**VOLUME VI** Issue III **FALL 2012** 



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Institute of Transportation Engineers

South Carolina Section

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#### **SCS-ITE 2012 CHRISTMAS** PARTY!

#### WHERE

**Sheraton Columbia** Downtown Hotel | 1400 Main Street, Columbia, SC 29201 (803) 988-1400

#### WHEN

Thursday, December 6th 6:00 to 8:00 PM Cost

Members: \$20, Gov't: \$10 Spouses: \$10, Students: \$5

Join us for food, drinks, fellowship, and fun to celebrate another great vear of SCSITE and to present awards and Scholarships to those well deserved recipients! Please RSVP to Joe Sturm by November 30th: sturmip@scdot.org



It is getting cooler, the leaves are beginning to change, my kids are putting on pants that are a bit too short and pumpkins are popping up everywhere. Soon it will be time to travel over the river and through the woods to visit family for the holidays and I wish you all safe travels on our South Carolina highways.

On September 6th, our annual Scholarship Fund raising Golf Tournament was held in Columbia at Northwood's Golf Course. We had an excellent

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turnout of 67 golfers. I'd like to thank Mike Ridgeway along with Jae Mattox, Don Turner, and Byron Hood for the hard work in organizing this event. Many thanks to the 31 hole sponsors and 3 beverage cart sponsors. I'd also like to thank Ron Patton with SCDOT for taking time to pre-

> sent on an overview of the SCDOT plans including the Multi-Modal Plan, Malfunction Junction RFQ, and MAP 21 passing.

Our Christmas Party is coming up Thursday, December 6th and 2013 Vendor Day is coming up Tuesday, May 7th so everyone mark your calendars! Look for more details on the Christmas party and 2013 Vendor Day in the newsletter and I hope to see you there. Liz





#### 2012 ITE SCHOLARSHIP GOLF TOURNAMENT SPONSORS

**3M AECOM** Bihl Engineering Campco Engineering **CDM Smith CECS Coleman Snow Collins Engineering** Davis & Floyd **Dennis Corporation DRMP Grice Consulting Group HDR Howard Chapman** Iteris **LPA Group** Mead & Hunt Naztec Palmetto Traffic Data **Quality Counts RAI Products** Roger Dyar S&ME

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Traffic, Transportation, & Parking Consultants

# **2012 GOLF TOURNAMENT SUMMARY** Mike Ridgeway, P.E.

September 6th was a big day for SCSITE, the Golf Tournament was once again a huge success! We raised approximately \$6,400 for the Scholarship Program. The weather was great and I think it was one of our best tournaments ever, we had 67 players compete in a great tournament. Thanks to Ron Patton from SCDOT for being our guest speaker.

There are really too many people to thank, however I would like to specifically thank Don Turner, Jae Mattox, Byron Hood, and Liz Carpenter for helping get things in motion for the tournament each year. Thanks again to our lovely cart girls (and guy) Susan Ruinen, Renee Tison, Lori Mahany, Jennifer Bihl, Liz Carpenter, and Dipak Patel. Special thanks to Susan and Renee for running the check-in table.

Beverages this year were sponsored by CDM Smith, Roger Dyar, and Quality Counts. **THANK YOU!** The SC Section has also been contributing \$300 per year for snacks, so many thanks to our leadership for their continued support.

Congrats to our long drive winners Gaye Sprague and Brad White.

We had repeat champions for the first time this year.

<u>First Place:</u> Roger Burroughs, Greg Freel, Jody Gilden, & Andy Hackney

<u>Second Place:</u> Brad White, Josh Williams, Howard Chapman, & Rick Werts.

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.

I hope to see you all at the Christmas Meeting in December.







# May 7, 2013 | Brookland Banquet and Conference Center Co-sponsor: Clemson T3 (Technology Transfer Service)

Vendor Day gives our local signal equipment, signing and marking, and safety field crews an opportunity to talk with the vendors about the equipment they use on a daily basis out in the

field. There will be many opportunities for PDHs and networking.

We will have two technical sessions with four presentations at 9 AM and 2 PM. We are on the lookout for some great presenters, so if any of you have some new interesting projects please let Liz Carpenter know at *elizabeth.carpenter@aecom.com* and we will sign you up!



Attendance is *FREE* and *FREE* lunch will be provided... plus there will be Door Prizes to win! Mark you calendars now!

Clemson T3 is going to set up online registration and it should be set up very soon so be on the lookout for an invitation. Let your Vendors know about 2013 Vendor Day!



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#### MAY 2ND WEBINAR RECAP

Ryan Eckenrode, P.E., PTOE

On May 2<sup>nd</sup>, SCSITE hosted an online webinar in Greenville, SC titled "Traffic Studies for Implementing Short-Term and Long –Range Roadway Improvements." Fifteen people attended the webinar comprising of representatives from the SCDOT, City of Greenville, Greenville County, and various consultants around the state. Before the webinar started, each attendee had the opportunity introduce themselves to

the group. Big thanks to AECOM for providing the site location and contributing to the webinar's registration fee.

The online presenter was James W. Ellison, P.E, who has 39 years of traffic engineering experience in county, city, and private sectors. James currently serves on the National Committee on Uniform Traffic Control Devices and provides independent consulting services in Federal Way, WA. The benefits and topics of the webinar are summarized on the right.



### WEBINAR OVERVIEW

BENEFITS

Become familiar with the primary types of traffic studies and how they are used | Learn when traffic studies are required or recommended | Be aware of collected and compiled field data useful for traffic studies | Become knowledgeable about various analysis techniques | Learn about the common key report elements and a standardized report format |

Become familiar with the role traffic studies play in tort liability issues | Learn what to avoid when preparing a traffic study report | Each attendee earns 1.5 Professional Development Hours

#### **TOPICS**

Primary types and uses of traffic studies | When a study is required or recommended | Traffic studies for use in project design reports

Traffic studies for complying with the principles of the MUTCD | Traffic studies for safety and operations purposes | Field data collection for traffic studies | The role of traffic studies in tort liability issues | Use of appropriate wording in traffic study reports | Useful references and suggested report formats





#### PAY YOUR DUES ONLINE WITH PAYPAL

Now you can conveniently pay your Section Dues online through PayPal using your credit card!

If you have not yet paid your section dues for 2012, please visit the section's website at www.SCS-ITE.org, click on the Pay Pal link, and follow the simple on-screen instructions. The entire process is quick and easy to follow. If you are unsure if your section dues are current, send me an email at sturmjp@scdot.org and I will let you know your status.



# JOIN SCS-ITE TODAY!

Membership forms are available at:

www.SCS-ITE.org

Dues are only \$20 annually!





### TREASURER'S REPORT Joe Sturm

As of 9/24/12, the section's checking account stands at \$10,703.77. Our budget is on track with our expectations.

The golf tournament was a huge boost for our section as we raised over \$5,488 and counting. Once Mike Ridgeway receives the last few payments, we anticipate making roughly \$6,400. Thanks Mike!

The scholarship balances, as of 8/31/12, are as follows:

- Rowe \$29,322.77
- ♦ Stafford Clark \$32.202.53

Our PayPal account now has a balance from members using it to pay dues; as of 9/24/12, the balance is \$114.72.

If you have not paid dues for 2012, please pay through PayPal through the website at <a href="https://www.SCS-ITE.org">www.SCS-ITE.org</a> or mail your payment to Joe at the address below. Thanks!

Joe Sturm SCDOT Traffic Engineering 955 Park Street, Room 526 Columbia, SC 29202





#### PAST SCS-ITE SCHOLARSHIP RECIPIENT HIGHLIGHT Berry Mattox, P.E.

Berry Mattox, P.E. was the 2005 recipient of the SCS-ITE Gilbert Rowe Scholarship. He is a 2006 Graduate of The Citadel and a 2007 Graduate of the Georgia Institute of Technology, where he received his Masters in Civil Engineering. While an undergraduate student, Berry performed transportation research for the Texas Department of Transportation at the University of Texas at Austin's Center for Transportation Research. Berry currently serves as the SCDOT District 1 Assistant District Traffic Engineer and is responsible for all traffic related issues regarding state maintained roadways within Kershaw, Lee, Lexington, Richland, and Sumter counties. He believes he has found his niche in the world of civil engineering and appreciates the responsibility and the opportunity to make an impact for the betterment of the motoring public on a daily basis. Prior to joining the Department, he worked as a traffic engineer for a local consultant. Berry is an active member of SCSITE and is currently serving as the chapter's webmaster.

Berry and his wife Ginny live in Forest Acres and are active members of Eastminster Presbyterian Church. He enjoys camping, whitewater kayaking, and brewing beer.



#### Southern District ITE News Lori Mahany, P.E., PTOE

The 2013 SDITE Annual Meeting will be held in Charlotte, NC from April 7-10. South Carolina has been well represented at recent Annual Meetings, and with this year's meeting being just across the border, we hope to see many of you there. The conference website is:

#### sdite.org/Annual\_Meeting/2013

This year's Conference theme is "Partnerships for Vibrant Communities." Conference sessions will reflect the many innovative ways that we, as transportation professionals and those who work in partnership with us, are striving to understand, plan for, design, and maintain transportation systems that provide long-term value to communities large and small. Recognizing both the strong technical tradition of SDITE and the significant changes that are occur-

ring within our communities and our profession, the themes of this year's program are listed to the right.





# SOUTHERN DISTRICT ANNUAL MEETING THEMES

Changing Trends, Needs, and Solutions | Integrating Land Use with Transportation | Community/Economic Development Driven Transportation | Community Partnerships to **Provide Transportation** Infrastructure | Traffic Control, Operational, and Safety Innovations | Networks for Multi-Modal Communities | Financing Strategies for Building Quality Communities | Transportation Planning for Complete Communities

#### **SCSITE SHIRTS & VISORS FOR SALE!**

Please contact Joe Sturm for an ITE Logo Shirt and Jennifer Bihl for an ITE Logo Visor!







#### **L**EGISLATIVE **UPDATE** GAYE SPRAGUE, P.E.

With the Legislature out of session this time of year, there is not a lot to report regarding legislative activities. However, I would like to propose that we as a group support the efforts of groups that are pursuing laws against texting while driving when the legislative session starts next year.

Please let me know if you have any thoughts, gayesprague@cs.com (864) 242-3106



Sprague & Sprague CONSULTING ENGINEERS



#### JENNIFER BIHL, P.E. FOUNDS BIHL ENGINEERING

Bihl Engineering, located in the Lowcountry of South Carolina, provides traffic and transportation engineering services for both public and private clients. These services include traffic impact analyses, corridor and access studies, parking studies, airport landside planning, traffic signal warrant analyses, traffic signal timings, and public involvement.

Recently certified by the state as a DBE woman-owned business, Jennifer looks forward to Bihl Engineering's continued partnering with other professionals across the state.

Jennifer graduated from Clemson University with her Bachelors and Masters of Science degrees in Civil Engineering. Prior to NEERING opening her own firm, Jennifer worked for twelve years in the traffic and transportation field for a national engineering firm doing engineering, project management, and business development across the Southeast. Jennifer is a licensed professional engineer in South Carolina, Georgia, Florida, Alabama and Mississippi.

> As president of the SCSITE next year, Jennifer looks forward to carrying on the section's vision and another successful year of partnership and scholarship.





#### STANTEC HIRES MIKE RUTKOWSKI, P.E., AICP

Stantec is pleased to announce that Michael Rutkowski, PE, AICP, has joined the firm as an Associate and Senior Transportation Planner and Engineer in the Raleigh, NC office.

Mike has worked and presented throughout the Carolinas. He specializes in sustainable transportation solutions and managing multidisciplinary teams of engineers, planners, and landscape architects. His experience includes all aspects of transportation planning and engineering, from longrange transportation plans and corridor-based access management to air quality conformity, noise modeling and analy-Stantec sis, and visualization. Mike is also a trained public facilitator and conflict resolution specialist who frequently leads public and conflict resolution specialist who frequently leads public input sessions for such transportation projects.

> In his 20 years in the industry, Mike has worked for both the private and public sector, including serving as coordinator for the Charlotte urban area for the North Carolina Department of Transportation. He holds both a master's and bachelor's degree in civil engineering from NC State and UNC Charlotte, respectively, and is a registered professional engineer and certified planner.

# DETERMINATION OF ORIGIN-DESTINATION USING BLUETOOTH TECHNOLOGY

Rick Reiff, P.E., PTOE

The following is a summary of the presentation delivered at the ITE Annual Meeting and Exhibit in Atlanta and subject of the ITE Showcasing Smart Technologies webinar on Tuesday, November, 6th.

As part of a study of improvement strategies for the I-526 corridor in Charleston County, South Carolina, actual origin-destination (OD) data was collected to more accurately model existing vehicle paths for use in the study VISSIM micro-simulation model. After evaluating available methods for collecting origin-destination data, the project team decided on an innovative approach using Bluetooth technology. The results of the Bluetooth data collection were extremely valuable in the analyses, as several additional uses for the data were utilized as the analyses moved forward.

Bluetooth signal detectors were deployed along the study corridor between interchanges to track vehicles traveling the corridor. The unique identifier for each Bluetooth-

enabled device (mobile phones, computers, car radios, etc.) detected could be compared across the rest of the detectors to determine the number, and travel time, of vehicles traveling to/from various portions of the network.

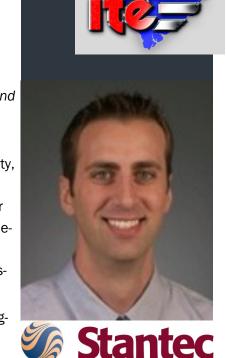
Over the five days of Bluetooth data collected for the I-526 Corridor Analysis, the 13 detectors placed at the Interstate locations recorded over 450,000 total detections representing an overall detection rate of approximately 6.5% of AADT. From those detections, over 300,000 matched OD pairs were calculated for the 72-hour weekday period.

OD and travel time matrices were developed from the data for several time periods, which were utilized in the development and calibration of the study VISSIM micro-simulation models.

The exhibit to the right shows one bandwidth exhibit that was developed from the OD data illustrating the daily origin-destination percentages from I-26 West through the study network.

The use of the Bluetooth technology allowed the team to develop a much more comprehensive OD matrix than would have been possible using other technologies, such as license-plate matching, at a significantly lower cost.

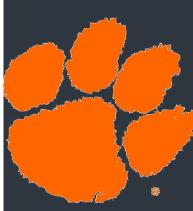
The data collected was also utilized to determine the existing weaving movements around the I-26 & I-526 interchange and the adjacent closely-spaced interchanges, and the planning of potential new transit routes.







#### News from the Clemson Student ITE Chapter Wayne Sarasua, PhD, P.E. & Jennifer Ogle, PhD



### **CLEMSON OFFICERS**

Earlier this fall the chapter elected new officers to carry the mantle and build on the good work of the immediate past officers.

The current executive board consists of:

President - Kweku Brown |
Vice President - Laura
Rowe | Secretary - Olena
Tokmylenko | Treasurer Graham Malone | Communications Chair - Meredith
LaDue.

The transition of board member responsibilities from old to new has been smooth and in liaison with the faculty advisors of the chapter the executive board is doing a commendable job.



The Clemson University Student Chapter of the Institute of Transportation Engineers continues to make strides after a successful 2011-2012 academic year. The past year was highlighted by the launching of the chapter's road safety awareness campaign emphasizing the dangers of texting and driving and was culminated by winning the second best student chapter in the ITE Southern District (picture below)! The chapter currently has 25 members with a majority being graduate students.

Funding for the chapter remains steady mainly from member dues and Clemson University student government funding. A welcome addition this semester has been the funds generated from setting up a variable message sign to help the direct traffic during Clemson home football games.

This fall, the chapter is continuing its road safety awareness campaign through the distribution of wrist bands with the text 'Stay Alive - Don't Text &Drive'. For more information on the safety campaign and the opportunity to support our cause to raise awareness on the dangers of texting while driving, please visit our website <a href="http://www.clemsonite.org/">http://www.clemsonite.org/</a> and take a pledge not to text and drive.

The chapter continues to have weekly meetings featuring guest speakers from industry with loads of real-world experience in the transportation engineering field. These seminars provide student members many opportunities

in professional development. Recent speakers include South Carolina Section members Gaye Sprague, Hesha Gamble, and Rick Reiff.

The chapter has completed two successful service activities this semester. The first was a parking utilization study for Clemson University Parking Services. Members in conjunc-

tion with project coordinators from parking services collected morning parking utilization data for a week on the Clemson University campus. The second service activity was a

bike study for the Clemson University Planning and Design Group. In this study, bike counts were conducted by members during the morning and afternoon peak class times at selected locations on Clemson's campus.





#### News from the South Carolina Student ITE Chapter Nathan Huynh, PhD





USC ITE held its first meeting of the semester in September. We were honored to have Mr. Dick Jenkins P.E., speak at our meeting; Mr. Jenkins' presentation was centered on SCDOT'S incident management system. Specifically, Mr. Jenkins provided the students at USC with practical information on how to best avoid accidents, while also demonstrating how the SCDOT manages the flow of traffic if an accident does occur. He also discussed how the SCDOT's incident management unit prepares for hurricane season well in advance, as it is obviously important to have a safe and efficient evacuation plan in the case of a hurricane.

We had 31 students attend the meeting, many of which came for the first time! In

fact, Mr. Jenkins was quite pleased at the level of interest the meeting generated and even mentioned the great turn out during his presentation. We are planning on having another meeting this November, and the de-

tails are currently in the works, but we expect to maintain the same level of interest for this meeting!



### News from the South Carolina State Student ITE Chapter Judith Mwakalonge, PhD



The South Carolina State University ITE Chapter is looking forward to a productive fall and winter. We have many activities planned that will contribute to the ITE community. We are proud to say that all three of our members that have graduated in May with honors are now employed in transportation-related professions. Former President Curtis Bradley is now pursuing his PhD in Civil Engineering: Transportation at University of Massachusetts at Lowell. Former Vice President Loren Morris is now a Logistics Analyst and Procurement Representative at XPO Logistics in Charlotte, NC. Mr. Beareguard Marshall is now with the Dennis Corporation in Columbia, SC as a Design and Environmental Planning intern and by spring will be a full employee.

SCSU ITE members are involved in a variety of areas within transportation. This summer Andrew Brunner who is now the chapter President had the honor of participating in the Washington Center's

Summer Transportation Internship for Diverse Groups (STIPDG). He interned as an Environment/Transportation Planner with the Federal Highway Administration's Georgia Division in Atlanta, Georgia. He presented his research from summer at a conference in August in Washington, D.C. Andrew Brunner has also been selected as the 2012-2013 Transportation Research Board (TRB) Minori-

ty Fellow. He will be presenting his research involving the use of SMART Growth and Livable Community Initiatives as a means to address Urban Sprawl in correlation with Public Health at the 2013 TRB conference.

Several chapter students have submitted research abstracts for presentation consideration to transportation conferences including 54th Transportation Research Forum, 2013 ITE technical conference, 2013 ITE annual meeting, and ITE southern section annual meeting. The SCSU ITE chapter is working hard to get chapter members involved in the transportation profession arena.





#### CITADEL ENGINEERING CAREER FAIR

Citadel civil engineering students are organizing a career fair in conjunction with electrical engineering. The Professional Activities Event (PAE) will be held Thursday, November 8th, from 5:00 to 8:00 PM in the Holliday Alumni Center on The Citadel campus. Last year's event attracted 21 companies including Stantec (International ITE Director Rick Day is shown below talking with a student during the February 2012 PAE), Terracon, Davis & Floyd, Fluor, S&ME, The Shaw Group and others. A student resume book will be published and over 250 engineering students are expected to participate.

For more information about this important event for civil engineering students at The Citadel visit the following websites:

Event info: http:// cee.citadel.edu/asce/ASCE/ PAE.html

Last year's press release:

<a href="http://cexternalaffairs.citadel.edu/cee\_career\_fair">http://cee\_career\_fair</a>

# News from The Citadel Student ITE Chapter William J. Davis, P.E., PhD



Civil engineering students at The Citadel received a special visit Friday, September 14th, from ASCE Past President Kathy J. Caldwell. She was on campus to present the Robert Ridgway Student Chapter Award for most outstanding chapter of the American Society of Civil Engineers, which includes 28,000 student members in 281 chapters across the United States and 11 countries. Chapter officers President, Michael Singer, Vice President, Cameron Dyson, Treasurer, Michael Griffin, and Secretary, Jakob Ketchum joined President Caldwell for a pass in review parade, which was followed by an Ridgway Award reception held in the Club Level at

Johnson Hagood Stadium.

The Citadel ASCE Chapter hosts National Engineer's Week events and organizes a professional activities event attracting companies to a student career fair. Students travel and participate in meaningful activities such as the National Workshop for Student Leaders, Battery to Beach Transportation Service Project, and contribute countless volunteer hours to the profession and community.

"Winning the Ridgway Award is a monumental accomplishment" said Dean of Engineering Ron Welch.

"This is the most prestigious ASCE award civil engineering students can receive and by accomplishing this milestone, students are exhibiting principled leadership in the engineering profession and demonstrating a commitment to excellence we aspire to achieve through our academic programs."







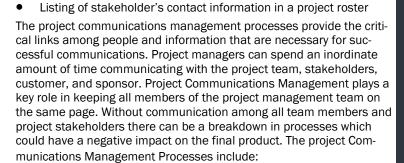
## PROJECT MANAGEMENT Sreekanth (Sunny) Nandagiri, P.E., PMP



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**Project Communications Management** is the knowledge area that employs the processes required to ensure timely and appropriate generation, collection, distribution, storage, retrieval, and ultimate disposition of project information. At the least, project managers should develop a Project Communications Plan. Establishing proper communication protocols, using a Project Communications Plan is essential for the success of projects. Information included in typical communication plans should include:

- Methods used to gather and store information
- Mode of communication
- Frequency of communication
- Methods of dissemination of information
- Intended stakeholders



- Communication Planning determining the information and communication needs of the project stakeholders. It should answer questions like who needs what project information? When do they need it? How will the information be given? By whom?
- Information Distribution making needed information available to project stakeholders in a timely manner. It deals with how the information will be stored, shared and exchanged.
- Performance Reporting collecting and distributing performance information. This includes status reporting, progress measurement, and forecasting. It generally provides information on scope, schedule, cost and quality, as well as on risk and procurement where applicable.
- Manage Stakeholders managing communications to satisfy the requirements of and resolve issues with project stakeholders.

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In November 2012, Ms. Carrie Mussman, PE will relocate to Greenville, SC expanding AECOM's traffic, ITS, and transportation engineering footprint in the Southeast. With over 45,000 global employees, AECOM has been ranked #1 in transportation for ten consecutive years in **Engineering News-Record** magazine's Top 500 Design Firms Survey. Ms. Mussman received a Bachelor's (2003) degree in Civil Engineering from Auburn University, AL and brings to South Carolina nine years of experience in projects including land development design, construction management, signal design, ITS design, signal timing and traffic studies.

Ms. Mussman is a licensed Professional Engineer in North Carolina, South Carolina, Georgia, and Alabama. Carrie has been involved with the North Carolina ITE section for the last year in Raleigh, NC, and is excited to transition that involvement back to South Carolina's ITE section.

Carrie and her husband Paul are expecting their first child in March of 2013. With Paul working at McMillan Pazdan Smith, Spartanburg, SC as a project architect, they are looking forward to their growing family and their future in Greenville, SC both from personal and professional perspectives.



<u>Sources for this Article:</u> Project Management Institute's "Project Management Body of Knowledge" (PMBOK), 2000 and 2007 Editions, AECOM's Project Management's internal training material, virtual project consulting at <a href="https://www.virtual.project.com/">https://www.virtual.project.com/</a>

(accessed in October 2012) and Project Manage-

ment Knowledge at

(accessed in October 2012).







#### NEWSLETTER FOITOR

RICK REIFF, P.E., PTOE

A big **THANK YOU** to Jae Mattox for his six years of service preparing *DRIVER* for SCS-ITE!

Thank you as well to everyone who has contributed
to this month's issue.
Please let me know if you
have any project news,
member announcements,
job opportunities, or anything else you would like to
contribute to the next
newsletter! Anyone can
submit material!

Please send any news, questions, or comments to my attention at rick.reiff@stantec.com

### VENDOR UPDATE Miovision

### Miovision's New Solution for Streamlining Data Collection Requests

Traffic Data On Demand is an online traffic data collection solution that provides full access and control for requesting traffic data collection. Using Miovision's software-as-aservice (SaaS) portal, traffic data collection requests can be easily completed with just a few clicks of a mouse.

All of the traffic data can be downloaded in industry standard reports through Miovision's online traffic data management portal. Traffic Data On Demand provides access to its portal and all of its features to manage traffic data, video and reports in one centralized location.

Using Traffic Data On Demand streamlines the entire data request and management. It provides standardized pricing, guaranteed availability and study turnaround and 95%+ level of accuracy.

#### Guaranteed Availability to Complete Data Collection

Miovision's Partner Network is always available to complete your traffic data collection requests, eliminating ambiguity and coordinating with multiple vendors.

#### **Guaranteed Turnaround Time**

Reports are available within 4 days allowing you to accurately plan your data collection projects.

#### 95%+ Data Accuracy

High level of accuracy for TMC and ADT studies for effective project execution.

#### **Same Day Intersection Studies**

Save time by collecting multiple intersections at once, eliminating the need for balancing data collected on different days.

#### Share Data and Video Online with Stakeholders

Eliminate administrative tasks by utilizing Miovision's traffic data management portal. This secure portal provides stakeholders with a simple yet professional vehicle to access data, video and reports for traffic projects in one centralized location.

#### Standardized Pricing

Effectively cost out projects and plan budgets with our standardized pricing for every traffic study and request. This removes the hassle of obtaining multiple quotes from multiple vendors.

**Traffic Data On Demand Information:** <a href="www.miovision.com/traffic-data-on-demand/">www.miovision.com/traffic-data-on-demand/</a> <a href="mailto:miovision.com/">Miovision Contact: www.miovision.com/</a> <a href="mailto:miovision.com/">1-877-646-8476 - info@miovision.com/</a>



### TRIVIA! Joe Sturm

Thank you to Alan Davis for his years of brain teasers and puzzles! As he has moved on to bigger, brighter, and better things, let's congratulate him on his change! Onto the trivia...

#### QUESTION 1:

I have two arms, but fingers I have none.

I have two feet, but I cannot run.

I carry well, but I have found

I carry best with my feet off the ground.

What am I?

#### QUESTION 2:

Assume that a = 1 and b = 1. So, a = b.

Square each side of this equation:  $a^2 = b^2$ .

Move all terms to one side:  $a^2 - b^2 = 0$ .

Factor: (a-b)(a+b) = 0.

Simplify: (a-b)(a+b)/(a-b) = 0/(a-b). 1(a+b) = 0. (a+b) = 0. 1 + 1 = 0. 2 = 0.



#### **TRIVIA**

Be the first to answer both questions correctly and you will be recognized in the next newsletter and receive a \$5 discount at the next meeting.

Email your answer to: sturmjp@scdot.org

(If you were the first person to answer the questions from the Summer 2012 issue, please let me know and we will recognize you in the next issue.)

#### LAST ISSUE'S ANSWERS

This cannot be so, explain.

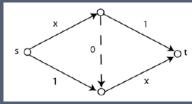
**Q1:** On the back seat of a car lies a spirit level. When the car goes around a sharp bend, which way will the bubble in the level move: towards

the curb or towards the middle of the road?

Answer: The bubble will move inward, toward the inside curb, due to centripetal force pushing the denser fluid outward.

**Q2:** Who theorized that for some traffic patterns, increased road capacity (even if the total

number of individual drivers does not increase) can lead to more congestion, and what is this theory known as?



Answer: German Mathematician Deitrich Braess, the phenomena is known as "Braess's Paradox"



#### **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.

### FIND SCS-ITE ONLINE

ON THE WEB AT: www.SCS-ITE.org

ON FACEBOOK:

Search "South Carolina Institute of Transportation Engineers"





#### 2012 Section Leadership

### PRESIDENT Liz Carpenter, P.E. AECOM

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### SECRETARY/TREASURER Joe Sturm

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### PAST PRESIDENT Jeff Ingham, P.E.

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ingham.j@thomas-hutton.com

### SECTION REPRESENTATIVE Lori Mahany, P.E., PTOE

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Please submit any news on members, the section, or the profession to Rick Reiff at rick.reiff@stantec.com

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