

Governor's STEM Academy Brief



Office of Career and Technical Education

VOLUME 51—TRANSPORTATION, DISTRIBUTION AND LOGISTICS

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The purpose of the monthly brief is to provide information, resources, and a networking vehicle to support the STEM (science, technology, engineering, and mathematics) Academies in Virginia.

GOVERNOR'S STEM ACADEMIES SPOTLIGHTS

During February 2016, the Burton Motorsports team of the Governor's STEM Academy, Roanoke County Public Schools, placed third in the Hot Rodders of Tomorrow Engine Challenge Dual Championship in Indianapolis, Indiana. The Engine Challenge provides teams of students the opportunity to compete, using strictly outlined criteria. The team was challenged to disassemble and then rebuild a small-block Chevy engine in the shortest amount of time with minimal penalties. The team placed second in the semi-finals, which earned them a place in the Final-Eight competition. The eight teams competed against each other and the clock three different times in front of crowds of onlookers and enthusiasts.

The Burton team consists of Jacob Hurley, Tyler Prosperi, Tomas Henderlite, Devin Roberts and Jacob Pierce. The team benefitted tremendously from this learning experience by networking with industry professionals, and communicating and collaborating at a high level of intensity. Each of the five students earned \$36,000 in scholarships to four different schools where they can continue their education in motorsports.

CAREER LINKS—TRANSPORTATION

For an overview of U.S. transportation, explore the [U.S. Department of Transportation](#) (e.g., Areas of Focus). Other federal transportation sites include [Department of Homeland Security: Transportation Security](#) and [Federal Highway Administration: Core Highway Topics](#).

For forward-looking transportation sites, visit the sites below:

- [American Public Transportation Association](#) (e.g., [Resource Library](#), Media Center)
- [Connected Vehicles](#) (an introduction to technology for communication among transportation components such as passenger and commercial vehicles, trains, roads, and phones)
- [Discovery News: Future of Transportation](#) (news focused on the automotive industry)
- [Re-Programming Mobility](#) (four possible scenarios for the future of U.S. transportation)
- [Future for All](#) (links to online articles about the future of automobiles)
- [The Future of Transportation in Virginia](#) and [Bicycling and Walking in Virginia](#) (links to projects, laws, and other resources from the Virginia Department of Transportation)
- [The Essential Elements of a Bicycle-Friendly America](#) (concepts from The League of American Bicyclists)
- [Driverless Car Market Watch](#) (a site devoted to advances in automotive technology)
- [Smart Mobility](#) (urban trends such as bicycle commuting, ridesharing, and on-demand ride services)
- [Virginia Tech Transportation Institute](#) (includes [Virginia Automated Corridors](#) and [Virginia Smart Road](#))
- [UAV Experts](#) (current news about unmanned aerial vehicles, including drones in TDL)

INSTRUCTIONAL STRATEGIES—LESSON PLANS AND TRANSPORTATION RELATED RESOURCES

- [The Henry Ford: Education](#) (Go to Resources for Educators, and then scroll down for Classroom Resources.)
- [Smithsonian National Air and Space Museum](#) (See [online exhibitions](#) and [educator resources](#).)
- [Boeing Resources for Educators](#) (See Exhibition Teacher Guides, Lesson Plans, and other aviation links.)
- [What Happened to Railroads?](#) (a lesson plan for grades 9–12 from the Council for Economic Education)

- [Transportation Careers: A Resource for Teachers](#) (See TDL [lesson plans](#) and [problem-based scenarios](#).)
- [TryEngineering](#) (TDL lesson plans including [Conveyor Engineering](#), [Chair Lift Challenge](#), [Cracking the Code](#), [Blast Off!!](#), [Wind Tunnel Testing](#), and [Find It with GPS!](#))
- [U.S. Department of Transportation: Resources for Teachers and Mentors](#) (TDL activities and lessons)
- [Southeast Maritime and Transportation \(SMART\) Center](#) (TDL teaching modules)
- [GPS.gov](#) (for an [overview of global positioning systems](#), [GPS applications to transportation](#), and [teaching resources](#))
- [Association of American Railroads](#) (resources on the U.S. rail system, past and present)
- [Energy and Cars: What Does the Future Hold?](#) (a Discovery Education lesson plan about how the change from fossil fuels to alternative energy sources is likely to transform the automotive industry)
- [Tire and Wheel Assemblies](#) (a lesson plan combining mathematics and automotive concepts)
- [Advanced Biofuels USA](#) (resources on [Biofuel Basics](#), [Education](#), and related topics)
- [How To Start an Automotive Repair Business](#), [How to Start an Autobody Shop](#), [Opening a New Collision Repair Shop](#), [Autozone](#), and [O'Reilly Auto Parts](#) (online resources for small business start-ups in automotive technology and collision repair)

NEW TECHNOLOGIES IN TRANSPORTATION, DISTRIBUTION AND LOGISTICS

- [MH&L: Material Handling & Logistics](#) (white papers, current news, and other information on [distribution and logistics](#))
- [Logistics](#) (a Pinterest site featuring processes, challenges, statistics, and many other aspects of the industry)
- [Intermodal Transportation Curriculum for Secondary Education](#) (information about a pilot study at The Center for Logistics, Trade, and Transportation at the University of Southern Mississippi)
- [Truckers Report: Library, A.T. Kearney's Transportation, Travel, and Infrastructure, and Virginia Trucking Resources](#) (resources related to truck drivers and the trucking profession)

CAREER EXPLORATION RESOURCES FOR TRANSPORTATION, DISTRIBUTION AND LOGISTICS

- [CareerOneStop](#) (scroll to Transportation, Distribution, and Logistics video)
- [Gadball.com: Transportation, Distribution and Logistics](#)
- [Green Careers in Transportation, Distribution, and Logistics](#)
- [Next Generation Careers: Transportation, Distribution, and Logistics](#)
- [Recruiter: Transportation, Distribution, and Logistics Careers](#) (includes videos)
- [FAA: Aviation Careers](#)
- [U.S. Air Force Careers: Air Transportation](#)
- [NATEF: Students & Parents](#)
- [Explore Careers in Energy Efficient Vehicles](#)
- [Working at CSX](#)
- [Amtrak: The Future Rides with Us](#)
- [Explore Port Careers](#)
- [Southeast Maritime and Transportation Center Video Gallery](#)

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