



University of  
Pittsburgh

Swanson School  
of Engineering

PITT | IRISE

# **Transportation Infrastructure Problem Student Solution Competition – TRI-PRO**

**Dr. Mark Magalotti P.E.**

**IRISE Annual Meeting**

**May 23<sup>rd</sup>, 2024**

# The Purpose of Tri-Pro

- Introduce Civil and Environmental Engineering Students to the area of Transportation Infrastructure Careers
- Encourage students to take courses and become problem solvers in transportation infrastructure issues
- Engage Students with IRISE members in all aspects of careers in design, construction, and maintenance of infrastructure
- Create relationship for future opportunities for internships with IRISE members



# Competitive Team Prizes

- First Prize \$3,000
- Second Prize \$2,000
- All Entries \$500



# Schedule Fall 2024 Semester

- Classes Start 8/26
- 8/30 Undergraduate Seminar Presentation and email announcement to students of competition and registration of teams
- 9/6 Second Seminar Presentation and email announcement registration of teams due 9/20



# Schedule Fall 2024 Semester

- Field view of infrastructure problem - TBD
- Submission of problem solution six weeks into semester 10/11 tentative
- Presentation and Awards at Fall Brainstorming Session TBD



# Project Type Examples

- Environmental or Geotechnical Flooding or Landslides occurring along highways
- Roadway and Structural rehabilitation projects that need an innovative construction phasing solutions
- Highway construction projects on a high-speed roadway that protect highway workers with innovative methods of construction and safety



# Candidate Projects Needed

- Local projects
- Projects with a sustainability component
- Projects that have multiple infrastructure components such as geotechnical, pavement etc.
- Provide an IRISE contact that will provide resource materials for the students



# Candidate Problem

What is an innovative why to preserve a bridge?

The solution is located 2,000 feet from here?

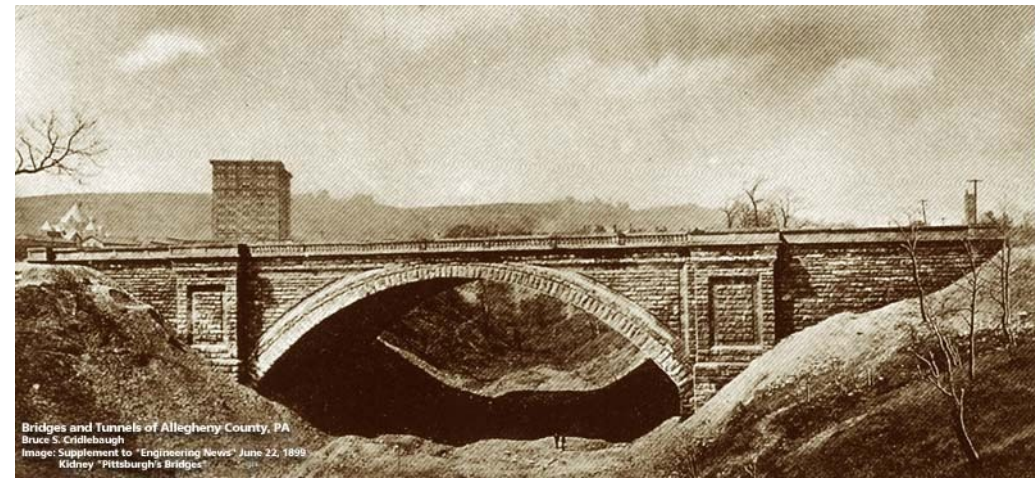
It was innovative when implemented in 1915

It currently is part of an art exhibit supporting a fountain



# Candidate Problem – The Bellefield Bridge

The Bellefield Bridge still stands at the end of Schenley Plaza between Carnegie Institute (Library and Museums) and Forbes Quadrangle (formerly Forbes Field)—Source PGH bridges.com and the Bridge was **buried** ?



# Candidate Problem – The Bellefield Bridge

By 1915, only 17 years after the \$112,000 stone arch bridge was constructed, it was covered over – Source PGH bridges.com Today a fountain stands on the bridge deck



# Competition Process

- A form and format will be provided for the submission.
- The solution will be a concept solution presented in a written and drawing format
- A committee of representatives of IRISE partners will convene to review written submissions.
- The teams will prepare a 10-minute presentation, present their solution at the IRISE fall meeting and will be required to respond to questions about their solutions

# Judging the Competition and Awards

A panel of all IRISE members representatives at the fall brainstorming session will:

Review the submissions

Listen to the 10 minutes presentations

Rate the projects based upon the following criteria and **award** the prizes:

- Innovativeness 25%
- Feasibility 10%
- Completeness 20%
- Sustainability 20%
- Presentation 10%
- Responses to Questions 15%



# What's Next ?

Prepare Written Submission Requirements  
IRISE Members Provide Candidate Projects  
Committee Members Select Project  
Start Process in Fall

# Thank you

[engineering.pitt.edu](http://engineering.pitt.edu)

<https://www.engineering.pitt.edu/subsites/consortiums/irise/>

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