

School Day



What is School Day?

Virginia Tech Transportation Institute's (VTTI) biannual School Day will be held on October 8, 2009. Students will have the opportunity to tour VTTI's facilities including the Smart Road, control room, and research vehicles. Students will learn about transportation safety, as well as the research conducted at VTTI. We have time slots ranging from 9:00 a.m. to 2:00 p.m. If you are interested, please contact Sherri Box as soon as possible at (540) 231-1549 or sbox@vtti.vt.edu.

Take a Tour of VTTI!



The tour will include: a presentation in our main conference room that will be geared to each age group (10 minutes for younger groups and 20 minutes for older groups, both with Q&A), a tour of the Smart Road Control Room, a look into our instrumented research vehicles, and a ride on the Smart Road where students will see our rain towers in action.

Groups

In order to make sure that groups are not too large for students to see everything and ask questions, those arriving in multiple buses may be asked to remain grouped according to their bus assignments for the duration of the tour. If your group arrives in individual vehicles, a bus that will hold a maximum of 25 people will be provided by VTTI.

SOLs

We can gear the tours to your student's SOL needs. In the past, we have focused the tours on such SOL topics as the experimental design and the scientific method. Please mention specific needs when you call to schedule the tour.



High School Students

For those groups with older students, VTTI has many opportunities available. Students can see first-hand the exciting career and educational opportunities VTTI puts into practice in fields such as engineering, psychology, sociology, graphic and web design, and business.

Goodie Bags

Depending on the age of the group and the availability of supplies, our staff may be able to put together a few gifts for each student such as pencils, bookmarks, etc. The gifts will be given to one adult in each group to be distributed at your discretion (preferably after the field trip). There will be several extras in each bag in case students are out sick, etc.

Questions

Please encourage your students to ask questions. We're here to answer as many of them as we can, and if we don't know the answers, we'll get them! We're also here to encourage students to explore the many areas that we provide expertise in, such as civil engineering, industrial & systems engineering, electrical & computer engineering, psychology, and human factors statistics.



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VTTI Staff

A VTTI staff member will be with each group throughout the entire tour, both inside and outside of the building. A Virginia Department of Transportation (VDOT) engineer will be on the bus while on the Smart Road and will answer any questions the students may have.

VTTI Basics

VTTI is currently the largest university-level research center at Virginia Tech. The Institute employs over 260 faculty, staff and students working on approximately 120 projects and is the largest supporter of both undergraduate and graduate students at the university.

Smart Road Basics

The Smart Road is a unique, state-of-the-art, full-scale closed test-bed research facility managed by VTTI and owned and maintained by VDOT. It is a 2.2 mile two-lane road that will eventually become part of the public transportation system connecting Blacksburg, Virginia to Interstate 81. The Road features weather-making capabilities, a variable lighting test bed, pavement markings, an on-site data acquisition system, road weather information systems, differential GPS, road access and surveillance, and a signalized intersection.



Kid Friendly Stats

- The Smart Road Bridge is 175 feet above the ground, one of the tallest in Virginia. It would take 40 10-year-olds (average height: 57 inches) standing on each other's shoulders to be able to touch the bridge from the ground.
- It would take 530,000 of them to be the same weight as the bridge (average weight of a 10-year-old: 75 lbs).
- Since the inside of the bridge is hollow, there is space enough that you could fit 18 houses inside! (Average home size: 2000 sq. ft.)
- If a 10-year-old wanted to buy a bridge like this, s/he would have to save an allowance of \$1 each day for 48,000 years!



Research Examples at VTTI

Drowsy Driver Warning System Field Operational Test – Conducted by VTTI's Center for Truck and Bus Safety, this project involved collecting on-road data to evaluate the effectiveness and operational capabilities, limitations, and characteristics of a Drowsy Driver Warning System (DDWS). Researchers instrumented 34 heavy trucks to use for testing out on the open roadway. This project was sponsored by the National Highway Traffic Safety Administration, the Federal Motor Carrier Safety Administration, the Intelligent Transportation Systems Joint Program Office, and Virginia Tech.

Data Acquisition System (DAS) Development – Conducted by the Center for Technology Development at VTTI, this project involves a constant improvement of instrumentation for test vehicles used on both the Smart Road and the open roadway. These systems include multiple digital video channels, in-vehicle networks, sensor systems, GPS equipment, and other information collection apparatus.