras” as an illustrative example, throughout your proposal to demonstrate how the rating system that you propose could be applied to this specific technology and how it would be evaluated with respect to each of the measures that you propose. However, please keep in mind that the rating system and reporting matrix you propose should be a “universal” method to evaluate a multitude of technologies. Moreover, the rating system should be flexible enough to evaluate new technologies as they come to market in the future.

## **Specifications**

### Identification of factors or measures

Your proposal must describe and justify what factors or measures will be utilized in the rating system and exactly how a rating will be calculated for each factor. As appropriate, clearly explain the source or sources of any needed data (e.g. past research, driving records, data from technology/device/service being studied, other monitoring device, self-report, published data, etc.), and statistical methods (if applicable).

### Technologies

The rating system should be applicable to all technologies (including devices or services) that are currently on the market but not standard equipment in all vehicles, or might be available in the next one to three years. And, where possible, generic versions of the technology should be utilized, not manufacturer-specific systems.

### Study population

We are most interested in rating system that compares and contrasts the effectiveness and efficacy of safety technologies among healthy older drivers. Healthy older drivers are defined as drivers who are 65 years old or older without medical/pharmaceutical complications or physical limitations that will hinder driving performance during normal driving conditions.

### Deliverables

1. A synthesis of the most relevant and useful published literature that identifies, along with a comprehensive discussion of the advantages and disadvantages of each factor that could possibly be used within the ranking system that you develop.
2. The development and validation of the rating system. Note: a “universal” rating system should be developed in such a way that it can be used to evaluate a multitude of unrelated technologies. Moreover, the system should be flexible enough that as new safety devices come to market in the future, they can be readily evaluated.
3. A reporting matrix that lists the rank ordered technologies by your identified factors. Each cell must then be filled in by primary data collection on the various measures, secondary data analysis, or published estimates.
4. A consumer friendly report based on the reporting matrix.

Please note you do not have to be limited by these deliverables, in fact, we would encourage you to include additional deliverables in your proposal.

### Project Scope

\$300,000 over a 12 – 18 month period.

### Follow-on Efforts

If this project is successful, we would hope to fund the maintenance, update and expansion of the rating system to include new technologies and new information. Thus it is to your advantage to propose a multi-year scalable project (at different cost levels) with options for further factor identification, testing, ranking and reporting.

### **Suggestions for Proposal Content**

Your proposal should include the following sections.

#### **1. Title page**

Include:

- Title of the proposal
- Names and affiliations of all investigators.
- Address, telephone number, and email of the investigator to whom correspondence regarding the proposal is to be addressed
- An abstract, not exceeding 300 words

**2. Objectives:** State explicitly what this project would accomplish.

**3. Methods:** Provide a detailed description of the proposed project, including factor identification and justification, and technology identification and justification.

4. Expected results: Please list all deliverables you plan to deliver in a time line or Gantt chart.

5. Qualifications of the project team: Half to one page should suffice. Please include CVs of the principal investigator(s) as a separate file. Feel free to mention existing collaboration if applicable.

6. Budget: A one-page project budget that includes the total cost of the project, and a breakdown of total cost by major cost item by calendar year, assuming a start date of April 1, 2012. Include the indirect costs charged by your institution as a separate line item and include it in the total cost. Note that the AAA Foundation does not have a maximum indirect rate; however, total project cost is considered in funding decisions.

7. Timeline: An overall timeline based on a calendar year is requested. Assume an April 1, 2012 start date.

8. References: Please include a reference list at the end of the body of your proposal, not in an appendix. Please use the (author, date) citation format for in-text citations, and do not use footnotes.

### **Proposal format**

Your proposal must meet the following formatting requirements:

- Use standard letter-sized paper (8.5 x 11 inch), with at least one-inch margins on all sides.
- All text should be single-spaced and left-justified, in 12-point Arial font.
- Please do not use any headers, and do not use any footers except page numbers.
- Please do not use footnotes or endnotes.
- The body of the proposal (excluding title page and appendices) must not exceed six pages.
- Please submit the proposal in Microsoft Word format or Rich Text Format (.doc, .docx, or .rtf). Do not submit as a PDF.

### **Proposal Submission**

Submit your proposal electronically to Jurek Grabowski, Director of Research, at [jgrabowski@aaafoundation.org](mailto:jgrabowski@aaafoundation.org).

**Deadline: 5:00 PM Eastern Time Tuesday November 1, 2011.**

Notification for clarifications or revision: November 11, 2011  
Final clarification/revision due: December 9, 2011  
Notification of acceptance/rejection: February 6, 2012  
Anticipated project start date: April 1, 2012

## **Other tips**

The body of the proposal should be self-contained; it should be able to be understood by a reviewer that does not see any appendices that you may attach.

Note that those who will be reviewing your proposal are knowledgeable about most major traffic safety topics. It is important that you demonstrate awareness and understanding of literature and ongoing research most relevant to your proposal; however, it is not necessary to cite statistics to convince reviewers that traffic safety (in general) is important. It is far more important for you to describe in detail what unanswered questions your project seeks to answer, how your project will accomplish tasks in a timely manner, what methods you will use, and how the results of your study will be used to achieve real-world improvements in traffic safety.

When sending your proposal to the AAA Foundation, please give your electronic files names that will help us to recognize them quickly. We prefer file names that include the last name of the principal investigator and a shortened title, such as:

*Smith-EvaluatingAntiMobileTech.doc*  
*Smith-CV.doc*  
*Smith-Appendix.doc*

Please do not use generic file names such as *Proposal.doc* or *AAA\_Proposal.doc*.

In most cases, electronic proposals that are consistent with these guidelines are expected to be smaller than 1 MB. Please do not include high-resolution images unless the use of high resolution is critical to the understanding of your proposal.

If you have questions, please contact Jurek Grabowski ([jgrabowski@aaafoundation.org](mailto:jgrabowski@aaafoundation.org), 202-638-5944 x7).

## **About the Sponsor**

Founded in 1947 by the American Automobile Association, the AAA Foundation for Traffic Safety is a not-for-profit, publicly supported charitable research and education organization dedicated to saving lives by preventing traffic crashes and reducing injuries when crashes occur. Foundation funding is provided by voluntary contributions from AAA/CAA and their affiliated motor clubs, from individual members, from AAA-affiliated insurance companies, as well as from other organizations and sources. Additional information about the AAA Foundation for Traffic Safety can be obtained from [www.aaafoundation.org](http://www.aaafoundation.org).