

## 2024-2025 PennDOT Innovations Challenge

### Background

On average, more than 350 unrestrained fatalities occur on Pennsylvania's roadways each year. PennDOT is committed to improving roadway safety and deploys a multi-faceted strategy, which includes promoting behavioral programs and implementing infrastructure improvements. However, the number of unrestrained fatalities remains high, and changing driver and passenger behavior is crucial to solving this issue.

The observed seat belt rate for front seat occupants in Pennsylvania is just over 87 percent. To increase usage, PennDOT has provided federal grant funding for enforcement and education programs. The [High Visibility Enforcement Program](#) is conducted by both state and local police, focused in areas with the highest numbers of unbelted injuries and fatalities. Community Traffic Safety Projects provide outreach and education to the public, targeting all ages. Occupant protection is a large portion of highway safety outreach. PennDOT also conducts statewide media buys coinciding with national campaigns, such as "[Click It or Ticket](#)," to increase seat belt awareness and publicize heightened enforcement efforts.

### Your Challenge

Develop a **cost-effective, innovative solution** that can help PennDOT more effectively **increase awareness of seat belt safety** and **change behavior to improve roadway safety**.

### Your Award

The statewide winning team will be chosen from among regional winning teams across the state. Each PennDOT regional office's winning team members will receive certificates. The regional winners will be invited to present their innovative solutions to the PennDOT Secretary and a panel of judges, who will determine the statewide winner. The statewide winning team members will receive certificates, and their school will receive a traveling trophy and permanent trophy engraved with the school's name.

In addition, the Transportation Policy and Education Foundation, an educational arm of the [Associated Pennsylvania Constructors](#) (APC) organization, the [American Council of Engineering Companies of PA](#) (ACEC/PA), the [Mid-Atlantic Section of the Institute of Transportation Engineers](#) (MASITE) and the [Intelligent Transportation Society of Pennsylvania](#) (ITSPA) are providing a combined total award of **\$6,000** to the statewide winning team.

Think you have an innovative solution? Give the PennDOT Innovations Challenge your best effort!

### Project & Submission Guidelines

Students must work together in teams (**minimum of two up to a maximum of four individuals**) to develop their innovative solution that addresses the identified challenge.

To enter the challenge, teams must complete the [2024-2025 PennDOT Innovations Challenge Submission Form](#), which includes attaching a description of **no more than 750 words** outlining the innovative solution and its benefits. **Note:** Each team must identify a faculty adviser who will need to submit the form on the team's behalf. Each submission must follow the below parameters.

## Submission Parameters

- The following should be included in your submission:
  - Description of the highway safety problem to be addressed.
  - The proposed countermeasure strategy to be implemented and associated linkage to the identified problem, rationale for selection and evidence of effectiveness.
  - Proposed activity plan, including timeline and estimated costs.
  - Description of performance measures/targets to support evaluation.
  - Plan for evaluating effectiveness.
  - **Note:** Pilot project ideas are acceptable if the submission articulates a potential traffic safety benefit.
- The primary focus of solutions must be increasing seat belt usage.
- Possible areas of consideration:
  - Educational/public outreach campaigns
  - Collaborations with traffic safety partners/stakeholders (law enforcement; first responders/EMS; insurance companies, etc.)
  - Child passenger safety topics
  - Usage of telematics and other data
  - Social media
- **Note:** Legislative and vehicle manufacturing ideas are welcome but will not be considered for possible implementation as these fall under the responsibility of other partners. PennDOT will, however, communicate promising ideas accordingly.

The submissions will be reviewed by regional PennDOT offices, and up to five teams will be invited to **present their solutions** to a team of judges from the **PennDOT regional office** depending on where their school district is located. **Note:** If your team is selected as a regional finalist, a PowerPoint presentation (or similar presentation software), consisting of no more than 15 slides must be created. Presentations must be no longer than 15 minutes. In addition, models, diagrams, videos, and other visual aids or supporting materials can be used as part of your presentation to demonstrate your team's innovative solution to the PennDOT regional office judges.

Winners will be selected from the PennDOT regional offices; regional winners will advance to the statewide competition, where one statewide winner will be selected.

The challenge is open to **Pennsylvania high school freshmen, sophomores, juniors, and seniors** in public, private or charter schools, and homeschooled students. **Note:** PennDOT employees and their family members (siblings, children, grandchildren, nieces and nephews) are ineligible to enter.

## Implementation

The winning idea will be considered for implementation by the Pennsylvania Highway Safety Office, in accordance with established procurements policies. Available funding and other parameters will be determined based on the type and scope of the idea.

## Deadline

Submissions must be received by PennDOT's Bureau of Innovations by **11:59 PM on January 31, 2025**.

## Process and Timeline

1. By **January 31, 2025, at 11:59 PM**, complete and submit the [2024-2025 PennDOT Innovations Challenge Submission Form](#) to PennDOT's Bureau of Innovations.
2. By **February 14, 2025**, PennDOT regional offices will review initial submissions, select up to five finalists and invite them to present their innovative solutions to a panel of judges, either in person or virtually.
3. By **March 21, 2025**, PennDOT regional offices will select winners for the **statewide judging in April/May 2025** to present, either in person or virtually, their innovative solutions to the PennDOT Secretary and a panel of judges, who will determine the statewide winner.

## Judging Criteria

- **Effectiveness – 10 points**
  - Does the solution holistically address the challenge?
  - Could the solution be used by PennDOT without substantial revisions?
  - Does the solution address a problem that can be solved with tools, techniques and/or technologies that are available today?
  - Does the solution include a plan for continued operation and maintenance after implementation (if applicable)?
- **Benefits to the Community – 10 points**
  - Does the solution promote roadway safety?
  - Does the solution encourage changes in driver behavior and improve safety for the traveling public?
  - Does the solution improve communications and/or interactions between PennDOT and the community?
  - Will the solution affect seat belt usage in Pennsylvania?
- **Cost-Effectiveness – 10 points**
  - Does the solution identify and effectively address any costs to implement the solution?
  - Is the solution sustainable and cost-effective to maintain in the long-term?
  - Does the solution take into consideration any grant or similar type funding that could be used to help offset project costs?
- **Innovation – 10 points**
  - Does the solution inspire transportation progress?
  - Does the solution introduce an original idea or advanced concept?
  - Does the solution show promise as a catalyst for continued improvement?
- **Presentation – 10 points**
  - Were the presentation materials submitted completely?
  - Is the solution presented in a captivating manner?
  - Is the solution presented with clarity and forethought?
  - Did the presenters discuss all aspects of the solution from formulation through execution?

- Did the group members answer questions from the judges completely, logically and personably?
- Did the brief write-up on the solution contain a clear, complete and well-organized summary of the project?

### Resources

- [Crash Facts & Statistics Book](#)
  - This is a statistical review of reportable motor vehicle crashes in the Commonwealth of Pennsylvania for a given year. The section titled “Seat Belts, Child Safety Seats, and Air Bags” begins on page 34, and the information on Page 36 highlights the effects of 100% seatbelt use.
- [Pennsylvania Triennial Highway Safety Plan](#)
  - This includes a wide-range of information, including grant-funded efforts aimed at increasing seat belt usage in the Commonwealth.
- [PennDOT Safety Webpage](#)
- [PennDOT Seat Belts Webpage](#)
- [NHTSA Seat Belts Webpage](#)
- [2021-2023 Unbelted Pennsylvania Fatalities Chart](#)

### Contact Information

For questions or more information, email PennDOT’s Bureau of Innovations at [DOTInnovations@pa.gov](mailto:DOTInnovations@pa.gov).