

TRANSPORTATION

Building Jobs through
Transportation **FOCUS** Grant Year 9
Vol. 1

News and Information from the Rahall Transportation Institute



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Partner Schools:



CSX Continues Support of RTI Research, Engineering Scholarship Funded

On Feb. 15, 2008, CSX Corporation presented \$10,000 to the Nick J. Rahall, II Transportation Institute and \$10,000 to Marshall University's newly reinstated engineering program.

CSX Regional Vice President-Public Affairs Randy Cheetham presented the check to RTI Director Bob Plymale, Marshall University President Dr. Stephen J. Kopp and Dr. Tony Szwiłski, interim dean of the College of Information Technology and Engineering.

The funds will be used to support further research at RTI and to fund a scholarship for the engineering program.

"CSX's contributions to RTI and the new engineering school at Marshall recognize our long-standing relationship with the University and the important role it plays in Huntington, where so many of our employees live and work," Cheetham said. "RTI's research continues to be a vital resource for the railroad industry, strengthening its ability to support the American economy. And we look forward to the day when Marshall University School of Engineering graduates come to work for CSX."

Plymale said the support of CSX is important to RTI's success. "We appreciate CSX's ongoing financial and technical support for our research," he said.



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6 New West Virginia Operation Lifesaver Presenters Trained

On February 23, 2008, six new West Virginia Operation Lifesaver Presenters were trained at RTI headquarters in Huntington, W.Va.

New presenters are: Frank Adkins, Randy Bourne, Steve Carroll, David Farley, Noah Fullks (student presenter), Chris Lassak and Donald Pomeroy. Ira Baldwin, of the West Virginia Public Safety Commission, and David Farley, of CSX Corp., led the training. John Perry, state coordinator for WVOL, was also present.

Training focused on the most essential points of Operation Lifesaver, which are summarized by their two slogans: "Look, Listen, Live" and "Stay Off, Stay Away, Stay Alive." After several hours of training, each trainee gave a 10 minute presentation at the end of the session to help accustom them to presenting to the public and to demonstrate their knowledge of railroad safety.

Within 90 days of training, trainees are required to schedule a presentation that will be observed by one of the veteran trainers. In order to stay an active member of OL, trained presenters are required to give four presentations per year.



From left to right Randy Bourne, David Farley (instructor), Chris Lassak, Noah Fullks, Steve Carroll, Ira Baldwin (instructor), Donald Pomeroy and Frank Adkins.

Registration for WVOL Rail Camp Opens Online

Registration for the 9th Annual West Virginia Operation Lifesaver Rail Camp is now open online at www.wvol.org. Up to fifty students ages 10-17 may be selected to attend the camp, which begins Sunday, June 29, 2008, and ends July 4, 2008, at Camp Echo, near Petersburg, W.Va. There is no charge for campers to attend, but parents/guardians must provide transportation to and from camp.

Participants learn about a variety of rail-related topics, including rail history, modern railroads and careers in transportation. Hands-on activities, which include hand-car races, visits to machine shops and daily lessons, are combined with games, art projects, field trips and other fun activities to make Rail Camp the "learning experience of a lifetime."

Interested students must pre-register by May 15, 2008, and those who are selected to attend will be notified by May 20. Campers who have never attended will be given priority for the 50 slots; returning camper's names will then be randomly selected until all slots are filled.





Three Levels of Geographic Information Systems Training, Geographic Positioning Training Completed by W.Va. Transportation Professionals

RTI continued its efforts to train transportation professionals in several levels of Geographic Information Systems (GIS) and Geographic Positioning Training (GPS) during the fall of 2007 and the winter of 2008.

Twenty five employees from government agencies completed GPS for Utility Workers training from Sept. 18-20, 2007. In addition, from Oct. 9-11, 2007, twenty eight government agency employees completed GPS for Utility Workers training.

GIS Level 1 training was completed by 33 transportation professionals Nov. 13-14, 2007; twenty-seven more transportation professionals completed the same level for training Nov. 20 & 30, 2007. GIS Level 2 training was completed by sixteen transportation professionals Dec. 11-12, 2007.



In GIS Level 1 & Level 2 training, students initially learned to collect field data points by hand and then progressed to collecting data using sophisticated GPS receivers. Students were given related skills and knowledge of the elements of a Cartesian coordinate system: how to convert the data into decimals, how to correct GPS data using differential correction degree, how to design a data dictionary and how to import data into ArcGIS to prepare maps.

In 2008, seventeen participants from government agencies completed GIS Level 2 training, Feb. 12-13. A GIS Level 3 course also took place March 11-12, 2008. The Level 3 course is an advanced course that is preceded by Level 1 and 2 training.

Diana Long, Workforce Development Director, said Level 3 is a “capstone experience, where participants are put into a situation where they have to find specific data, decide a strategy and produce a report. They had to apply the knowledge to a specific set of data, more than just demonstrate step by step skills.”

Level 3 training simulated skills workers use on the job, including producing accurate maps and reports to communicate to other agencies and the public; layering information that enables alternatives and scenarios to be generated quickly and accurately; and creating best-case solutions for transportation problems at a much quicker rate and more comprehensive planning and monitoring.

For each completed course level, participants receive a certificate of 1 Continuing Education Unit (CED) from Marshall Community and Technical College. All who were training during this time period are employed in West Virginia.

Instructors for these courses include RTI Research Associates Chandra Inglis-Smith, Theresa Litaler and Sang Yoo, as well as Long.



Staff and Student Spotlight

Curtis Jones

Birthplace:
Okeechobee, Fla.
Title: Junior
Research Associate
Education: Master
of Science, Marshall
University



Duties at RTI:
Current projects
in land management research and
technology transfer.

Matt Bailey

Birthplace:
Huntington, W.Va.
Title: Undergraduate
Assistant
Education: Pursing
a Bachelor of
Science in Computer
Science at Marshall
University



Duties at RTI: Develops applications
related to running LEGO Robotics via
internet webpages; maintains and
optimizes the SENSORCITY webpage
database; teaches the Spring Hill
Elementary TAG Students how to build
simple machines and how to build and
program LEGO Robotics.

Registration for Participants, Vendors Opens for *8th Annual Technical Forum: Geohazards in Transportation in the Appalachian Region*

Registration is now open for participants and vendors for the *8th Annual Technical Forum: Geohazards in Transportation in the Appalachian Region*. The forum takes place August 5-7, 2008, at the Charleston Marriot Town Center in Charleston, W.Va.

The conference begins August 5 with a 5 p.m. registration, reception and exhibitor set up. Participants will be welcomed at 8 a.m. on August 6 with an opening session. The conference ends at 12:20, August 7. Technical session topics include: Hydrologic and Hydrogeologic Investigations; Seismic Hazards, Risk Assessment & Transportation; Infrastructure Management; Extreme Geotechnical Construction; Site Characterization for Transportation Infrastructure; River Processes & Influence on Geohazards; Remote Sensing; Subsurface Investigation Innovations; and Modeling and Simulation.

The event is an activity of the Appalachian States Coalition for Geohazards in Transportation and is sponsored by RTI and the Marshall University Center for Environmental, Geotechnical and Applied Sciences.

The cost is \$100 for professionals who register before July 11; registration after July 11 is \$125. Full-time students may register for free. The cost for exhibitors is \$350, which includes two registrations and a 2' x 8' skirted tables. All registration fees include lunch and two continental breakfasts.

Visit RTI's website at www.njrati.org to register or view the conference agenda. For exhibitor information, contact Barbara Roberts, RTI Program Coordinator, Sr., at 304-696-7098 or robertsb@marshall.edu.





LEGO Robotics Activities Train Students, Teachers

Success by Six

Linda Hamilton, RTI Coordinator K-12 Outreach Intelligent Transportation Systems Workshops Using LEGO Robotics and Marshall University math instructor and Matt Bailey, RTI undergraduate assistant, have brought LEGO Robotics based learning activities to tri-state students.

During the seventh annual "Success by Six" day, Hamilton brought DUPLO blocks to help pre-schoolers master basic mathematics concepts such as measuring height and distance, grouping items by shape or color, and following directions by creating patterns or assembling designs from pictorial charts. Young students also assembled vehicles that were equipped to travel on roads, rails, sky or water, as well as to transport goods from one point to another. This event took place Feb. 2, 2008, at Marshall University's Memorial Student Center and is made possible by United Way of the River Cities.

Train the Trainer: Playmates Child Development Center

Hamilton and undergraduate student assistant Matt Bailey trained teachers at Playmates Child Development Center's LEGO Lab to create and program simple motorized machines and robots, January 26, 2008. "Teachers learned about technology: gears, axles, pulleys, levers and motors. They tried out some of the projects," Hamilton said. "In the



afternoon, they built and programmed robots."

Playmates is a 21st Century Community Learning Center that collaborates with the Wayne County Board of Education to offer tutoring, homework help in small groups, enrichment activities, recreation, computer labs, LEGO labs, community service projects, 4-H activities, and community field trips. Hamilton and Bailey trained instructors to assist students in creating and constructing models and working machines; applying math and science to real world situations; developing critical thinking and problem solving skills; and building self-esteem while having fun.

In addition, on March 12, 2008, students at the after school program at Playmates child care center participated in a LEGO robotics activity. From diagrams, they assembled vehicles that contained various sized gears that powered rubber-band catapults, which they tested to discover the most efficient ways to launch objects to hit targeted points. Students measured distance, speed and accuracy of during the event.

Saturday Teach Help "Young Builders," "Technology," "Robotics"

Three Saturday Camps with LEGO robotic activities took place March 8, 15 and 22, 2008, at Marshall University. The "Young Builders" group made cities and vehicles, farms, zoos and trains to solve challenges such as transporting goods, managing traffic and designing roads.

The "Technology" group learned about pneumatics, gears, pulleys, levers, wheels and axles by building dozens of working models.

"This is a great way to learn the underlying engineering basics for robotics projects," Hamilton said.

In addition, the "Robotics" group completed mini robotics projects that prepare them for FIRST LEGO League competitions. Because the theme of the next FIRST LEGO League challenges is "weather," teams constructed vehicles that were programmed to remove "snow" from roads, as well as guiding the vehicle, which can use sonar, through a maze and sending messages to a RCX micro computer in another vehicle.



“TIPS for Extreme Fun” Takes Place at Veteran’s Memorial Field House

RTI and St. Mary’s Medical Center presented the 3rd “TIPS for Extreme Fun” youth safety fair, Saturday, March 1, 2008, at Veteran’s Memorial Field House in Huntington, W.Va.

Students, parents, grandparents and friends were invited to attend a fun and informational event featuring activities and demonstrations about transportation safety. Highlights included BMX demonstrations, ATV displays, a rock climbing wall, a bounce house, fire safety demonstrations, child finger printing and health screenings. During this free public event, RTI was represented by John Ball and Jordan Cox.

At RTI’s display, information about ATV safety from the National Off-Highway Vehicle Institute and rail grade-crossing safety information from West Virginia Operation Lifesaver was available for visitors.

The Transportation Injury Prevention and



Safety (TIPS) program, which was created by St. Mary’s Medical Center and the Rahall Transportation Institute, was designed to increase awareness about transportation safety.

TIPS is a two-part program that consists of the annual youth safety fair and an education plan delivered to school children throughout the school year.

One main area of focus for the program is all-terrain vehicle (ATV) safety. West Virginia has consistently ranked as the state with the highest per capita rate of ATV deaths. TIPS works to increase safety awareness among parents and children by relating the seriousness side of safety, and helping children understand that safety can be fun.

The program also includes safety education for other forms of transportation, such as bicycles, scooters and automobiles.

Truck Driver Awareness Training Offered in Logan by RTI, WVPSC

On March 11, 2008, commercial truck drivers received free Truck Driver Awareness Training by instructors from the Nick J. Rahall, II Appalachian Transportation Institute (RTI) and the Public Service Commission of West Virginia (PSC). Training took place from 6 to 9 p.m. at Chief Logan Conference Center in Logan, W.Va. Approximately 30 participants received certificates of attendance.

Instructors were RTI’s John Ball, as well as Robin Swiney, Scott Morton and Jon Cline from the West Virginia Public Service Commission’s Transportation Enforcement Division.

“American businesses and the nation’s economy rely heavily on trucks for the transport of goods... and at some point in its journey, nearly all freight is carried by truck,” Ball said.

Topics included: 21st Century Transportation and Transportation Workforce Issues, Definition of Commercial Motor Vehicles, Definition of Inter-State and Intra-State Commerce, Definition of Private Carrier, Definition of For-Hire Carrier, Hours-of-Service, CDL Requirements, Coal Resource Transportation System Information, Types of CDLs, Driver Qualifications, Seat-Belt Enforcement Initiative, Share-the-Road PSA for Schools, SAFE 07 and Highway Watch Program, and Driver/Carrier Education and Training Opportunities.





Importance of Recreational Trails Emphasized to State Lawmakers at “Trails Day at the Legislature”

On January 16, 2008, trail enthusiasts from across the State of West Virginia gathered at the state capitol in Charleston for the annual “Trails Day at the Legislature.” More than twenty organizations set up exhibits in the capitol rotunda

“Trails Day at the Legislature” provides an opportunity for the trail community in West Virginia to come together and speak with those in government on issues that concern them.

Non-profit, research, education, local government, industry and recreational trail supporters are able to express to legislators the many benefits trails bring to West Virginia during the event.

Information about recreational trail research, contracting, construction, single tracks, double tracks, walking/running trails, equestrian trails, conservation groups and bicycle paths comprise some of the groups that are represented.

Jordan Cox, trails specialist, and Brie Sal-

mons, research associate, represented RTI. They provided visitors with information about RTI’s trail contracting activities, which consist of creating trail inventories, designing layouts and guiding the construction of new trails throughout the state.

Copies of RTI’s trail-related research projects, such as TRP 99-11 Maximizing Economic Benefits from A Rails to Trails Project in Southern WV - A Case Study of the Greenbrier River Trail, TRP 99-29 Planning for the Development of A Greenway Between Huntington and Charleston-Research Initiation Project and TTP 00-17 Development and Evaluation of a GIS Mapping System for West Virginia’s Hatfield and McCoy Trail System were made available to guests.

Graduate and undergraduate courses in off-highway vehicle trail design and management; and non-motorized vehicle safety activities, were also emphasized during the event.

High School Students from 3 States Represented at Engineering Career Day at Marshall University



**ENGINEERS
WEEK® 2008**
February 17-23

Engineering Career Day took place February 21, 2008, at Marshall University’s Memorial Student Center. Thirteen high schools from West Virginia, Ohio and Kentucky participated in the event.

Exhibits represented RTI, U.S. Army Corps of Engineers - Huntington Post, Marshall University College of Information Technology and Engineering, various Marshall University graduate and undergraduate programs and approximately a dozen engineering firms.

Linda Hamilton, RTI Coordinator K-12 Outreach Intelligent Transportation Systems Workshops Using LEGO Robotics and Marshall University math instructor, and Matt Bailey, RTI undergraduate assistant, demonstrated robotics as a transportation career possibility during the event. Engineering Career Day takes place in conjunction with National Engineers Week, Feb. 17-28, 2008.





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Read *Transportation Focus* online at www.njrati.org

Upcoming Events

Conferences

Aug. 6-7, 2008

Technical Forum, Geohazards in the Appalachian Region, Charleston, W.Va.

August 2010

Rural Intelligent Transportation Society of America Annual Conference, Huntington, W.Va.

Technology Transfer Activities

SPRING 2007

April 3, 2008

GPS Technology Training with the WVDOT
West Virginia Operation Lifesavers Planning Meeting,
Barboursville, W.Va.

May 2008

National Maritime Days, Harris Riverfront Park,
Huntington, W.Va.

K-12 Outreach

SUMMER 2008

Exploring Engineering Academy of Excellence, Marshall University, Huntington, W.Va.
LEGO Robotics Summer Camps, Marshall University, Huntington, W.Va.

Register online at www.njrati.org or call Sandra Jones at (304) 696-7098.

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