Michigan Department of Transportation
Transportation and Civil Engineering Internship Program

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TRAnsporation and Civil (TRAC) Engineering Program Overview

The American Association of State Highway Transportation Officials (AASHTO) initiated the TRAC™ (Transportation and Civil Engineering) program as a mechanism to provide state departments of transportation (DOTs) across the United States with a standards-based educational outreach program designed to integrate hands-on transportation experience into middle and high school STEM classrooms. The program relies on partnerships between transportation professionals and teachers to bolster pre-college students’ exposure to transportation careers and their interest in math and science by demonstrating “real world” applications. The AASHTO TRAC program provides eight TRAC modules to participating state DOTs and partner schools, which include a variety of hands-on activities, teachers’ guides, equipment, software, and supplies. TRAC module topics include: bridge building, highway development and the environment, highway safety, magnetic levitation, traffic technology, motion and the transportation engineer, roadway design and construction, and city planning. The program also provides training for participating professionals and teachers, and provides guidance to teachers on how to adapt the TRAC resources to their existing curriculum.

The Michigan Department of Transportation (MDOT) has been offering TRAC to teachers in Michigan since 2004.
**MDOT 9th Annual Bridge Challenge**

On April 18, nearly 600 students from 46 Michigan schools descended upon the Amway Grand for the Michigan Bridge Challenge. Twelve of the 184 teams achieved top standing. They include teams from eight schools:

### 7-8th Grade Place/Team

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<thead>
<tr>
<th>Place</th>
<th>Team</th>
<th>School</th>
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<tbody>
<tr>
<td>1st</td>
<td>A²R Builders</td>
<td>Meads Mill Middle School</td>
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<tr>
<td>2nd</td>
<td>Bam Bridge! 2.0</td>
<td>Portage Central Middle School</td>
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<tr>
<td>3rd</td>
<td>The Brilliant Bridge Builders</td>
<td>Portage Central Middle School</td>
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<tr>
<td>4th</td>
<td>The Artistic Weirdos</td>
<td>Imlay City Community Schools</td>
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### 9-10th Grade Place/Team

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<tr>
<th>Place</th>
<th>Team</th>
<th>School</th>
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<tbody>
<tr>
<td>1st</td>
<td>Mortiferous Dragons</td>
<td>KAT Homeschool (Kalamazoo)</td>
</tr>
<tr>
<td>2nd</td>
<td>The Mustangs</td>
<td>Northville High School</td>
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<tr>
<td>3rd</td>
<td>Kalamazoo Bridge Brigade</td>
<td>KAT Homeschool (Kalamazoo)</td>
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<tr>
<td>4th</td>
<td>Bridge the Gap</td>
<td>Northville High School</td>
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### 11-12th Grade Place/Team

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<th>Place</th>
<th>Team</th>
<th>School</th>
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<tbody>
<tr>
<td>1st</td>
<td>Industrial Bridge Builders of Negaunee</td>
<td>Negaunee High School</td>
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<tr>
<td>2nd</td>
<td>Suspended Civil Engineering</td>
<td>LISD Tech Center</td>
</tr>
<tr>
<td>3rd</td>
<td>Land Linkers</td>
<td>LISD Tech Center</td>
</tr>
<tr>
<td>4th</td>
<td>The Beavers</td>
<td>Macomb Math Science Tech Center</td>
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Some 7th/8th grade teams held 100-plus pounds, and Negaunee’s bridge had a 420,000 percent strength-to-weight ratio.

Gov. Rick Snyder commented to a WOOD-TV reporter, “I want to build one!”

Anticipation and joy abounded on stage and in the audience.
Eight Michigan teams were invited to AASHTO’s National Bridge Challenge in Portland, Maine, together with teams from California, Mississippi, New Hampshire, and Iowa.

On May 24, students traveled from Michigan to Maine, where they swept the first place honors in all three categories and completed the competition by placing in seven of the top nine spots.

National winners included:

**7-8th Grade Place/Team**

1st - A²R Builders
3rd - Bam Bridge! 2.0

**School**

Meads Mill Middle School
Portage Central Middle School

**9-10th Grade Teams/Rank**

1st - Mortiferous Dragons
2nd - The Mustangs
3rd – The Suspension is Killing Me

**School**

KAT Homeschool (Kalamazoo)
Northville High School
Brandon High School

**11-12th Grade Place/Team**

1st - Industrial Bridge Builders of Negaunee
3rd – AHS Bridge Works

**School**

Negaunee High School
Annapolis High School

Students carved vehicles and raced them down a magnetic levitation track, with cheers along the sidelines.

State Transportation Director Kirk Steudle praised the event, saying, “Michigan has the biggest program. The next state next to us is Mississippi and there are others that are really trying to build up to where we are because they recognize they need future talent” like engineers, consultants and other jobs that require STEM skills.
TRAC Internship Opportunities

The TRAC Pipeline Internship Program is a seven-week program offered to TRAC students who are interested in math and science. The internship provides these students with the opportunity to work alongside MDOT civil engineers and learn more about the rewards and challenges of a career in civil engineering.

Selected students work for MDOT for a period of seven weeks, 40 hours per week, and earn $12 per hour. MDOT works hard to make certain the TRAC Pipeline Internship continuously adds new faces to the field of civil engineering.

The 2017 TRAC Program includes 23 statewide internship positions. Students participate in competitive interviews to secure the paid internship positions. Once hired, the students learn what it is like to work as a civil engineer on projects such as design, construction, traffic and safety, geotechnical, and surveying. Upon successful completion of the program, students may receive a $2,500 scholarship to study civil engineering.

Scholarship Partners

Scholarships are offered after students successfully complete the TRAC Internship Program and when they enter a college of engineering. Scholarship money is applied toward the student’s endeavor to become a civil engineer. The following universities/colleges offer $2,500 scholarships to successful TRAC interns:

* Western Michigan University
* University of Detroit Mercy
* Calvin College of Engineering
* Lawrence Technological University
* Wayne State University
* Michigan State University
* Michigan Technological University
TRAC Strategic Plan

TRAC Mission
To introduce students in grades 6-12 to the working world of transportation, especially civil engineering, and inspire them to consider careers in those fields.

TRAC Vision
To deliver educational outreach programs that connect students to the work world of transportation while enhancing math, science, and technology skills.

Strategic Areas of Focus

Quality: Quality tools and curriculum have been developed and continue to be improved upon to create an encompassing math/science program for Michigan's youth.

Teamwork: The TRAC Team expanded to hundreds of volunteers (including MDOT staff, consultants, and college partners) who understand the importance of science, technology engineering, and math (STEM) in Michigan.

Customer Orientation: Michigan educators and youth advisors are offered TRAC tools to supplement existing programs.

Integrity: Commitments are made and kept, and effective, responsible, timely actions are executed.

Pride: TRAC is promoted with enthusiasm, energy and optimism.

Wildly Important Goal
TRAC will increase the awareness of math, science and opportunities for employment within the field of transportation for the female and minority youth in Michigan.
MDOT Region Coordinators