

2020-2021 PennDOT Innovations Challenge

Background

A safe and reliable multimodal transportation network is essential for Pennsylvania residents, businesses, and visitors. Improving and maintaining this extensive multimodal system to meet the economic and social equity needs of rural and urban communities requires stable and sufficient transportation funding for all modes of transportation, including roadways, bridges, ports and waterways, transit, rail, air, bicycles and pedestrians.

Today, much like the rest of the nation, Pennsylvania's transportation infrastructure is aging significantly, and transportation revenues are insufficient to address its complex needs. With vehicles becoming more fuel efficient and electric vehicles being more affordable, gasoline-based revenues can no longer generate the revenue needed. Other options, including tolling and mileage-based user fees, are being explored, but come with their own set of challenges.

To meet the needs of its aging infrastructure, Pennsylvania needs to establish a funding stream that will inject an additional \$5 billion per year into its transportation system.

Your Challenge

Develop an innovative and implementable solution, which also includes a proposal on how to educate and gain the support of Pennsylvanians, to help address Pennsylvania's transportation revenue shortfall by identifying new and equitable funding streams, aside from additional gas taxes, tolls or mileage-based user fees, to ensure adequate transportation funding for the future.

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 as well as their school receiving a traveling trophy and permanent trophy engraved with the school's name.

In addition, the following organizations are providing a combined total award of **\$5,500** to be divided among the first, second and third place statewide winning teams:

- Transportation Policy and Education Foundation, an educational arm of the [Associated Pennsylvania Constructors](#) (APC) organization
- [American Council of Engineering Companies of PA](#) (ACEC/PA)
- [Pennsylvania Chapter of the American Traffic Safety Services Association](#) (ATSSA)

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 [2020-2021 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.

The submissions will be reviewed by regional PennDOT offices and up to five team finalists will be invited to **present their solutions virtually** 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 PennDOT regional offices; regional winners will move on to compete in the statewide competition where one statewide winner will be selected. **Note:** Depending on circumstances related to the COVID-19 pandemic, the statewide judging competition may be held virtually versus in person in Harrisburg.

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.

Deadline

Submissions must be received by PennDOT's Bureau of Innovations by **11:59 PM on December 18, 2020**.

Process and Timeline

1. By **December 18, 2020, at 11:59 PM**, complete and submit the [2020-2021 PennDOT Innovations Challenge Submission Form](#) to PennDOT's Bureau of Innovations.
2. By **January 22, 2021**, PennDOT regional offices will review initial submissions, select up to five finalists and invite them to present their innovative solutions virtually to a panel of judges. **Note:** These presentations should be no longer than 15 minutes and include a PowerPoint (or similar presentation software), consisting of no more than 15 slides. Models, diagrams, videos, and other visual aids or supporting materials to demonstrate the team's innovative solution can be used as part of your presentation to demonstrate the team's innovative solution to the PennDOT regional office judges.
3. By **February 26, 2021**, PennDOT regional offices will select winners for the **statewide judging in April 2021** 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 (identify new and innovative funding streams, educate the public about need for funding)?
- Could the solution be used by PennDOT without substantial revisions?
- Does the solution address a problem that can be solved with the technology that is available today or being discussed as possible within the next five to 10 years?
- If applicable, does the solution include a proposal for continued operation after implementation?

- **Revenue Generation – 10 points**
 - Does the solution adequately increase funding to Pennsylvania’s transportation system?
 - Is the proposed solution sustainable; i.e. does it increase funding in the short- or long-term?

- **Public Outreach and Benefits to the Community – 10 points**
 - Does the solution include an implementable proposal to gain public buy-in and support of the funding plan?
 - Does the solution serve communities across Pennsylvania?
 - Does the solution improve communications and/or interactions between PennDOT and those communities?

- **Innovation – 10 points**
 - Does the solution introduce an original or advanced concept?
 - Does the solution introduce a new or advanced strategy, business model, etc.?

- **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 solution’s brief write-up contain a clear, complete, and well-organized summary of the project?

Resources

Contact Information

For questions or more information, email PennDOT’s Bureau of Innovations at DOTInnovations@pa.gov.