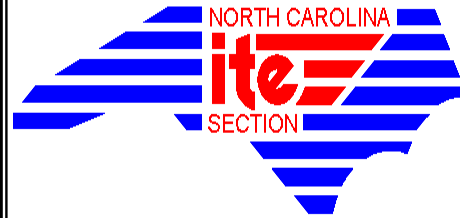


NCSITE INVOLVER



March 2011

President's Message



Greetings from the NCSITE Board!

This looks to be a great year for NCSITE. While it is only March, the Board is active, the Traffic Engineering and

Transportation Planning Councils have met twice, and the mid-year meeting planning is well under way. Make sure to mark your calendar and take advantage of these professional networking and educational opportunities.

At the annual meeting in November, I outlined the 2011 theme of *Investing in our Future*. In case you were not there, I asked the organization to consider how we collectively and individually can encourage others. We should start by considering how to encourage students that might consider transportation engineering as a profession. As a follow up, also consider how to encourage those around you, especially in your workplace.

For those of us that manage employees, I suggest you look for ways to encourage all of your employees. With the current economic climate, many times the task ahead of us looks so big and impossibly complex; our employees may feel that personal contribution is so small that it will make no difference. But it does make a difference! Sometimes the difference is so small that we ourselves don't notice it or can't always see it. Remind them their contribution does make an enormous difference.

So, I ask each council to pick at least one project that accomplishes this theme. Maybe it is continuing webinars (consider inviting student chapter members), participate in career days in schools (many high schools have career days), or help educate the public and specifically young people as to what we do.

I am looking forward to see how the section takes this challenge and moves forward to the next level of success for our future.

Thank you for your support.

Thank you,

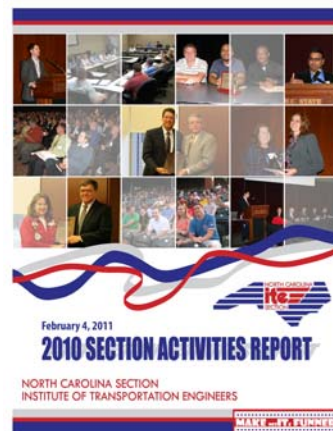
Mike Kennon, PE

NCSITE President - 2011

NCSITE 2010 Section Activities

Report is available on NCSITE website at:

www.ncsite.org/documents/10-AnnualReport.pdf



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Note from Russell Dalton, 2010 Section President

2010 was a very successful year for NCSITE. We hosted 17 professional meetings supported by 30 additional organizational board and council meetings with numerous additional meetings of our committees. Members also attended the SDITE Annual Meeting in Portsmouth and the International ITE Meeting in Vancouver. The combined attendance of our members at NCSITE, SDITE and International ITE professional meetings was approximately 900 not counting all the work attending organizational meetings and working behind the scenes. There were also two transPOURtainment social events and both the Traffic Engineering Council and Transportation Planning Council held year-end social events of their own.



I proposed what I referred to as the Take 10 in 2010 challenges at the beginning of my term to encourage involvement and promote meeting attendance. The current economic climate has presented big challenges to locating meetings throughout the state and keeping up attendance. NCSITE has continued to provide opportunities for our membership to maintain their professional development hours without straining their budgets. Nine members who tracked enough hours of involvement and attendance met the goals of Take 10 in 2010 and were awarded recognition certificates and gift certificates at the NCSITE Annual Meeting.

The Leadership Development Program was proposed to NCSITE as a program being developed within SDITE intended to expand to the individual chapters and eventually to International ITE. Nine members participated as trainees and the program was initially facilitated by members of both NCSITE and other chapters within the district. After the two separate Friday-Saturday sessions both containing multiple modules, two additional luncheons were hosted by the trainees acting as the trainers. It was an effective way to provide leadership training through collaborative teaching. I envision this program expanding to more members and helping NCSITE to develop additional leadership training opportunities in the future.

The NCSITE Annual Meeting was well attended with over 300 members. It provided a venue for members to socialize and learn about new products while enhancing their technical and professional knowledge. The McKimmon Center at NC State University provided a popular venue in Raleigh where we could ensure most of our members could attend while keeping costs reasonable for both NCSITE and the attendees.

This year NCSITE was able to award five scholarships worth a total of \$11,000. Encouraging student involvement has been and will continue to be a primary focus. We continued to offer free attendance for students at professional meetings in 2010. Student involvement is critical to developing future leaders within our organization and profession.

NCSITE has continued to be a strong organization providing opportunities for the membership. NCSITE offered opportunities for professional networking, expanding technical knowledge, and leadership development in 2010. Through the continued efforts of our members I feel assured we will succeed in 2011. Thanks for a great 2010!

INVOLVER SPACE FOR RENT!

We are looking for companies that would like to participate in our Involver and web page advertisements. If you decide to participate, your ad would appear in two issues of the Involver (on a rotating basis). Your company logo and a link to your website would also appear on the NCSITE website (www.ncsite.org).

If you are interested in advertising in the Involver, please contact us at info@ncsite.org.

For more info, see our [Advertising Rates](#)

Upcoming Events



March 2011

23 TEC Meeting— Mike.Surasky@hdrinc.com

April 2011

3-6 ITE Technical Conference and Exhibit

Lake Buena Vista, FL - Walt Disney World Swan

10-13 SDITE Annual Meeting, Lafayette, LA - www.sdite2011.org

13 Joint TPC and TEC Meeting & Social Hour—Todd.Delk@TownofCary.org

19 Student-Led Meeting, UNC Charlotte

27-29 NCAMPO Conference - Hilton/Double Tree Inn - Fayetteville, NC

May 2011

11 TPC Meeting —Todd.Delk@TownofCary.org

25 TEC Meeting — Mike.Surasky@hdrinc.com

June 2011

1 NCSITE Mid-Year Golf Tournament

Asheville, NC—jodylewis@mabtrans.com

2-3 NCSITE Mid- Year Meeting—Asheville, NC — Todd.Delk@TownofCary.org

22 TEC Meeting — Mike.Surasky@hdrinc.com



**MARK YOUR
CALENDERS**



2011 NCSITE Student-Led Meeting

at

Student Activity Center, University of North Carolina at Charlotte

on

Tuesday, April 19, 2011

PDHs: TBD (5 Anticipated)

For More Information contact either [Dr. Srinivas Pulugurtha](mailto:Dr.Srinivas.Pulugurtha) or [Justin Beaver](mailto:Justin.Beaver)

Transportation Planning Council Update - Todd B. Delk, TPC Chair

NCSITE Brethren,

Just a quick update for the TPC – our calendar this year has gotten off to a quick start and will not let up until the Annual Meeting. Here is what we planners have planned for 2011:

- ☑ **More transFORUM presentations:** Look for TPC to offer up to 4 lunch sessions or group webinars throughout the year and a summer transFORAY mobile tour. The first one takes place March 9th and covers the new FHWA Roundabout Guide. Thanks to Jim Dunlop, Radha Swayampakala, Tony Tagliaferri, and Chris Spencer for getting us various locations across NC .
- ☑ **More “Make ncsITE Funner” events:** Our current calendar has 3 transPOURtainment socials, a night out with your local student chapter, and a couple other potential outings. First social: share in some March Madness Friday May 18th at Buffalo Brothers (details below).
- ☑ **Better connection to the student chapters:** One of our main goals this year is to be more active with our collegiate members and show them NCSITE is more than just presentations with pizza, scholarships, and the Traffic Bowl.

Also, preparations are well under way for the **Mid-Year Meeting**, which will be in Asheville in the beginning of June. While we are presently finalizing the hotel logistics, this year’s agenda is looking very intriguing with the golf tournament, a mobile tour, a Thursday evening scavenger hunt, and changes to the regular schedule to address suggestions from past meetings. But we need your support through attendance and sponsorships to make it a success, so put it in your calendars now to be in **Asheville June 1-3**.

Lastly, our council activities have gotten **the attention of the TPC at ITE International**, who may be taking our lead with some “Make ITE Funner” ideas for the organization as a whole. We have already had some out-of-state members visit our council meetings and will be inviting TPC officers and neighboring state sections to Asheville. Even more reason not to miss it.

Thanks again to all the members active in TPC and our activities.

Best regards,
Todd B. Delk,
TPC Chair todd.delk@townofcary.org



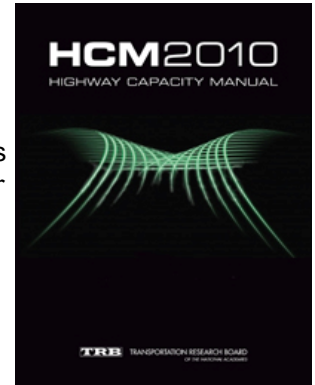
The **Committee for People Who Want to MAKE NCSITE FUNNER**

and Other Good Things Like That invite you to join us for a
transPOURtainment social
Friday, March 18, 5:00 PM @
Buffalo Brothers (4025 Lake Boone Tr. Ste #100)



HCM 2010 Overview Web Briefing Series-Save the Dates!!!

The ITE Educational Foundation has partnered with TRB to conduct a series of 10 Web briefings on HCM 2010.

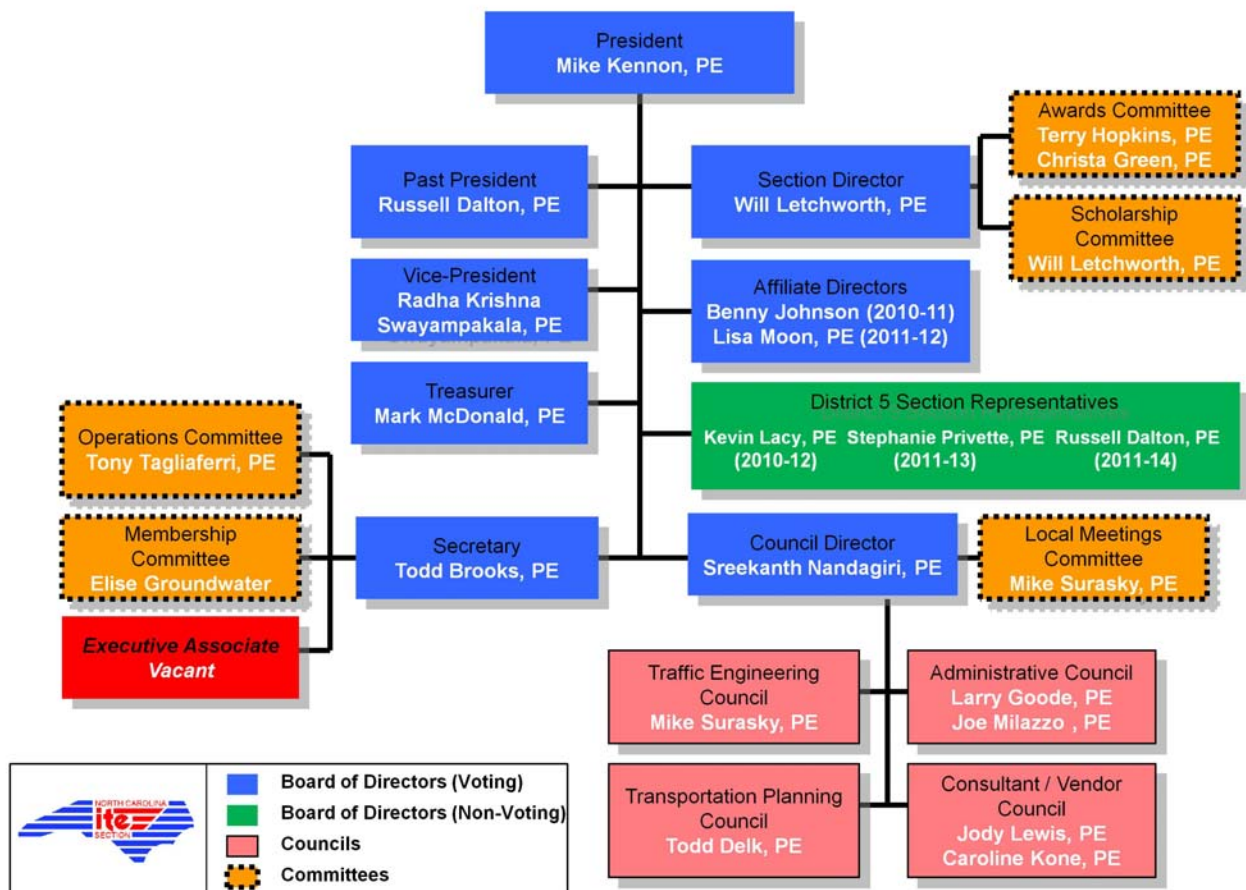


NCSITE Traffic Engineering Council is planning on offering several of these webinars in Garner, Greensboro and Charlotte. The series will include an overview of the four volumes as well as feature new applications and methodologies, as noted below. Each webinar will provide 1.5 PDHs and NCSITE is planning on charging \$5 to \$10 per attendee per webinar.

- HCM 2010 Overview: Now in Four Volumes! -April 12, 1-2:30 p.m.
- Applications of the New Active Traffic Management Chapter-April 14, 1-2:30 p.m.
- Changes to Unsignalized Intersection Methodologies-April 26, 1-2:30 p.m.
- New Multi-modal Urban Streets Methodology-Pedestrian, Bicycle and Transit Methods-April 28, 1-2:30 p.m.
- New Signalized Intersection Methodology-May 17, 1-2:30 p.m.
- Multi-modal Urban Streets Methodology-Auto mode-May 19, 1-2:30 p.m.
- New Material on the Use of Alternative Tools: Micro simulation Models-June 21, 1-2:30 p.m.
- New Freeway Weaving Methodology-June 23, 1-2:30 p.m.
- Enhancements to the Freeway Facilities Method-July 19, 1-2:30 p.m.
- Enhanced Planning Methods and Application of Generalized Service Volume Tables - July 21, 1-2:30 p.m.

Additional information will be provided soon. Stay tuned!

2011 NCSITE Leadership



NCSITE Awards—2010

Each year, the North Carolina Section recognizes outstanding members along with one non-member for their contributions to the profession, the Section, and the transportation industry. The winners are selected by a peer group and are recognized during the Annual Meeting. The Awards Committee was excited to offer award nominations through the NCSITE web site. This portion of the web site was included to present an overview of each award and a history of past recipients. This year the Section presented the following awards at the 2010 Annual Meeting. The following listing announces the winners and outlines the recipient's contributions to NCSITE that justify the award. For information on the criteria for the awards, and to view a listing of past recipients, go to: <http://www.ncsite.org/awards.html>

Robert Dodge Professional Image Award

Harvey "Bo" Winstead was announced as the recipient for the Dodge Professional image Award at the Annual meeting. His presentation occurred at a special event on December 13th at the RTP Headquarters. He has a Bachelor's of Science degree in Civil Engineering from North Carolina State University, and also has his master's degree in Civil Engineering. He has been an active NCSITE member for more than 35 years (since 1974). He has served on several NCSITE Task Forces in the past, and is an active member of the Traffic Engineering Council. During his tenure as Traffic Engineering Council Chair, he was able to rejuvenate the participation of members by pursuing joint meetings with the Transportation Planning Council and by beginning webinars for the members.



He chaired the 2007 NCSITE Annual Meeting which takes extreme dedication, hard work, and coordination skills. He has been described as someone that is easy going, who is not prone to knee jerk reactions or emotional responses. He is always focused on how things can be done better and at a higher quality. He invests in the future of younger engineers for our profession. He began his career with the City of Greensboro, but is now the ITS Program Manager with HNTB.

Congratulations to Bo Winstead, PE of HNTB for winning this award !

R.V. Moss Lifetime Service Award



Larry Goode was presented the R.V. Moss Lifetime Service Award. Mr. RV Moss presented the Award to Larry Goode, and Larry's wife, Ellen, was in attendance for the presentation. He has been a member of NCSITE since 1975, and has been an active member for 35 years. In 1984, he served as President of the North Carolina Division of the Southern Section of the Institute of Transportation Engineers. He has always been willing to help the organization and has been an outstanding ambassador for NCSITE within the state and internationally. He stepped up and graciously accepted the challenge to be co-chairman of the Administrative Council for the past two years.

His knowledge of legislative activities and his coordination with transportation professionals has benefitted our NC Section tremendously. He served NCDOT as our State Highway Administrator and retired and is currently working in the consulting field.

Congratulations to Larry Goode, PE, PhD for winning this award !

NCSITE Awards—2010 Continued...

Jay Quinn Technical Excellence Award

Sreekanth (Sunny) Nandagiri was presented the Jay Quinn Technical Excellence Award. Sunny's wife, Pavani, and well as their son, Vibhav, were in attendance for the recognition. Sunny graduated with a BS degree in Civil Engineering from Nagarjuna University, India. He has his MS degree in Civil Engineering from Clemson University and a MBA degree from UNC-Greensboro. He has been involved with the NCSITE Traffic Engineering Council for many years, and is currently the Committee Chair. He played an important role in reviving the Signal System User's Group, which had over 100 people attend its latest meeting this year. Sunny has held monthly meetings for the Traffic Engineering Council and encouraged younger engineers to get involved with NCSITE. Sunny has also been involved with the coordination of many NCSITE annual meetings. He is a Synchro certified trainer and was one of the 14 original beta testers for the Synchro software in the USA. Sunny is a Program Manager at AECOM and leads the traffic engineering and pavement management group in North Carolina and is also responsible for the coordination, marketing and business development of traffic engineering in the southern states.



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Congratulations to Sunny Nandagiri, PE of AECOM Corporation for winning this award !

Contribution to Transportation Award

Mayor Pat McCrory was formally presented the Contribution to Transportation Award at a special ceremony on December 13th at the RTP Headquarters. Pat McCrory graduated from Ragsdale High School in Greensboro and Catawba College, and still serves on its Board of Trustees.

He retired from Duke Energy in 2008 with 29 years of service. While working at Duke Energy, Pat was elected to the Charlotte City Council in 1989, and served until he was elected Mayor in 1995. He became the City's longest serving Mayor when he was elected an unprecedented seven consecutive terms as Mayor of Charlotte.

He led the development of Charlotte's 25 year transportation and land use plan, including his efforts to secure \$200 million in federal funds for light rail in Charlotte. His biggest achievement as mayor was construction of the light rail line, the first in North Carolina. In 1997, he lobbied the legislature and Mecklenburg County voters for a half-cent local sales tax for public transportation. In recent years, the tax raised about \$70 million annually in revenue. He also saw dedicated express bus lanes constructed on US 74 – Independence Boulevard, construction of the state's first HOV lanes on I-77, and the City's establishment of a sidewalk policy that requires sidewalks in every new subdivision. He also worked to integrate bike lanes into the City's transportation policy, establishing 42 miles of bike lanes throughout the City.



He currently is a Partner with McCrory and Company, a sales and client development consulting firm, and is also Senior Director of Strategic Initiatives for Moore & Van Allen PLLC, one of the Carolina's largest law firms.

Congratulations to Mayor Pat McCrory of McCrory and Company for winning this award !

NCSITE Awards—2010 Continued...

Young Professional Award

Brian Murphy was recognized as the NCSITE Young Professional for 2010. His wife, Christie, was in attendance for the presentation. Brian received his Bachelor's Degree and his Master's Degree in Civil Engineering from North Carolina State University. He has shared his knowledge as a technical speaker at NCSITE meetings. He has taken on leadership roles with NCSITE Board as the Affiliate Director and is in his second year serving on the Board. He has reorganized and rewritten the NCSITE Operations Manual. He has coordinated with many NCSITE Members, and has patiently worked through several iterations of comments. This is an ongoing responsibility that many talented NCSITE members have taken on, but he is completing it. The future leadership of NCSITE will benefit greatly from this Operations Manual update.



At NCDOT, he is a highly respected Traffic Safety Project Engineer in the Mobility and Safety Division. He performs safety evaluations of projects and programs to determine their effectiveness in reducing the frequency and severity of motor vehicle crashes.

Congratulations to Brian Murphy, PE of the NC Department of Transportation Traffic Safety Unit for winning this award !

New Member Award

Caroline Kone was presented the New Member Award at the Annual Meeting. She has been an active student member of NCSITE with the UNC-Charlotte chapter, and continues to exhibit leadership to that group through providing them a great role model for them by passing on her passion for NCSITE to them. She has co-chaired the Consultant/Vendor Council for two years. She handles items for the silent auction at the Annual Meeting, she gains vendor support and sponsorships for meetings and golf tournaments. She has taken an active role in organizing, planning, and coordinating local Charlotte meetings. She was a presenter in 2008 at the SDITE Annual Meeting. She has worked for the past three years at WSP Sells performing traffic impact analyses. Her strengths are establishing working relationships and effective coordination with agencies and clients. Caroline Kone is a great example to new and younger members on how to establish oneself with integrity in an organization and gain respect among colleagues by showing leadership and great skills while valuing the importance of professional organizational involvement.



Congratulations to Caroline Kone, EI of WSP Sells in Charlotte, NC for winning this award !

Cribbins Cup Award

The cup is awarded to the outstanding student chapter within the Section. The Awards Committee reviewed the Annual Reports from NCSU, UNC-Charlotte, and NCA&T. At the Past President's Lunch, Russell Dalton recognized that we lost a special man to NCSITE this year as Paul Cribbins passed away on February 17, 2010. The UNC-Charlotte students were recognized as the Outstanding Student Chapter and were presented the Cribbins Cup at the Quiz Bowl at the Annual Meeting.



Congratulations to the students and faculty of UNC Charlotte for winning this award !

NCSITE Awards—2010 Continued...

Outstanding Service Award

Keith Lewis has worked in the position of NCSITE Treasurer from 2001-2010. His countless hours of service in such a demanding position was deserving of the Outstanding Achievement Award from the Section upon transitioning that position to another officer starting in 2011. Keith will truly be missed on the Board but will remain active in the section in 2011.

Congratulations to Keith Lewis, Martin/Alexiou/Bryson for winning this special award !



President's Award

Will Letchworth has worn many hats in 2010. He has not only served as Section Director but he helped champion the introduction of the Leadership Development Program to NCSITE and participated in the program throughout 2010. In addition, he was a Scholarship Committee member helping to select our most deserving students as well as the Annual Meeting Chair organizing our largest meeting of the year. Will has been invaluable to our organization this year and deserving of the President's Award.



Congratulations to Will Letchworth, Wilbur Smith Associates for winning this award !

10 in 2010 Awards

This new set of awards were initiated in 2010 by the Section President Russell Dalton. In his words, "The idea for the 10 in 2010 Awards came from my concern that we had been losing some of our volunteers that had helped us greatly in years past at the same time economic conditions were not great for encouraging attendance at our upcoming meetings. I wanted to give some additional motivation for people to participate in and volunteer for NCSITE activities".

The "Take 10" in 2010 Challenges encourages all members to support NCSITE, expand their professional knowledge, and stay involved. In 2010, two members met two of three goals and received Silver Award. Also, eight members met all three goals and received the Gold Awards. The following are the award recipients:

10 in 2010 Gold Award

- | | |
|---|--|
| Steven Cox, EI, AECOM | Russell H. Dalton, PE, Town of Apex |
| Ryan T. Eckenrode, PE, PTOE, AECOM | Michael J. Kennon, PE, City of Raleigh |
| Sreekanth (Sunny) Nandagiri, PE, PMP, AECOM | Radha Krishna Swayampakala, PE, RS&H |
| Anthony P. Tagliaferri, PE, City of Charlotte DOT | Meredith H. Van Duyn, PE, Kimley-Horn & Associates |

10 in 2010 Silver Award

- Stacie Phillips, PE, Kimley-Horn and Associates



SSUG HAS SUCCESSFUL MEETING AFTER LONG HIATUS



*Jed Niffenegger, PE, City of Raleigh
Signal System Users Group Chair*

The North Carolina ITE section's Signal System Users Group had a meeting in the Town of Cary on September 30, 2010 after a long hiatus. Approximately two years ago the SSUG meetings were put on hold due to the recession and its' effect on travel budgets. Around the end of 2009 discussion began about forming a new group and getting the meetings going again with a little trepidation. A new group was formed and an initial meeting date set. The early consensus was attendance would be very low and comprised only of local individuals. Much to my surprise, this was not the case.

The meeting was held in the Town of Cary at the Herbert C. Young Community Center on September 30, 2010. The initial registration was capped at 100 however strong demand and the larger than expected facility permitted extending the cap and allowing the first queue of wait listed individuals to attend. The event was catered by Panera Bread and included multiple tours of Cary's TMC over the lunch break. The opening remarks were provided by Kevin Lacy (NCDOT), Greg Fuller (NCDOT) and Troy Peoples (Stantec) and gave a good synopsis of the state of signal systems from the State to Federal level. Our current NCSTIE president Russell Dalton (Town of Apex) also spoke and gave a brief summary of upcoming NCSITE events. Throughout the day there were eight unique presentations covering a gamut of topics. I know I am biased however I truly enjoyed the meeting and thought it was a success. I especially enjoyed the opportunity the meeting provided to converse with fellow signal system colleagues. Below are the speakers and the topics they covered;

Topics and Speaker

- *City of Hickory Traffic Signal System Upgrade*—Nathan Vannoy, PE, City of Hickory
- *Update and Discussion on the Flashing Yellow Arrows Implementation*—Buddy Murr, PE, NCDOT
- *Unique, Creative and Multi-Modal Signal Operations in Charlotte*—City of Charlotte staff-3 PE's
- *Overview of the Cary Signal System Project*—Wesley Vo, PE, Town of Cary
- *Evolution of a Citywide ITS-Traffic Shared Service Network*—Chris Mills, AECOM
- *Selecting the Right Vehicle Detection and Communication Technologies to Meet Local Needs*—Gavin Teng, PE, PTOE, WSP Sells
- *ITS-Toll Technologies-NC Turnpike Authority*—Andrew Lelewski, PE and Korey Barrette, NCTA (NCDOT)
- *City of Raleigh Signal System-Citywide Synchro Network and Signal Timing*—HP Humphries, City of Raleigh

Thanks: I can not say enough about Sreekanth (Sunny) Nandagiri, AECOM and other NCSITE staff for all their work setting up the meeting. In addition, the Town of Cary staff was extremely generous hosting the event FREE of charge. Jerry Jensen, Wesley Vo, David Spencer and Thomas Reilly all played a part in this. Lastly I would like to thank my fellow SSUG committee members consisting of Rusty Thompson-City of Fayetteville, JP Couch-NCDOT, Benny Johnson-Green Light Traffic Services, Charles Abel, City of Charlotte and Dean Harris, NCDOT. Hopefully we will be having more meetings in the very near future!

A survey was conducted by the SSUG steering committee at the meeting regarding the meeting and feedback received was very supportive of the future activities.

21st Century Technology Improves Safety and Mobility

Provided by Open Roads Consulting



As North Carolina has the second largest state-maintained highway system in the U.S., the traffic congestion that negatively impacts the quality of life for more than 61 Million Americans hits very close to home. This problem brings with it annual lost revenue of \$115 billion nationally, and congestion is only expected to worsen as our economy grows and our population expands. It is too costly to build our way out of this trouble. The solution lies with optimizing the use of existing roadway capacity and managing travel demand through technology and ingenuity.

Much of our nations' roadway infrastructure is managed by Traffic Operations Centers (TOCs) which serve as focal points for using Intelligent Transportation Systems (ITS). These centers collect real-time traffic information, manage traffic flow, detect and respond to incidents, and provide accurate, real-time information to help drivers make better decisions. Advanced Traffic Management Systems (ATMS) are the central command and control software used to integrate various ITS elements and support real-time operations, including incident management.

Today's ATMS helps expedite incident management in several ways:

- **Detect and Monitor:** ATMSs collect and process data from cameras and traffic sensors that alert operators that an incident has occurred and traffic is being blocked
- **Coordinate:** Incidents are often first reported to partner agencies (e.g., state police or service patrols). Integrating the ATMS with 911/Computer Aided Dispatch systems reduces the time it takes the information to be shared across agencies.
- **Respond:** ATMSs enable operators to communicate directly with responders
- **Inform:** Operators can use the ATMS to disseminate real-time information to the traveling public either directly via roadside equipment (dynamic message signs and HAR) or to 3rd party systems that will broadcast the data (e.g., 511 telephony, mobile applications, in-vehicle devices)

The OpenTMS Incident Management module was designed to make it extremely easy for an operator to handle all of the data and relationships required to detect, coordinate, respond, and inform. It enables the recording of the events, responses, and resolutions to incidents as they happen. To support agency coordination, the Incident Management module can be integrated with partner 911/CAD systems. By supporting standards-based importing and exporting of data, technical barriers between partner systems can be minimized.

Virginia follows a close third in the nation behind North Carolina in number of state maintained roads, and also experiences some of the worst traffic congestion in all of the United States. When the Virginia Department of Transportation took action to improve safety and mobility through the use of smart technology, they turned to Open Roads. Over the past ten years, OpenTMS has ran in 4 of the 5 regional TOCs, allowing VDOT to improve incident management by fully integrating system capabilities for its video and data management, 911 dispatch systems, and 511 traveler information.

The latest VDOT TOC, one of the largest in the country, recently replaced its aging ATMS system with OpenTMS Enterprise. According to Tom Phillips, PMP, Acting Assistant Division Director of VDOT Operations and Security Division, "I have been very pleased with the performance of the Open Roads team. The initial deployment went extremely well and the OpenTMS product and Open Roads support has exceeded our expectations."

PROJECT MANAGEMENT CORNER



Project Contracts--Srekanth (Sunny) Nandagiri, P.E., PMP-Program Director, AECOM

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 four 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 make additions to the contract and the contractors/consultants are less likely to accept the changes without additional compensation.

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).

1. *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.
2. *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.
3. *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.

PROJECT MANAGEMENT CORNER (Cont.)

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:

1. Most of the construction contracts (based on bids) are based on unit prices.
2. A simple traffic signal design or a traffic analysis project could use a fixed price contract.
3. 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.
4. Consultant providing professionals (labor) to a client for managing a traffic operations center may find a T&M contract to be appropriate.
5. Design-build projects typically require contractors to provide a lump-sum price for their bid amount (which is internally arrived, based on the unit prices). These contracts could also have CPIF structure, where a bonus may be available for an early completion.
6. Design-build project contracts between contractors and consultants typically take a number of contract types at the pre-bid and the design phases of the project.
7. On-call programs typically have master services agreements and the individual task assignments may include different contract types.

Mr. Nandagiri is a licensed Professional Engineer in Seven States (including North Carolina) and is also a certified "Project Management Professional" (PMP). He is an active member of the NCSITE and is currently the NCSITE's Council Director and works as Program Director for AECOM.

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.

See your job opening announcement here!



NCSITE has a membership of over 600 people. By advertising your employment opportunity with us you are reaching many potential candidates. If you would like your vacancy announcement to appear in our *Involver Newsletter* and on our website, please contact Danielle Brewer for more information at info@ncsite.org.

CITY OF WINSTON-SALEM — DEPARTMENT OF TRANSPORTATION

JOB OPPORTUNITY — TRANSPORTATION ENGINEER (#214)

DEFINITION OF WORK: Under regular supervision, performs difficult professional work involved with the planning, design, implementation, operation and maintenance of a variety of transportation and traffic engineering programs and services for the City of Winston-Salem and the Winston-Salem Urban Area Metropolitan Planning Organization (MPO); does related work as required.

EXAMPLES OF WORK: Qualified candidate will have a working knowledge of the NCDOT signal design criteria and process, the MUTCD, NCDOT standard specifications and roadway standard drawings. Experience with large signal systems, ITS, signal systems timing, and wireless technology is a plus. Assists with the development and implementation of the Winston-Salem Urban Area Metropolitan Planning Organization's (MPO) 2035 Transportation Plan.

Performs difficult professional/technical work involved with the collection and analysis of traffic engineering data including the MPO's average daily traffic count files and mapping, spot speed studies, delay studies and accident diagrams; works with other municipal departments, the NCDOT and other governmental agencies, consultants and private contractors to coordinate projects, share information and process municipal agreements; the review of site plans and traffic impact studies to determine potential traffic impacts, and coordinate exchange of information with developers and consultants; and, project presentations at public meetings. Provides technical assistance to appointed and elected officials, business community, neighborhood organizations, general public and various staff at the Federal, State and local levels; serves as a liaison to municipalities within the MPO; completes the required performance planning and evaluation documents.

EMPLOYMENT STANDARDS: Education and Experience: Any combination of education and experience equivalent to a bachelor's degree in civil engineering and considerable experience in professional engineering work.

Knowledge, Skills, and Abilities: Thorough knowledge of the principles and practices of civil/transportation engineering; thorough knowledge of modern civil engineering methods and techniques; thorough knowledge of land and engineering survey systems, methods and techniques; thorough knowledge of the principles, practices and techniques of engineering drafting; ability to instruct and supervise assigned staff; ability to effectively work with City officials, employees, contractors, State and Federal officials and the general public; ability to prepare technical reports.

SPECIAL REQUIREMENTS:

Registration as a Professional Engineer in the State of North Carolina desired. North Carolina Drivers License required.

TO APPLY:

City of Winston-Salem Human Resources Department
100 East First Street, Suite 131, Winston-Salem, NC 27101
PO Box 2511, Winston-Salem, NC 27102
Telephone: (336) 747-6800 Fax: (336) 748-3053 Website: www.cityofws.org



New Hires and Promotions

Liz Carpenter:

Elizabeth (Liz) Carpenter, PE started as an *ITS Engineer in AECOM's Columbia, SC office*. Liz has over 9 years of traffic, ITS and transportation engineering experience working for SCDOT, Columbia, SC and for the City of Greensboro, Greensboro, NC. Liz holds a BSCE degree from Clemson University, SC. Liz will work on traffic and ITS projects in both SC and NC. Liz was very active with the NCSITE while she was working in NC and will be involved again with the NCSITE activities.



Lou Raymond:

Lou Raymond, PE, AICP has started as a **Project Manager / Transportation Planner** in AECOM's Charlotte office. Lou has a BSCE from Carnegie Mellon University and a Masters of Science in Civil Engineering from UNC Charlotte. Lou has seventeen years of experience preparing NEPA documents and transportation studies. Lou will help AECOM to grow the planning business in Charlotte and other regions of NC. Lou will continue to be active with the NCSITE in the Charlotte area.

We're on the Web!
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The North Carolina Section of the Institute of Transportation Engineers, known as **NCSITE**, is a professional society of persons involved in transportation engineering activities. It is affiliated with the Institute of Transportation Engineers (ITE), an international professional society of transportation

engineers.

The NCSITE membership includes a broad range of transportation personnel--engineers, planners, educators, administrators, and technicians. Many modes of transportation are represented in the organization's membership.