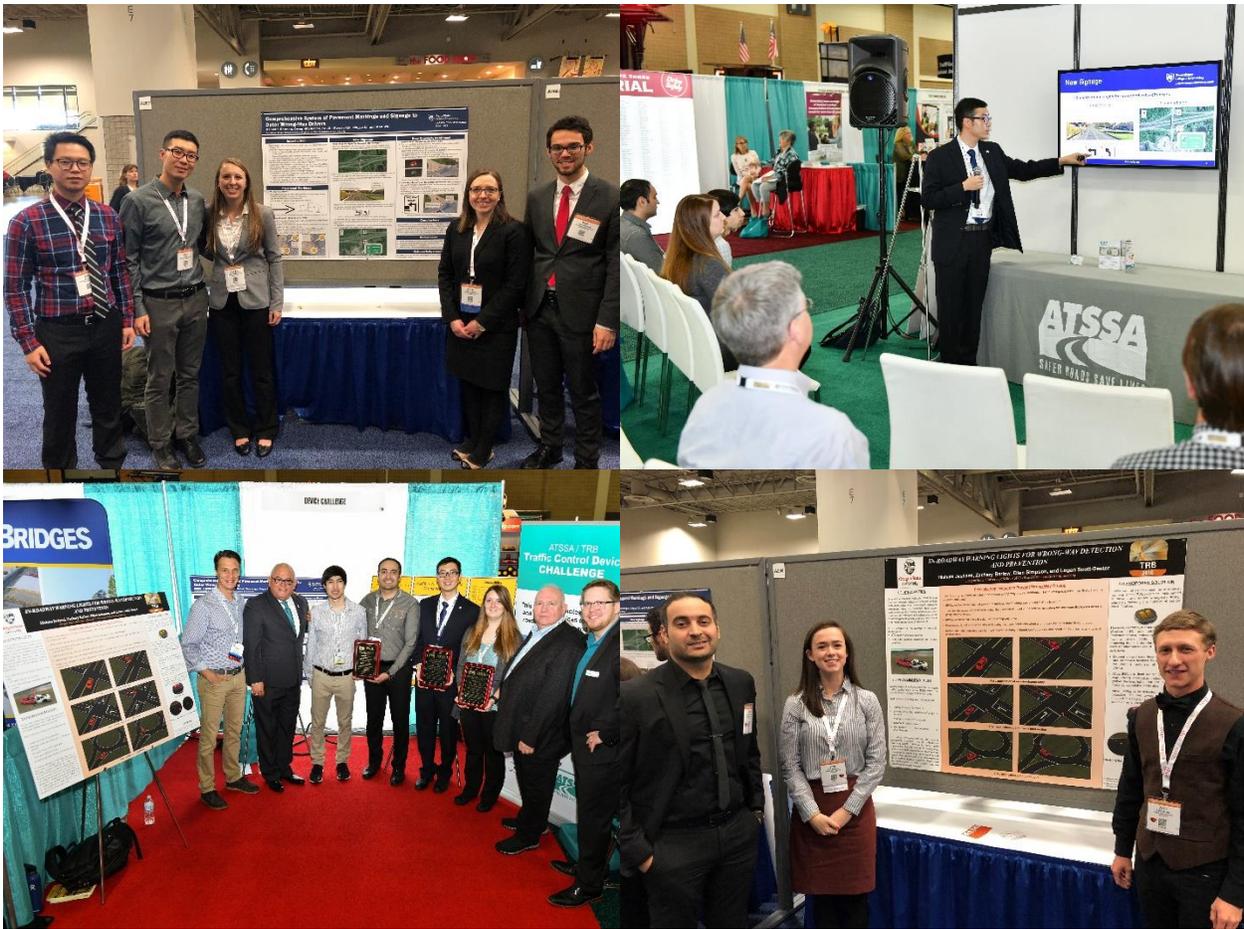


2019

Traffic Control Device Challenge



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2019 Traffic Control Device Challenge

2019 Theme: *Traffic Control Device Innovations to Improve Pedestrian and Bicycle Safety at Signalized Intersections*

OVERVIEW

The objective of the Traffic Control Device Challenge (TCD Challenge) is to promote innovation and stimulate ideas in the traffic control devices area with a goal to improve operations and safety. The challenge is sponsored by and conducted cooperatively by the Transportation Research Board Standing Committee on Traffic Control Devices (AHB50) and the American Traffic Safety Services Association (ATSSA).

GUIDELINES FOR PARTICIPATION

The TCD Challenge is open to individual high school, junior college, college, or university students or teams of students with an interest in transportation and an understanding of traffic control devices. Students in relevant fields such as transportation-, human factors-, and technology- related curricula are particularly encouraged to participate.

The TCD Challenge submittals will help to encourage innovation and creative thought in the transportation community. Contest participants will receive the opportunity to vet their designs in a public forum. Three winning teams will receive recognition at a national transportation forum.

PROBLEM STATEMENT

The theme for the 2019 TCD Challenge, derived from the 2018 ATSSA Circle of Innovation as a priority among public agency officials, is: ***Traffic Control Device Innovations to Improve Pedestrian and Bicycle Safety at Signalized Intersections***. The Federal Highway Administration (FHWA) Office of Safety has assembled information and a list of resources to provide an overview of the issues and current solutions: safety.fhwa.dot.gov/intersection/conventional/signalized. It is highly encouraged that a wide scan of relevant materials, both domestic and international, be reviewed as part of the effort to prepare submissions.

While the development of programs, and specific countermeasures, has been resolute, the problem persists claiming too many lives, year in and year out. Therefore, designers or design teams will have to consider how the current system needs to change or how new innovations can be effectively applied to improve safety at signalized intersections. What are the traffic control device designs, ideas, enhancements, and/or standards that will improve pedestrian and bicycle safety at signalized intersections? How can technology play a role? That is the challenge for you and your teammates.

GUIDELINES FOR PARTICIPATION

Contest Eligibility

Submitter Eligibility

The TCD Challenge is open to individual high school, junior college, college, or university students or teams of students. All that is required in terms of technical expertise of submitters is a keen interest in transportation and safety, along with an understanding of traffic control devices.

If selected as a finalist, submitters need to plan on attending or have a representative at the 2019 TRB Annual Meeting, which will be held Jan. 13–17 at the Walter E. Washington Convention Center in Washington, D.C. The finalists will present their submission during the event, where a panel of judges will select the first, second, and third place submissions.

The selected teams will coordinate travel to ATSSA's 49th Annual Convention & Traffic Expo from Feb. 8–12 at the Tampa Convention Center in Tampa, Florida, where the final presentation and judging will occur. One to two students per team will have the opportunity to present their ideas at ATSSA Traffic Talks, which are informal stop-in, 25-minute presentations given by roadway safety experts on the exhibit floor at the convention center. Designated booth space also will be provided for teams to display their posters and engage with industry professionals about their concepts. ATSSA will provide full financial support for travel to its annual event for up to one person per team. Additional team members are welcome to attend but their travel will not be covered. Registration costs will be covered for no more than two team members.

Originality of Design

The submissions must be an original design of the designer(s) or modifications to an existing industry-accepted design or product. In the case of a modification to an existing traffic control device, the original device that is being modified should be acknowledged.

Individuals or Teams

Individuals or teams can participate. Each individual or team submittal should have a lead contact specified by name and affiliation.

Multiple Submittals

Multiple submissions are allowed by individuals or by teams. Each submission will be considered independently and, as such, should be submitted in a separate submission package.

Competition Scheduling

The following table presents key dates for submitting and participating in the TCDC.

Milestone	Date
Announcement of TCD Challenge	April 30, 2018
Webinar: ATSSA-TRB Traffic Control Device Challenge Speaker: Paul Carlson, co-chair, TRB Traffic Control Device Committee	May 8, 2018
Submission Deadline	Oct. 1, 2018
Review of Submissions for Eligibility	Oct. 15, 2018
Notification of 12 teams invited to display their work	Nov. 1, 2018
Presentations and judging	Jan. 13–17, 2019 (During the TRB Annual Meeting)
Announcement and recognition of winners	Jan. 13–17, 2019 (at TRB) and Feb. 8–12, 2019 (at ATSSA)

Submittal Specifications

The submission packet can include drawings, photographs, or other graphical renderings that can be encapsulated in a PDF file. Submittals are limited to five pages in length, including all text and graphics, packaged in a PDF format. Submitters are encouraged to provide a narrative in the five pages that explains the traffic control device or system of devices and describe how the submittal addresses each of the review criteria as specified below. The submitter should strive to communicate in a succinct manner.

Each TCD Challenge submittal must also include a signed submission form (not included in the submittal page total), included as “Attachment 1” to this guide.

The submittals will be reviewed using the criteria described below. The top 12 submissions will be invited to the TRB Annual Meeting.

REVIEW AND AWARD PROCESS

Evaluation Criteria

Submissions will be evaluated based on the evaluation criteria below.

Ability of the idea to address the problem. The judges will review the submission and assess how well it mitigates the problem identified in the problem statement.

Ease of understanding. The judges will assess if the submission would be easily understood by the traveling public, including motorists, pedestrians, and bicyclists.

Applicability. The judges will assess the submission’s applicability and transferability to various environments and roadways. For example, ideas that will only work on rural intersections or in warm climates will not be scored as highly as designs that will work on any roadway class intersection in diverse climates.

Feasibility for Implementation. The judges will assess the feasibility of the idea. They will consider the likelihood that the idea could be accepted by the transportation community and implemented on the nation's roadway. The potential cost of implementation, the ease of implementation, and the availability of materials can be part of the judges' considerations.

Review Process

The TCD Challenge committee will screen each submittal to verify that it adheres to the contest guidelines. The committee will use the evaluation criteria to select up to 12 finalists to attend the 2019 Transportation Research Board Annual Meeting. The 12 finalists will be expected to display a poster (prepared according to the guidelines used for TRB poster sessions; see: s3.amazonaws.com/media.atssa.com/TCDC/PosterGuidelines.pdf) and prepare a poster presentation that describes their innovation. Posters should be no larger than 4-by-5 feet and should assist in your explanation of your innovative idea.

Judging of Finalists

The first, second, and third place winners will be selected by that panel of experts. The judges will represent the practicing transportation community.

New this year, teams will be asked to present their idea to the TCD Challenge Committee in a "Shark Tank" format. Presentations will be timed. Five minutes will be allotted to each team. After presentations are completed, there will be a 15-minute recess. Once the TCD Challenge Committee reconvenes, the winners will be announced and all participants will be able to ask questions and provide feedback.

After the final three winners have been announced at the TRB Traffic Control Device Committee, they will meet with an ATSSA representative to review the logistics for their travel to ATSSA's Annual Convention & Traffic Expo in Tampa, Florida, on Feb. 8-12, 2019. Only one member from each of the winning teams will be invited to speak on behalf of your team.

Awards

First, second, and third place will receive awards as specified in the following table. The top three winners all will receive an opportunity to present their concepts in a “Traffic Talk” at ATSSA’s Annual Convention & Traffic Expo in Tampa.

Place	Award
First	“Traffic Talk” presentation. Travel expenses for one speaker. Registration for up to two speakers. \$1,500 cash prize. First place plaque. *
Second	“Traffic Talk” presentation. Travel expenses for one speaker. Registration for up to two speakers. \$1,000 cash prize. Second place plaque. *
Third	“Traffic Talk” presentation. Travel expenses for one speaker. Registration for up to two speakers. \$500 cash prize. Third place plaque. *
Honorable mentions	Certificate of Recognition for up to seven honorable mention entries.

*In addition to the opportunity to present the idea in a “Traffic Talk,” the three place winners will be provided a (joint) exhibit booth to display their posters. The placing prize winners will be announced at the ATSSA meeting’s opening general session. ATSSA will also include an article in their industry magazine, *The Signal*, the placing winners and, with their agreement, a home town press release.

CONTACT FOR ADDITIONAL INFORMATION

For questions about the TCD Challenge not addressed by this participation guide, please email PCarlson@roadinfrastructureinc.com.

2019 Traffic Control Device Challenge Submission Form

Instructions: The following form must be completed and signed by the team leader on behalf of all named members of the team and submitted with your package. Please scan the signed form as a PDF and include as part of your submission package. Include contact information for each member. Attach additional pages as necessary.

TCD Challenge Submission Title:

Team Leader: _____ Affiliation: _____

Email: _____ Telephone: _____

Teammate: _____

Affiliation: _____

Email: _____ Telephone: _____

Teammate: _____

Affiliation: _____

Email: _____ Telephone: _____

Teammate: _____

Affiliation: _____

Email: _____ Telephone: _____

Lead Submitter's Signature

By signing this form, I acknowledge that the above listed participants have all agreed to the TCDC's submittal and if selected as a finalist, agree to display a poster at the Transportation Research Board Annual Meeting in Washington, D.C.

Lead Submitter

Date

Send submission forms for the 2019 Traffic Control Device Challenge to:

Paul J. Carlson, Ph.D., P.E.

Co-Chair AHB50

PCarlson@roadinfrastructureinc.com