



Apprenticeships

What is an Apprenticeship?

- An earn and learn model (must include both paid work experience and related training and instruction).
- DOL recognized apprenticeships have expanded – including more flexible design and pre-apprenticeship programs.
- Not just for ‘traditional’ fields.
- Partnerships are key.



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How can apprenticeships benefit TSMO workforce efforts?

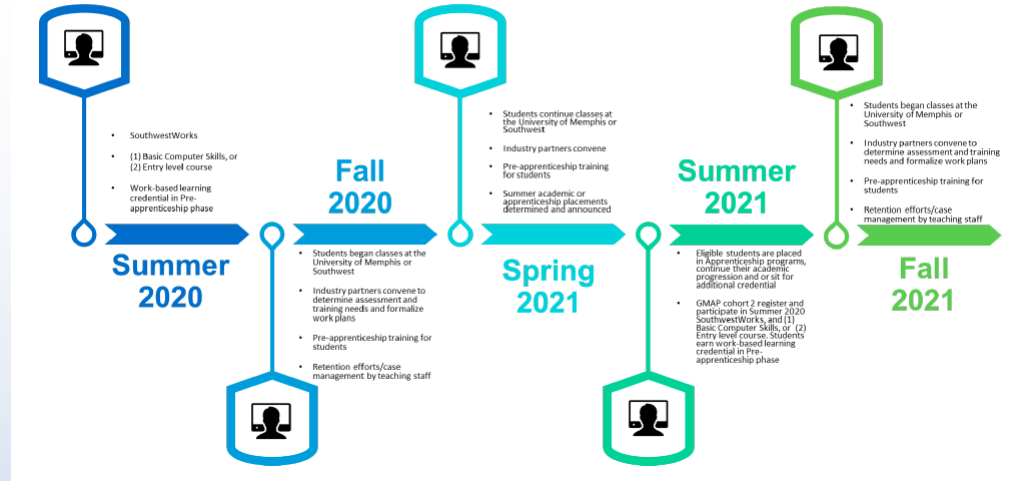
- Start (or change) conversations about TSMO.
- Create experiential career pathways – K-12 through career.
- Enhance diversity.
- Build partnerships between academia and industry that strengthen both entities.

“You can’t be what you can’t see.”
*-Marian Wright Edelman, Founder and President of the Children’s
Defense Fund*

Greater Memphis Apprenticeship Pathway

- Southwest Tennessee Community College and University of Memphis
- Focus on ITS pathways that include TSMO at para-professional and professional levels
- Industry advisory groups will begin program design summer 2020
- Multiple pathways including civil, computer, and electrical engineering, and engineering technology

Greater Memphis Apprenticeship Pathway



How will we measure success?

- Number of partnerships created.
- Number of apprentices placed.
- Number of apprentices completing programs.
- Number of apprenticeships sustained.
- Number of replications inside and outside of Memphis.
- Apprentice, Employer, and Educational partner perceptions





Career
Pathways:
Early Education

Why is early education so important?

- Students begin closing doors as early as elementary school.
- For STEM fields, educational decisions start in middle school.
- Limited understanding and perception of transportation careers and NO concept of TSMO.



Because transportation is something that we all are involved in every day – whether in traveling to school or work or in placing an order and expecting next day delivery – it has become almost invisible in terms of the design, operations, maintenance and system management required to make these expectations realities. --T-STEM Playbook, 2020

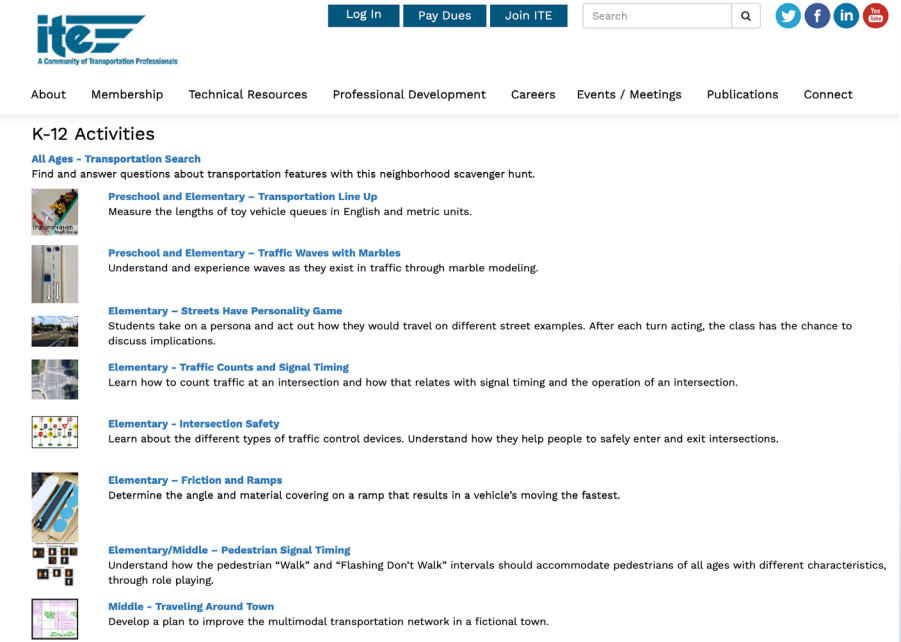
Example programs

- T-STEM Academy in Memphis, Tennessee
 - Connects transportation and STEM
 - Industry-engaged educational model (more than 30 active partners)
 - Promotes 'STEM for ALL'
 - Culture of career



K-12 Resources

- ITE STEM: ite.org/stem
- Nanosonic:
nanosonic.com/education
- SETWC Transportation Academy:
memphis.edu/setwc/education
- UTC outreach programs



The screenshot shows the ITE website's navigation bar with links for Log In, Pay Dues, and Join ITE, along with a search bar and social media icons. The main content area is titled "K-12 Activities" and includes a "Transportation Search" section. Below this, there are several activity cards, each with a small image and a title. The activities listed are:

- Preschool and Elementary – Transportation Line Up**: Measure the lengths of toy vehicle queues in English and metric units.
- Preschool and Elementary – Traffic Waves with Marbles**: Understand and experience waves as they exist in traffic through marble modeling.
- Elementary – Streets Have Personality Game**: Students take on a persona and act out how they would travel on different street examples. After each turn acting, the class has the chance to discuss implications.
- Elementary – Traffic Counts and Signal Timing**: Learn how to count traffic at an intersection and how that relates with signal timing and the operation of an intersection.
- Elementary – Intersection Safety**: Learn about the different types of traffic control devices. Understand how they help people to safely enter and exit intersections.
- Elementary – Friction and Ramps**: Determine the angle and material covering on a ramp that results in a vehicle's moving the fastest.
- Elementary/Middle – Pedestrian Signal Timing**: Understand how the pedestrian "Walk" and "Flashing Don't Walk" intervals should accommodate pedestrians of all ages with different characteristics, through role playing.
- Middle – Traveling Around Town**: Develop a plan to improve the multimodal transportation network in a fictional town.