

## 2022-2023 PennDOT Innovations Challenge

### Background

There is a shortage of commercial truck parking along major interstate corridors in Pennsylvania. While there are approximately 11,600 truck-parking spaces available at private truck stops, PennDOT rest areas and welcome centers, and Pennsylvania Turnpike service plazas, during peak truck parking hours, approximately 12,100 trucks require parking accommodations. Trucks parking on highway shoulders and ramps is common during overnight hours and presents a significant safety issue. As just-in-time deliveries continue to be the mainstay of global business, the demand for truck parking will continue to increase. Federal hours-of-service regulations require more down time for drivers, which translates into an increased demand for truck parking, and many local governments have strict ordinances against overnight truck parking in their communities.

**Your Challenge:** Select one of the below listed geographic areas of the state where truck parking is a known issue and develop an innovative approach to increase commercial truck parking availability in that area and offset costs incurred for construction. Your solution must consider local ordinances and zoning laws for the area selected, commercial entity interaction in land development, community impact, restroom facilities, and space requirements for commercial trucks that are generally 70-80 feet long.

1. I-99/I-80 Interchange in Centre County
2. I-81/I-476 Interchange in Luzerne County
3. I-84, I-380 and I-81 Interchange in Lackawanna County
4. I-78/I-81 Interchange in Lebanon County
5. PA 33 at I-78 Interchange in Northampton County
6. PA 33 at I-80 Interchange in Monroe County
7. I-81 (any PA county that I-81 traverses)
8. I-83 Cumberland/York Counties
9. I-70 at I-76 Interchange (New Stanton) in Westmoreland County
10. I-70 in Washington County
11. I-80 in Jefferson County
12. I-90 Erie County

**Note:** Please refer to pages 28 – 30 of PennDOT’s draft [2045 Freight Movement Plan](#) for a detailed map and additional information.

### 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 and the [American Council of Engineering Companies of PA](#) (ACEC/PA) are providing a combined total award of **\$4,000** 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 [2022-2023 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 teams 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 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.

Depending on circumstances related to the COVID-19 pandemic, the regional and statewide judging events may be held virtually versus in person.

## Deadline

Submissions must be received by PennDOT's Bureau of Innovations by **11:59 PM on January 27, 2023**.

## Process and Timeline

1. By **January 27, 2023, at 11:59 PM**, complete and submit the [2022-2023 PennDOT Innovations Challenge Submission Form](#) to PennDOT's Bureau of Innovations.
2. By **February 10, 2023**, PennDOT regional offices will review initial submissions, select up to five finalists and invite them to present their innovative solutions either in person or 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 the presentation to demonstrate the team's innovative solution to the PennDOT regional office judges.
3. By **March 17, 2023**, PennDOT regional offices will select winners for the **statewide judging in April 2023** 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 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?
- **Benefits to the Community – 10 points**
  - Does the solution take into consideration local ordinances and zoning laws?
  - Does the solution include an integrated approach to transportation planning/programming and local planning for freight-intensive land use?
  - Does the solution consider commercial entity interaction in land development?
  - Does the solution include impacts to the community and the local road network?
- **Cost-Effectiveness – 10 points**
  - Does the proposed solution offset costs incurred for construction?
  - Is the solution cost-effective?
  - Does the solution include measures to determine cost-effectiveness?
- **Innovation – 10 points**
  - Does the solution inspire transportation progress?
  - 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 personally?
  - Did the solution's brief write-up contain a clear, complete, and well-organized summary of the project?

## Resources

- [Draft 2045 Freight Movement Plan](#)
- [Draft 2045 Freight Movement Plan Appendix](#)
- [Pennsylvania State Transportation Advisory Committee Truck Parking Study](#)
- <https://talkpatransportation.com/>
- [https://ops.fhwa.dot.gov/freight/infrastructure/truck\\_parking/docs/Truck\\_Parking\\_Development\\_Handbook.pdf](https://ops.fhwa.dot.gov/freight/infrastructure/truck_parking/docs/Truck_Parking_Development_Handbook.pdf)

## Contact Information

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