



DRIVER

Message from our President

It has been both an honor and a privilege to serve as your President in 2010. It has been a very rewarding experience and I have really enjoyed the opportunity to work with all of you throughout the year.

In an effort to increase participation and involvement in our Section, our quarterly meetings were held in Columbia, Charleston, and Greenville. The attendance at each of the meetings was in excess of 50 members and guests! This level of participation shows the continued commitment and dedication of our membership and will help ensure the future success of our Section.

Our annual scholarship golf tournament was a tremendous success! Despite the challenges of our economy, the support from our members and sponsors was overwhelming. The 22 teams of golfers and 36 sponsors helped raise over \$7,000 for the Section's scholarship fund and we are looking forward to awarding 3 scholarships at our upcoming meeting on December 2nd. Many thanks to the sponsors, members, and guests that made this event such a huge success!

I would like to encourage everyone to make plans to attend our Annual Holiday Meeting and Party in Columbia on December 2nd. This meeting will be our last of the year and is always a great time. Details on the meeting are provided inside the newsletter.

Again, I want to thank each of you for the opportunity to serve you. As a Section, we have accomplished a lot over the past few years and it is all because of the continued support and dedication of our members. I would challenge each of you to continue to stay involved in the Section and to reach out to others in our profession and encourage them to get involved as well.

I hope everyone has a great Holiday Season and a prosperous New Year!



Bryan Webb, PE, PTOE



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**2010 Dues
are now
overdue.
Please pay
Liz
Carpenter
ASAP.**

Bryan

**SCSITE 2010 CHRISTMAS PARTY—
SIGN UP TODAY!!!**



**DECEMBER 2
6:00 PM
Sly Fox
Pub and Eatery**

The SCSITE Annual Christmas Party will be held on Thursday December 2nd at the Sly Fox Pub and Eatery in The Vista (902 Gervais St Ste F, Columbia, SC 29201-3191) from 6:00pm to 9:00pm.

Social hour begins at 6 followed by a short program which will commence with the presentation of the student scholarships. The cost of the party will be \$10 per Student, \$15 per member, or \$25 per couple (spouses are welcome and encouraged) which includes food and drinks (tea, soft drinks, and beer).



Please RSVP for the party by Wednesday, November 24 by emailing Liz Carpenter at CarpenteEH@scdot.org or calling her at 803-737-1065.

SCSITE SCHOLARSHIP GOLF TOURNAMENT WRAP-UP

September 9th was another record setting day for our golf tournament. This year we had a net profit over \$7,000. The weather was beautiful once again and we had a record number of teams (22) and sponsors (36). This tournament just seems to get better every year; LET'S KEEP IT GOING! It took a little longer this year, but I know everyone still had a great time. Next year we will make sure that everyone finishes within 5 hours, just please be patient with us. There are so many people that help make this tournament special each year. I would like to specifically thank Don Turner, Jae Mattox, Byron Hood, & Liz Carpenter for helping get things in motion for the tournament each year. Thanks again to our lovely cart girls Susan Ruinen, Renee Tison, Brenda Farren, Adam Way, and Dipak Patel. Thanks to Phyllis Hughes for helping run the registration table. Thanks also to John Walsh for being our guest speaker.

A very special thanks to Bill Dubose with the SC Concrete Paving Association for picking up the tab once again on the course refreshments; according to Northwood's there was another record set that day. We simply couldn't be so successful without Bill's generosity each year! If you helped out and I forgot you; Thank You too!

Congrats to our long drive winners Valerie Holmes and Joey Rhodes. This year's tournament winners were:

First Place: Hisham Abdelaziz, Phil Okey, Danny Jones, Chuck Chorak

Second Place: Phyllis Hughes, Joey Rhodes, Kyle Shirley, Byron Hood

Horses Rear: Liz Carpenter, Lori Mahany, Jennifer Bihl, Marco Friend

One final shout-out for our wonderful sponsors. We are successful because of our generous sponsors. THANK YOU! Please consider these firms when you do business as year-in/year-out they shell out the cash for the scholarship fund.



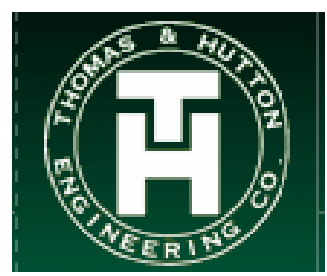


4 Thanks to our Tournament Sponsors

Traffic Data Connection



Campeo Engineering



Thanks to our Tournament Sponsors

5



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Howard Chapman, PE

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&
FLOYD**



Rivers Edge Traffic Data



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3M



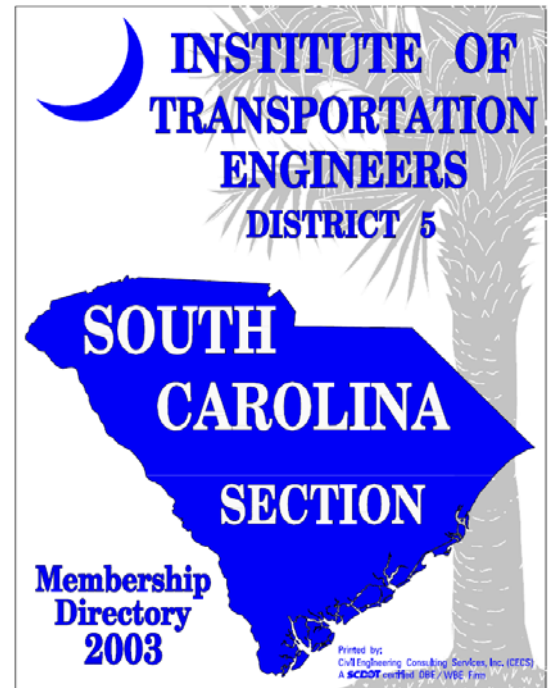
SCSITE DIRECTORY— LAST CHANCE!

Paid members should have received an email from our membership chair, Jennifer Bihl, confirming your information and requesting a picture.

If you have not paid your dues it isn't too late, when you submit your dues to Liz, please provide your contact information including address, phone number and email and a picture.

Directories will be out in December in electronic form.

Any questions, contact Jennifer at Jennifer.bihl@kimley-horn.com or 843-379-1580.



SCSITE SHIRTS FOR SALE

**Please contact Liz Carpenter if you are
interested in ordering an ITE Logo Shirt**



Treasurer's Report *Liz Carpenter*

Checking Account:	\$14,203.18
Stafford/Clark Scholarship Fund:	\$27,289.29
Rowe Scholarship Fund:	\$24,031.01

Our Fall Meeting in Greenville was a great success. The Member turnout was very successful and we ended up having 15 students join us. Tommy's Country Ham House gave us a great deal and we were able to make \$130 from the meeting which will help us with the Christmas party.

There are just a handful of you that have not paid your dues, you can bring them to the Christmas Party or you can mail them to me.

SCDOT

Attn: Liz Carpenter
955 Park St Rm 502
PO Box 191
Columbia, SC 29202-0191



Liz Carpenter, PE



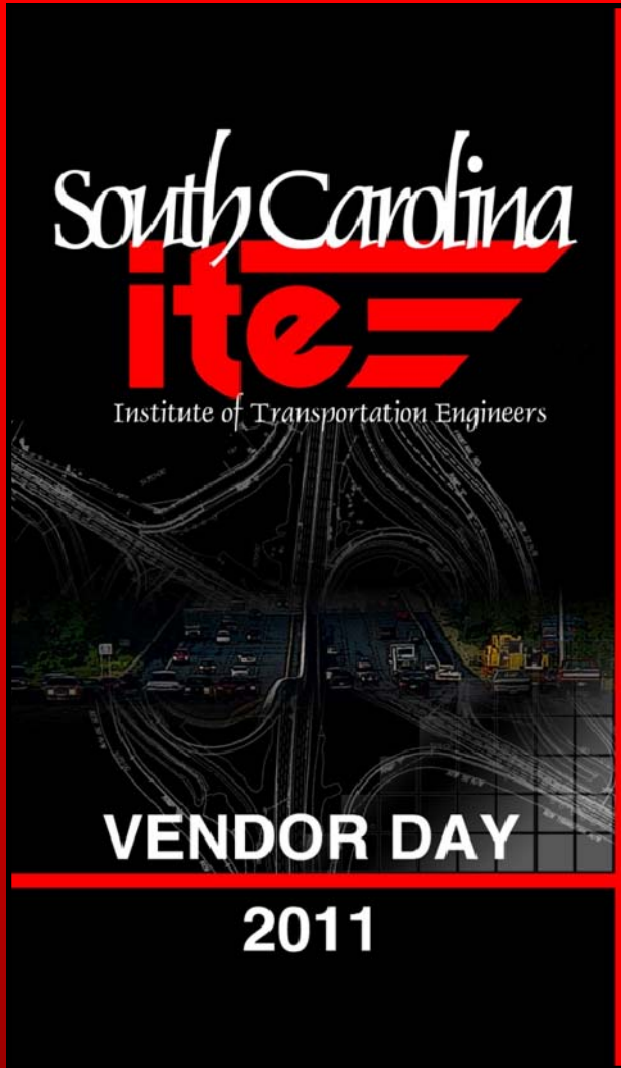
Legislative Update *Gaye Sprague*

One of the subjects being considered by the South Carolina Legislature's Tax Realignment Commission (TRAC) is our state's gas tax. TRAC has recommended an increase in the gas tax and a change to a "hybrid" tax that is based on both gallons and price of the sale. If you would like to know more, go to www.scstatehouse.gov. Go to "citizen's interest" on the top bar, then to TRAC, then to the September 2 meeting and the Fuel Tax Subcommittee. Of course this proposal would have to be passed by the legislature to go into effect. The Fuel Tax Committee report contains lots of good information including how our tax compares to fuel taxes in other southern states. As a 501(c)3 organization, we cannot lobby as an organization, but we can offer information regarding legislative matters and our members may certainly individually contact legislators regarding issues which affect our profession and the people we serve.



Gaye Sprague, PE

Sprague & Sprague
CONSULTING ENGINEERS



VENDOR DAY 2011

Attention All Signal Systems, Signs & Markings, Safety, Software, and ITS equipment Vendors.....

We are getting geared up and in the planning stages of SCSITE sponsored Vendor Day 2011! Our 1st Vendor Day held in October 2009 was a great Success. Vendor Day 2011 is being planned for this spring. Our guests will include City, State and County Engineers, Technicians, Supervisors and Field crews; Consulting Engineers; and University staff. Along with the Vendor Displays we will have Technical Sessions for pdh accrual and the 1st annual Equipment Rodeo! Keep a look out for more information to come...

Vendor Day 2011 contact:

Liz Carpenter: carpenteeh@scdot.org

SCSITE Fall Meeting in the Upstate *Liz Carpenter*

The Fall Section meeting was held in Greenville at Tommy's Country Ham House on October 28th. Greenville or anywhere in the upstate of South Carolina is so beautiful this time of year; it was a nice drive to the meeting and the meeting place had plenty of room and some of that good ol' country cookin'. SCSITE would like to thank Hesha Gamble for coordinating with the restaurant including making sure everything was set up and planning out the menu. Also, Lori Mahany and Bryan Webb were very helpful in providing and setting up the A/V equipment, thank you both. We had a great turnout of 15 students; now that is pretty impressive, thank you all for taking the time to come out.

A special thanks to Carol Jones and Liz Carpenter both from the South Carolina Department of Transportation Signals and Systems Traffic Engineering Division, who spoke on the Updated Signal Design Guidelines, Traffic Signal Specification updates and SCDOT Signals & Systems Funding. There was great participation during the meeting as the additional funding and updates will affect our profession and engineering practices. SCSITE awarded 1.5 PDH's at the conclusion of the seminar to interested participants.



NEWSLETTER ARTICLES WANTED!

Advertise job opportunities, announce new hires / promotions, discuss interesting projects, or tell the section of something interesting you have going on outside of work. Send all articles, questions, or comments to Jae Mattox at mattoxjh@scdot.org.

This newsletter is for the benefit of our section so please do your part to make it a success!

ITE Southern District (5) Report

William J. Davis

I am honored to serve as your SC Section representative to the ITE Southern District (5) Board. The District's Executive Board have scheduled their year-end meeting for December 5-6, 2010, in Lexington, KY, which is the 2012 annual meeting site. Both International ITE and District 5 are engaged in a wide array of initiatives and activities on behalf of ITE members. Please let me know if you have any issues or ideas you would like me to bring before the Board for discussion on behalf of SC Section ITE. The current officers for District 5 ITE are as follows:



W. Jeff Davis, PhD, PE
The Citadel

2010 District Officers

President: Jim Westmoreland (NC)

Vice-President: Tim White (VA)

Secretary-Treasurer: Becky White (AL)

Secretary-Treasurer (Elect): Martin Bretherton (GA)

Past President: Karen Mohammadi (KY)

International Director: Bob Stammer (TN)

Section Administrator: Craig Hanchey (TN)

News From The District – Please take time to visit the redesigned District website at <http://www.sdite.org/>. The site contains a link to the District's Fall 2010 Newsletter with interesting stories regarding section activities and a re-cap of the 2010 District 5 Award Winners.

SDITE Annual Meeting – The 2011 Annual Meeting will be hosted by the Deep South Section and will be held April 10-13, 2011, at the Hilton Lafayette Hotel in Lafayette, Louisiana. For more information please refer to the annual meeting website at <http://www.sdite2011.org/>

Future SDITE Annual Meetings

2011 Lafayette, Louisiana (April 10-13, 2011)

2012 Lexington, Kentucky (April 15-18, 2012)

2013 Charlotte, North Carolina

2014 Georgia

2015 Mississippi

2016 Tennessee

2017 South Carolina





ITE 2011 Technical Conference and Exhibit

April 3–6, 2011
Walt Disney World Swan
Lake Buena Vista, Florida, USA

ITE 2011 Annual Meeting and Exhibit

August 13–16, 2011
America's Center
St. Louis, Missouri, USA



NEW PUBLICATIONS



[Transportation Impact Analyses for Site Development: An ITE Recommended Practice](#)

This recommended practice is a must have for transportation professionals responsible for preparing and reviewing transportation impact analysis studies for new and expanding land developments. This report replaces the proposed recommended practice that was published in December 2005, containing several key updates such as new references and numerous refinements to reflect substantial feedback from the transportation community.

Published: September 2010
ITE Bookstore Price: \$35.00

Jae Mattox Receives ASCE's "Young Government Engineer of the Year" Award for 2010.

At ASCE's 2010 Fall Seminar in Columbia, SC, Jae Mattox received the "Young Government Engineer of the Year" Award. This award recognizes a government employee under the age of 35 that has made the most outstanding contribution to the profession of civil engineering in South Carolina for 2010.

Jae currently works as a Program Manger for SCDOT's Lowcountry Regional Production Group. Jae currently serves as Immediate Past President and Newsletter Editor for SCSITE. Pictured below, Jae receives the award from ASCE SC Section President Kevin Krick.



Jae H. Mattox, PE



JOIN SCSITE TODAY!!

Membership forms are available on our website at www.scs-ite.org. Please mail forms to Liz Carpenter. Her contact information is at the end of this newsletter. Dues are \$20.00 yearly.

U.S. Transportation Secretary LaHood Announces Lowest Traffic Fatalities in Six Decades

2009 Data Show Major Across-the-Board Declines in all Categories Despite a Slight Increase in Road Travel

U.S. Transportation Secretary Ray LaHood today released updated 2009 fatality and injury data showing that highway deaths fell to 33,808 for the year, the lowest number since 1950. The record-breaking decline in traffic fatalities occurred even while estimated vehicle miles traveled in 2009 increased by 0.2 percent over 2008 levels.

In addition, 2009 saw the lowest fatality and injury rates ever recorded: 1.13 deaths per 100 million vehicle miles traveled in 2009, compared to 1.26 deaths for 2008.

Fatalities declined in all categories of vehicles including motorcycles, which saw fatalities fall by 850 from 2008, breaking an 11-year cycle of annual increases.

“At the Department of Transportation, we are laser-focused on our top priority: safety,” said Secretary LaHood. “Today’s announcement shows that America’s roads are the safest they’ve ever been. But they must be safer. And we will not rest until they are.”



As part of the Department’s campaign to reduce traffic fatalities, Secretary LaHood will convene a National Distracted Driving Summit on Sept. 21 in Washington, D.C. The Secretary will bring together leading transportation officials, safety advocates, law enforcement, industry representatives, researchers and victims affected by distraction-related crashes to address challenges and identify opportunities for national anti-distracted driving efforts. This follows the first summit Secretary LaHood held in the Fall of 2009 that sparked a national conversation about texting and talking on cell phones while driving.

According to a National Highway Traffic Safety Administration (NHTSA) study based on 2006 Centers for Disease Control (CDC) data, motor vehicle crashes are the leading cause of death for those between the ages of 3 and 34.

In addition to the record-breaking drop in fatalities, the number of people injured in motor vehicle crashes in 2009 declined for a 10th straight year in a row, falling an estimated 5.5 percent from 2008, according to NHTSA data released today.

Alcohol impaired driving fatalities declined by 7.4 percent in 2009 – 10,839 compared to 11,711 reported in 2008. Overall, 33 states and Puerto Rico experienced a decline in the number of alcohol-impaired driving fatalities in 2009 compared to 2008.

“Today’s numbers reflect the tangible benefits of record seat belt use and strong anti-drunk driving enforcement campaigns,” said NHTSA Administrator David Strickland. “But we are still losing more than 30,000 lives a year on our highways, and about a third of these involve drunk driving. We will continue to work with our state partners to strictly enforce both seat belt use and anti-drunk driving laws across this nation, every day and every night.”

Highlights of the latest Fatality Analysis Reporting System (FARS) and related NHTSA data include the following:

- 33,808 people died in motor vehicle traffic crashes in 2009, a 9.7 percent decline from 37,423 deaths reported in 2008, and the lowest number of deaths since 1950 (which had 33,186).
- An estimated 2.217 million people were injured in 2009, a 5.5 percent decline from 2.346 million in 2008.
- 30,797 fatal crashes occurred in 2009, down 9.9 percent from 34,172 in 2008. All crashes (fatal, injury and property damage only) were down by 5.3 percent in 2009 from a year ago.

Forty-one states, the District of Columbia and Puerto Rico all had reductions in fatalities, led by Florida (with 422 fewer fatalities) and Texas (with 405 fewer fatalities).

Source: <http://www.nhtsa.gov/PR/DOT-165-10>

Project Contracts *Sunny Nandagiri*



Sunny Nandagiri, PE, PMP



Whether you plan to solicit services from an outside consultant/contractor or if you are planning to perform a service to a governmental/private agency, understanding various contract types is crucial to the successful execution of a project. Different types of contracts are more or less appropriate for different types of purchases. The type of contract used and the specific contract terms and conditions set the degree of risk being assumed by both the buyer and seller. Contracts generally fall under three broad categories:

- Fixed price or lump-sum contracts
- Unit price contract
- Cost reimbursable contracts
- Time and material (T&M) contracts

Fixed price or lump-sum contracts: This category of contract involves a fixed total price for a well-defined product or service. Fixed price contracts can also include incentives for meeting or exceeding selected project objectives, such as scheduled targets. The simplest form of a fixed-price contract is a purchase order for a specific item/service to be delivered by a specified date for a specified price. When a project can be readily specified in detail, i.e., scope, schedule and constraints, a fixed price contract is preferred by both client and contractor/consultant.

From the client’s perspective, there is less need to supervise/monitor the project because she does not have to be concerned with the project costs to the contractor/consultant. She need only monitor work progress to see that it meets contractual completion date and performance specifications. Under the fixed price agreement, clients are less likely to change or additions to the contract and the contractors/consultants are less likely to accept the changes.

Unit price contracts: This category of contract is based on estimated quantities of items included in the project and their unit prices. The final price of the project is dependent on the quantities needed to carry out the work. In general this contract is only suitable for construction and supplier projects where the different types of items, but not their numbers, can be accurately identified in the contract documents. It is not unusual to combine a Unit Price Contract for parts of the project with a lump sum Contract or other types of contracts.

Cost reimbursable contracts: This category of contract involves payment (reimbursement) to the seller for seller’s actual costs, plus a fee typically representing seller profit. Costs are usually classified as direct costs or indirect costs. Direct costs are costs incurred for the exclusive benefit of the project (Ex: salaries of full-time project staff). Indirect costs, also called overhead and general and administrative costs, are costs allocated to the project by the project team as a cost of doing business (Ex: salaries of management indirectly involved in the project, electrical utilities for the office). Three common types of cost-reimbursable contracts are Cost-Plus Fee (CP), Cost-Plus Fixed Fee (CPFF), and Cost-Plus -Incentive-Fee (CPIF).

- *Cost-Plus-Fee (CPF) or Cost-Plus Percentage of Cost (CPCC):* Seller is reimbursed for allowable costs for performing the contract work and receives a fixed fee payment calculated as an agreed-upon percentage of the costs. The fee varies with the actual cost.
- *Cost-Plus-Fixed-Fee (CPFF):* Seller is reimbursed for allowable costs for performing the contract work and receives a fixed fee payment calculated as a percentage of the estimated project costs. The fixed fee does not vary with actual costs unless the project scope changes.
- *Cost-Plus-Incentive-Fee (CPIF):* Seller is reimbursed for allowable costs for performing the contract work and receives a predetermined fee, an incentive bonus, based upon achieving certain performance objective levels set in the contract. In some CPIF contracts, if the final costs are less than the expected costs then both the buyer and seller benefit from the cost savings based upon a pre-negotiated sharing formula.

Time and Material (T&M) contracts: These categories of contracts are a hybrid type of contractual arrangement that contains aspects of both cost-reimbursable and fixed-price type arrangements. These types of contracts resemble cost-reimbursable type arrangements in that they are open ended. The full value of the agreement and the exact quantity of items to be delivered are not defined by the buyer at the time of the contract award. Thus, T&M contracts can grow in contract value as they were cost-reimbursable type arrangements. Conversely, T&M arrangements can also resemble fixed-price arrangements. For example, unit rates can be preset by the buyer and seller when both parties agree on the rates for a specific resource category.

Some examples of applications of various contracts in our transportation industry:

- Most of the construction contracts (based on bids) are based on unit price contracts.
- A simple traffic signal design or a traffic analysis project could use a fixed price contract.
- A detailed planning and preliminary engineering design project, where the number of public meetings, concept plans, design alternatives and analysis details cannot be narrowed down at the inception of a project, may not be an ideal choice for a fixed price contract.
- Consultant providing professionals (labor) to a client for managing a traffic operations center for a client may find T&M contract to be appropriate.
- Design-build projects typically require contractors to provide a lump-sum price for their bid amount (which is internally arrived at based on unit prices). These contracts could also have CPIF structure, where a bonus may be available for early completion.
- Design-build project contracts between contractors and consultants take a number of contract types at the pre-bid and the design phases of the project.
- On-call programs typically have master services agreements and the individual task assignments may include different contract types.

Author of this article is a licensed Professional Engineer in Eight States (including South Carolina) and is also a certified "Project Management Professional" (PMP). He is an active member of the South Carolina Section of ITE (SC-ITE) and is currently serving as a Technical Committee chair for the SCSITE. Mr. Nandagiri works for AECOM as their Program Director.

Sources for this Article: Project Management Institute's "Project Management Body of Knowledge" (PMBOK), 2007 Edition, *Project Management for Engineering: Principles and Practice*-John M. Nicholas, *Engineering Tool Box* at WWW.engineeringtoolbox.com and the AECOM's Project Management's internal training material.

City of Charleston Creates West Ashley Greenway Plan

The City of Charleston recently unveiled (April 2010) a new vision for the West Ashley Greenway. The plan includes a detailed description of each unique segment of the 8-mile long greenway and proposed improvements along it.

The West Ashley Greenway Master Plan focuses on the issues of neighborhood context, accessibility, amenities and overall connectivity.

Located on a former railroad bed between Albemarle Road and Main Road in West Ashley, the Greenway has been a popular place for residents and visitors to exercise, walk and bicycle through scenic locations in neighborhoods, woods, fields, creeks and marshes. The City leases the eight mile linear park on a long-term basis to provide recreational and transportation trail opportunities for the public.

The West Ashley Greenway is part of the City's Park system and is a significant piece of the City's overall system of off-street bicycle and pedestrian paths. The bicy-

cle/pedestrian path system consists of over 42 miles of interconnected paths linking the City's parks, schools, neighborhoods, historic and natural landmarks and commercial areas.

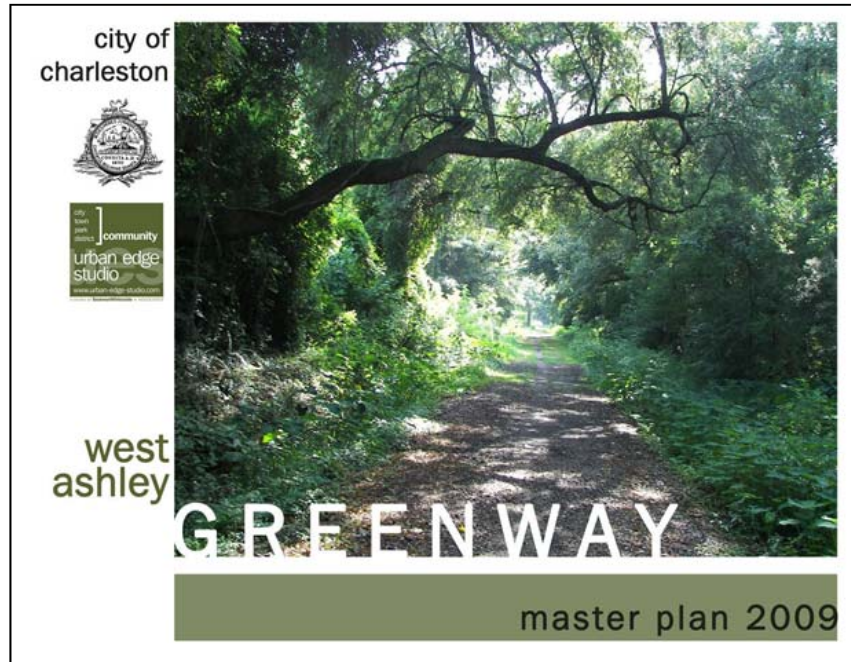
The extensive length of the park provides a diverse experience from urban, mixed use neighborhoods, to suburban and rural-type settings. Tremendous opportunity exists to improve the greenway by creating more accessibility and amenities that would not only enhance the adjacent neighborhoods but allow the entire City to enjoy this beautiful public space.

The City helped sponsor a series of public meetings in 2008 to gather input for a West Greenway concept plan. The City also hosted an Open House and Design Workshop with urban edge studio (a studio of Seamon Whiteside and Associates) in August of 2009. A public presentation of design concepts followed the workshop.

A copy of the of the West Ashley Greenway Plan is available online at

http://www.charlestoncity.info/shared/docs/0/wa_greenway_plan_opt.pdf

This article was taken from the City of Charleston Department of Planning and Neighborhoods website.





SCDOT proposes to widen Interstate 20 between I-77 to just east of Spears Creek Church Road (Exit 82) in northeast Richland County. This is one of the busiest sections of I-20 in the county.

- The project includes widening to six lanes and mainline corridor rehabilitation of 6.7 miles of I-20.
- The majority of the widening will occur in the median utilizing concrete pavement.
- The completed project will include paved shoulders and three 12-foot travel lanes in both directions.
- Two travel lanes in each direction will be open to traffic during construction, except for limited night-time lane closures.

SCDOT hosted a public hearing on Tuesday, August 24, 2010. **Project Information**

The project is currently scheduled to start this Winter (2010/2011) and is estimated to take approximately 30-36 months to complete. Measures will be taken to encourage the contractor to expedite construction completion.



More information available at <http://www.scdot.org/inside/I-20/default.shtml>

SCSU ITE Student Chapter News *Yuanchang Xie*



Yuanchang Xie, PhD
SCSU ITE Student
Chapter Advisor

Guests from ODOT: Mr. Blake Dye and Ms. Jennie Caudle from Oregon Department of Transportation (ODOT) visited South Carolina State University on October 11. They met with members of SCSUITE Student Chapter and students in our Master of Science in Transportation program, and introduced ODOT's Graduate Engineering Program and College Internship Program, which are designed specifically for developing recent engineering graduates and facilitating the transition from students to full-time engineers. Mr. Dye also conducted several class visits to share information about career opportunities at ODOT. ODOT has been working very aggressively to recruit minority engineering graduates and diversify their workforce. This is the second visit of ODOT staff to South Carolina State University since 2009. Mr. Edward Starks, a former student in the Master of Science in Transportation program and a member of SCSUITE student chapter, did summer internship with ODOT in 2009. He was later awarded a Book Scholarship for his excellent work by ODOT.

Logistics Education and Research: The MST program at South Carolina State University started offering an International Logistics course in the Fall 2010 semester. This is part of the initiative to strengthen the logistics education and research at SC State. Dr. Jae-Dong Hong from the Industrial Engineering Technology Department is teaching the International Logistics course. He is also the Principal Investigator of a \$0.5 million project recently funded by the U.S. Department of Agriculture to investigate biomass/biofuels logistics network optimization and simulation.

TRB Trip: Eight MST students will travel with Dr. Xie to attend the 2011 Transportation Research Board annual meeting in Washington D.C. Several undergraduate students supported by the Dwight David Eisenhower Transportation Fellowship Program will also attend this conference and present their research. They are all very excited about this great opportunity.



News from the Citadel ITE Student Chapter *W. Jeff Davis*

Citadel ITE student members have been involved in a number of transportation activities. Here is a summary of recent ITE student activities and news:

I-526 Public Meeting – 50 students attended a public hearing on Sept. 8, 2010, for the extension of The Mark Clark Expressway (I-526) across James and Johns Islands. There were approximately 400 meeting attendees and students were able to learn about highway design process being used to develop the preferred alternative for the proposed project. In addition, students developed a better understanding of how transportation officials interact with the public to address controversial issues and engineering-related perceptions on an array of aspects involved with a large-scale project.



William J. Davis, PE, PhD
Citadel ITE Student Chapter Advisor



Kory Hood, Bryce Hilton, Eric Sanderlin, Frank Dioguardi and Noah Miller, review one of the many displays on exhibit at the I-526 Public Hearing.



Battery 2 Beach Route Analysis – 20 Citadel students are working on evaluation of route improvements and cost estimates for a 25-mile long bike/ped. facility that will link White Point Gardens with Sullivan’s Island, Isle of Palms and Folly Beach. The proposed facility is being promoted by a non-profit organization, Charleston Moves. A cost benefit study is being conducted in conjunction with the College of Charleston. So far students have collected traffic and cross-section data needed to perform a Bicycle LOS and Pedestrian LOS evaluation of the individual route segments.



Patriots Point Parking and Traffic Study – 15 students are working to evaluating parking and traffic circulation issues at Patriots Point Naval & Maritime Museum home of the USS Yorktown. Students are collecting data to evaluate parking occupancy, developing preliminary parking layouts and analyzing traffic flow data from special events. Results will be used by the Director of Operations to evaluate possible transportation improvements.





Nathan Huynh, PhD
University of South Carolina
ITE Student Chapter
Advisor



News from the Student Chapter *Greg Moore*

The ITE Student Chapter at the University of South Carolina earlier this semester sponsored a “Networking Panel Discussion” for the students in the College of Engineering and Computing the day before the Science Engineering and Technology Fair was held. This event was a huge success with the guided assistance of Helen Fields, the Director of the Career Center for the CEC. There were approximately 40 students in attendance, along with three panelists. These panelists were able to give insightful advice to the students and answer their questions with professional/personal experience to validate their reasoning. A repeat of this event is already being planned for the Spring of 2011. It will hopefully continue as a bi-annual event to help prepare our job-seekers for their “employers of tomorrow”. After much organization and support, the chapter is about to have its first meeting of the year. We will be focusing on giving the students an introduction to “What ITE is, and How it can help YOU”. This topic will be reinforced with excerpts from the SDITE webinar that was recently broadcasted. We will be having the meeting sponsored by TPM, a local printing and design company that many private firms utilize for their large scale plotting and plan reproduction. We are also about to kick off our first big fundraiser as well. If you are looking for a good USC panoramic photograph, please contact Beth at qbeth07@hotmail.com. We will be pre-selling full-size panoramic of the USC victory over Alabama. They will be sold for \$30. We look forward to seeing everyone at the 2010 Christmas Party.

USC-ITE Student Chapter President
Greg Moore
Mooreg1@pbworld.com



U N I V E R S I T Y O F
SOUTH CAROLINA®

News from the Clemson Student Chapter *Kat Bartman*



The Clemson student chapter of ITE has had a busy, fun, and educational start to a new school year. In August, Clemson ITE kicked off the school year with its annual fall social. Hosted by one of our advisors, Dr. Wayne Sarasua, the social featured foods from each of the nationalities represented in chapter and an evening of fun swimming and tubing in Lake Hartwell. Attendance at the social was the highest it has been in years as the number of active ITE members has doubled this year. The fall social was a great time to break the ice amongst the new/ returning members and set the chapter for a number of fall activities that followed.

At the start of September, the Clemson student chapter elected its new officers for the exciting 2010-2011 school year. ITE student members elected Katerina Bartman as President, Jennifer Johnson as Vice President, Priyanka Alluri as Secretary and Caitlyn Davis-McDaniel as Treasurer. Our past-President Lee Tupper and our co-Faculty advisors, Dr. Sarasua and Dr. Jennifer Ogle, round out our board of directors. In addition to new leadership, the chapter was excited to welcome several new undergraduate members and over a dozen graduate student members. With such an influx in members, the chapter is confident in the success of its technical and service projects.

Also in September, the Clemson student chapter took to the water again for its annual Adopt-A-River. This year, ITE members partnered with students and faculty from the Agricultural Economics program to collect trash and recyclables along the Saluda River between SC 123 and Interstate SC 81. Clemson ITE had a total of 18 people travel the river in 8 canoes picking up trash along the way. This was the greatest year yet with over 20 tires, hundreds of recyclable cans and bottles, buckets, barrels, and even a park bench being pulled out the river and stacked in the canoes. After reaching the pull out location, the group began sorting and rinsing bottles and cans so that a majority of the trash collected could be taken to a local recycling center and the remainder taken to the landfill.

In addition to hosting a social and helping the environment, the Clemson student chapter has also sponsored a lecture series for the students. Hearing from such people as Heshia Gamble, Traffic Engineer for Greenville County, Jae Mattox, Program Manager for SCDOT, and Tony Chapman, Former SCDOT Deputy Secretary of Engineering, has given the members of the Clemson student chapter different perspectives and career paths that transportation professionals can pursue and excel in. The student chapter is excited to continue to host speakers and encourage professional development in its members. In November, the chapter members will be learning from ITE International Past President Marsha Anderson.

The Clemson student chapter also had the pleasure of working with Darrohn Engineering on a technical project to help develop a Bicycle Master Plan for the city of Greenville. Students were trained on the safety aspects of working on a roadway and how to collect roadway measurements. Lane widths, shoulder widths, and gutter widths were collected along roads such as Pleasantburg Dr. and Augusta Rd. to determine which roadways would be best suited for installation of bicycle lanes. This was a great opportunity to do field work with experienced professionals.

Recently, more than a dozen students from our chapter attended the SCSITE meeting in Greenville, SC in which Elizabeth Carpenter and Carol Jones spoke about the changes to the South Carolina Signal Design Guidelines. The students found the explanation of the guidelines very interesting and will soon find it helpful as signal timing projects are assigned in the design classes. For many of the students it was their first time attending an SCSITE meeting and it is guaranteed not to be last. The chapter also participated in the SDITE webinar to learn about what being of member of ITE was truly about and what opportunities exist through ITE. The Clemson student chapter is looking forward to future ITE meetings here in the Section and the Southern District and hopefully will visit the new ITE national headquarters in Washington D.C. during our trip to the Transportation Research Board Annual Meeting in January.

The Clemson Student Chapter is always looking for new technical and service projects to do so if you or your company needs volunteers for a project and would not mind teaching students about what you do, please contact Clemson ITE student chapter at ite@clemson.edu so that we can help. Also, keep up to date with the Clemson Student Chapter and see pictures from all of our past events by becoming a friend of Clemson ITE at facebook.com.



Wayne Sarasua, PhD, PE
Clemson University
ITE Student Chapter



Innovation Provides an Expanded “Toolbox of Options” for Waterborne Pavement Markings

Cindy Randazzo

They may seem like simple white and yellow lines, but they are an essential tool to keep drivers safe on our roadways. Pavement markings have been around for many years, however, the technology employed has changed dramatically. In the early days, solvent-based paints were the norm. Later, attention to environmental issues paved the way for the acrylic waterborne paints used today.

The first breakthrough that enabled waterborne paints to succeed was the pH-triggered quickset chemistry for faster drying, patented under the Dow FASTRACK™ brand of resins. Under high humidity, low air flow and cooler temperature conditions, this type of fast dry chemistry is essential. Couple this with the good weathering performance of the acrylic resins and we can account for the vast popularity of waterborne traffic markings on today’s roadways.

The innovation did not stop there. Advancements in acrylic chemistry led to better adhesion to road surfaces and to the reflective glass beads that provide nighttime visibility. These reflective beads are applied to the surface of the paint stripe immediately following its application to the road. These beads serve to focus and reflect the light from a vehicle’s headlights back to the driver. The amount of reflected light is quantified in units of millicandelas per square meter per lux and is referred to as retroreflectivity. The ability of the paint to retain these reflective materials is essential for long-term performance and good retroreflectivity.

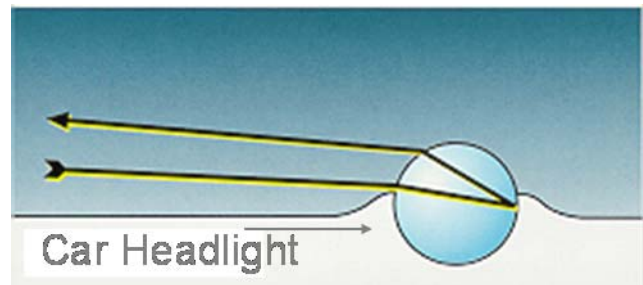
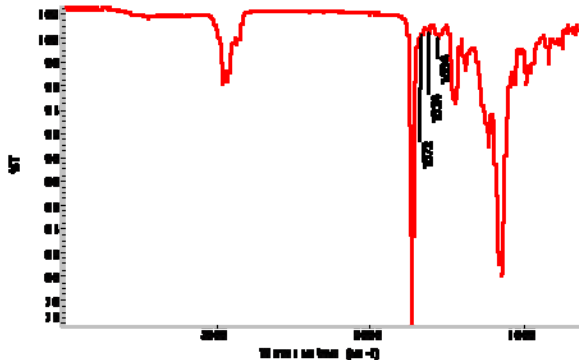
Under wet weather conditions, visible pavement markings are even more critical to safety. Whether it is the use of larger glass beads, that have a better chance of remaining above the water on the road surface, or the newer, wet night elements, that work even when submerged, these reflective materials must adhere to the marking paint to continue to do their job. To solve this problem, Dow Coating Materials developed a resin called FASTRACK™ HD-21A, with “crosslinking” adhesion chemistry to further improve the performance of a standard waterborne traffic paint. This acrylic resin, with both quickset chemistry and crosslinking chemistry, is referred to in the Federal Specification TTP-1952E as “Type III material for improved durability”. When applied at 25 wet mils, compared to the standard 15 wet mils of paint, this Type III paint can provide double the durability of a standard paint and offer excellent adhesion to the larger reflective elements used for wet night visibility.

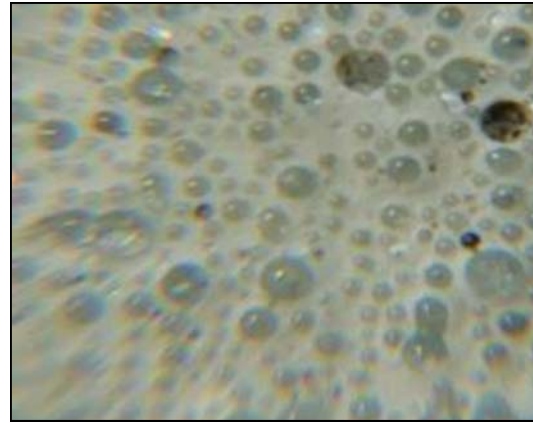
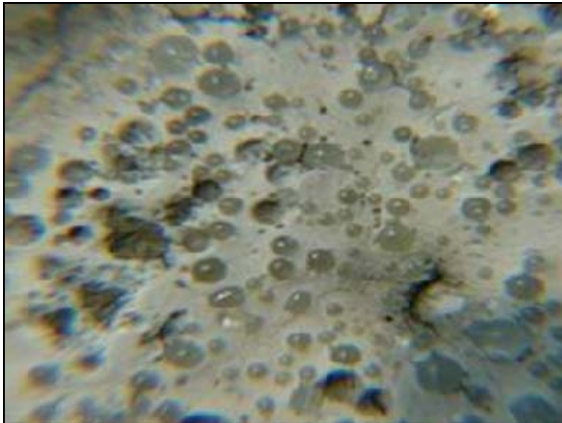
This high durability, 100% acrylic resin is used in high-build traffic markings and has provided multiyear durability. An example of this type of performance: paint formulated with FASTRACK HD-21A resin was applied to an asphalt roadway experiencing 12K ADT (Average Daily Traffic) in Griffin, GA. After almost 4 years, the retroreflectivity was above 200 mcd -- which means it is still working well to guide nighttime drivers.

Innovation has also answered the need to apply waterborne pavement markings when the application temperatures dip below the recommended minimum of “50° F and rising”. Below this threshold, the film formation and film integrity of standard waterborne paint will suffer, resulting in poor durability and retroreflectivity.

This problem has been solved. By combining both hard and soft domains in the polymer particles, the resin will have good low temperature performance, provided by the softer domains, while retaining the hardness needed for good dirt pick-up resistance and maintenance of good dry to no-track performance. This advanced type of chemistry is built into the FASTRACK™ XSR resin. Paints formulated with this resin can be applied at temperatures as low as 35° F and rising, while providing a significant durability advantage over a standard paint applied under the same low temperature conditions. These FASTRACK XSR paints are especially beneficial for northern areas of the country, or for those who stripe in cooler nighttime conditions.

Thanks to innovation, we now have an expanded toolbox of waterborne pavement marking paint options. Whether the requirement is high durability, or low-temperature performance, thanks to innovation, the choice is yours.





About Dow Coating Materials:

Dow Coating Materials is a major resin supplier to the coatings industry, including the FASTRACK™ brand of acrylic resins for waterborne traffic marking paint. Dow continues to bring innovative products to the Pavement Marking Industry and is now an even stronger technology leader built on the strength of both Dow and Rohm and Haas Company, acquired by The Dow Chemical Company in 2009. Additionally, Dow Coating Materials operates 13 dedicated R&D labs across all major geographies where Dow does business. References to “Dow” mean The Dow Chemical Company and its consolidated subsidiaries unless otherwise expressly noted. For more information, visit us at <http://www.dowcoatingmaterials.com>

Before using any product mentioned herein, consult the product’s Material Safety Data Sheet (MSDS)/Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

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Pictures:

- Schematic of a glass bead with light from the vehicle’s headlights entering and being bounced back to the driver.
- FTIR graph showing “crosslinking” chemistry peaks referred to in Federal specification TT-P-1952E Type III
- Pictures of waterborne paint markings applied at low temperature: standard paint has many dark, empty holes where glass beads have been removed by traffic. The paint based on the low temperature FASTRACK™ XSR contains most of the glass beads resulting in good visibility.

CYNTHIA M. RANDAZZO

Traffic Paint Technical Service Group Leader

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Coating Materials

University Boulevard (SC 953) Roundabout at Horry Georgetown Technical College (HGTC)/ Coastal Carolina University

Jeff Ingham, PE, PTOE

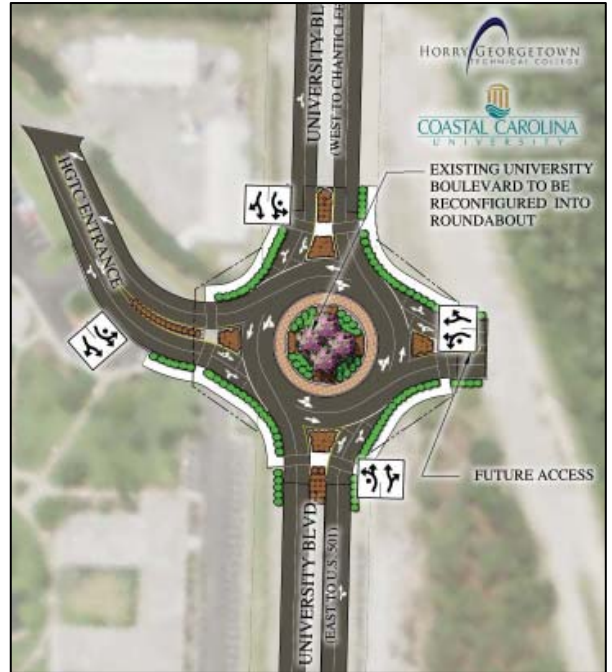
THOMAS & HUTTON was hired to provide concept development and engineering design services for a roundabout at the intersection of University Boulevard (SC 953) and the HGTC Entrance Road. The roundabout is the first public roundabout in the City of Conway and Horry County.

The roundabout concept was coordinated with Horry Georgetown Technical College and Coastal Carolina University. The design and analysis were completed in accordance with SCDOT and FHWA guidelines.

The analysis evaluated the existing intersection, nearby intersections (including U.S. Hwy 501), and master plans for the adjacent campuses and surrounding areas. A multi-lane roundabout was recommended and the plan was approved by SCDOT and the City of Conway.

Since University Boulevard serves as the main access to both colleges, the work needed to be completed during the summer term when enrollment was its lowest. The project was started in mid-March and the design, permitting, and bidding were completed in 75 days. The project construction lasted 60 days and came in under budget.

Prior to opening, educational materials were distributed to the public and incoming students. Since opening, the roundabout has improved safety, alleviated congestion, and provided an aesthetic entry feature for both colleges.





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The Traffic Engineer work includes traffic capacity analysis, feasibility studies, signal design, signal timing, signal systems, traffic operations, safety analysis, construction management, traffic impact analyses and other related traffic engineering work. Work could also include design and layout of CCTV cameras and DMS, communication design, vehicle detectors, system integration and testing, developing PS&E documents.

Please read the detailed job description and apply online at the careers section of the AECOM's website (www.aecom.com; Requisition Number: 50913BR)



Each of these houses needs Gas, Water and Electricity lines ran to it from each source. You must draw a line from each house to each utility, without the lines ever crossing.

Can you connect the houses to the utilities?



Be the first to answer the questions correctly and you will be recognized in the spring newsletter and receive a \$5 discount at the Christmas Party. Email your answer to davisas@scdot.org.



Alan S. Davis, EIT

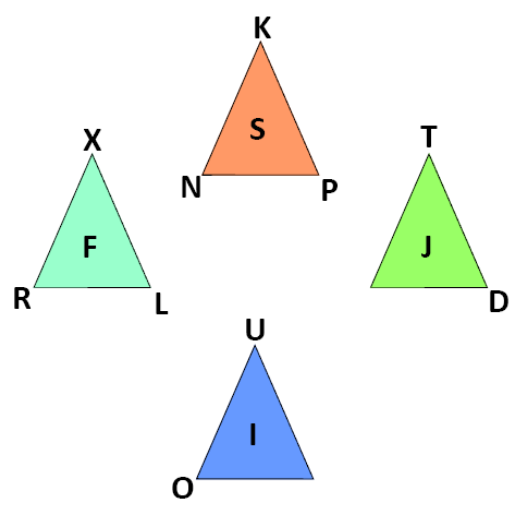


Last Issue's Challenge

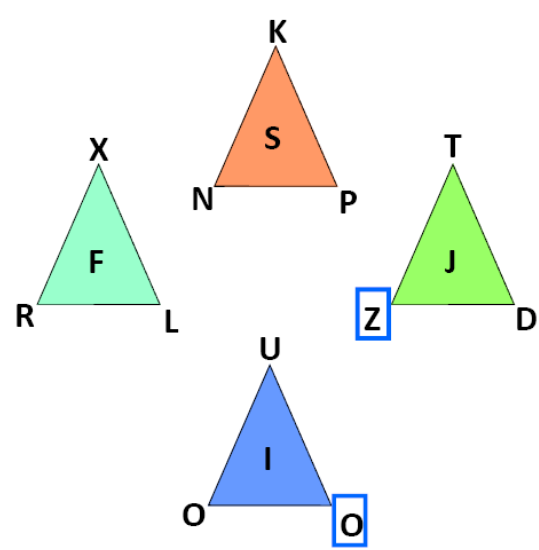
Congratulations to Adam Payne for solving the last edition's challenge. Adam is a member of the USC Student Chapter and is working part time for the SCDOT in RPG I Road Design. Adam will graduate with a BS in Civil Engineering in December 2010.



Adam Payne
University of South Carolina
ITE Student Chapter



Solution





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- Clemson Student Chapter Advisor:** Wayne Sarasua, sarasua@clemson.edu
- The Citadel Student Chapter Advisor:** Jeff Davis, jeff.davis@citadel.edu
- Newsletter:** Jae Mattox, SCDOT, mattoxjh@scdot.org

About ITE

The Institute of Transportation Engineers is an international educational and scientific association of transportation professionals who are responsible for meeting mobility and safety needs. ITE facilitates the application of technology and scientific principles to research, planning, functional design, implementation, operation, policy development and management for any mode of transportation. Through its products and services, ITE promotes professional development of its members, supports and encourages education, stimulates research, develops public awareness programs and serves as a conduit for the exchange of professional information.

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"DRIVER" is the official publication of the South Carolina Section Institute of Transportation Engineers, the professional society for transportation engineers in South Carolina. It is affiliated with Southern District 5 ITE, as well as the International ITE.

Any suggestions on format or content are welcome. News on members, the section, or the profession should be submitted to Jae Mattox at mattoxjh@scdot.org.