

Engineering the Developing World: EWB and EfID's International Volunteer Projects

The foundation of the civil engineering profession is: designing improvements to the built world to enhance the lives of its inhabitants. The National Capital Section is proud to invite you to our February Section meeting featuring speakers from two local groups. Their volunteer efforts of donating their time, talents, and money towards achieving the goal of improving the standard of living for people in developing areas internationally and within the United States. The Washington DC Professional Chapter of Engineers Without Borders-USA (EWB-DC) and the Engineers for International Development organization at George Mason University (GMU-EfID) will be presenting their past, present, and future volunteer projects that will explain the unique challenges associated with working in some of these areas and the benefits to the communities they serve.

Engineers Without Borders USA works to build a better world through engineering projects that empower communities to meet their basic human needs and equip leaders to solve the world's most pressing challenges. Each project helps set the foundation for a community to thrive for years to come. EWB has more than 14,000 volunteers across the country and a particularly strong presence here in the nation's capital. The Washington DC Professionals Chapter is currently completing transportation, structural, energy, and water projects in Burkina Faso, Cameroon, Panama, and Peru. The chapter also provides mentorship to local student teams working in many additional geographies. EWB-DC is excited to provide a



snapshot of their ongoing work and to highlight the many ways ASCE members can get involved and have a big impact in what we do at any stage in their careers.

GMU-EfID was founded as a Registered Student Organization in September 2011. They have accomplished significant work in Honduras, the Peruvian Andes, a master plan for a residential community in Nicaragua, and a pedestrian bridge along the Appalachian Trail. They work to grow and to develop long-standing partnerships with underdeveloped communities worldwide to better their quality of life. Students participate in community-driven development programs through the design and implementation of sustainable engineering projects while fostering responsible leadership. They work to build and educate communities about their basic



Please join us on **Tuesday, February 19**, at the Hilton Arlington, 950 North Stafford Street, Arlington, VA, on the second floor in the Gallery Ballrooms. Parking is available at the hotel (\$10), at the Ballston Mall garage (\$1 after 6 pm), and on the street (free after 6 pm). The Hilton is on the same block as the Ballston Station on Metro's Orange and Silver lines. Registration and networking will be from 6–6:45 pm, followed by the Order of the Engineer Ring Ceremony and dinner. The program will end by 8:30 pm. The cost is \$45 for those preregistering, \$25 for Life members, \$10 for students and \$55 for walk-ins, as space allows. One Professional Development Hour is available to attendees. For questions, please contact [Emily Dean](#). Please click [here](#) to register by **February 13**.

Note that no-shows will be charged the full registration fee. We welcome walk-ins, including any registrations made after the guaranteed number of guests is provided to the hotel. However, the cost for walk-ins is higher because the Section is charged accordingly by the hotel for late registrations.

infrastructure systems such as drinking water, sanitation, and bridges. Currently, GMU-EfID is designing a system to purify, store, and efficiently distribute potable water to a community of 200 in San Pablo de Amali, Ecuador. They are also undertaking a bridge rehabilitation project along the Dunbarton trail in Bristow, Virginia. This bridge was overturned by strong currents caused by an intense storm event, but is still salvageable. The organization also is

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President's Corner

Greetings, National Capital Section! It is still freezing cold outside, but we are keeping warm by staying busy with all of our upcoming events! Our February Section Meeting will be a little unusual, featuring several local groups who work on development and infrastructure projects all over the world. Prior to our February Meeting we will also host an Order of the Engineer Ring Ceremony.

Looking forward to the spring and hopefully warmer weather, we will continue to foster our relationships with the local university ASCE



Chapters. In addition to recognizing Outstanding Seniors and Scholarship winners from each university at our Annual Banquet in March, we will be hosting and supporting various events to help get to know the students better. Please keep an eye out for upcoming announcements for how you can get involved. We would love for you to help us bond with our student chapters. After all, students are the future of our profession!

Lastly, in addition to celebrating our student chapters at our Annual Banquet in March, we will also be

awarding our Project of the Year and Sustainability Project of the Year winners. If you have a project, or know of a project, that you think should be nominated, please let us know! We love to highlight local engineers and their projects and would love to hear from you!

As always, we hope to see you soon at one of our upcoming events!

Emily Dean
ASCE-NCS President

Engineering the Developing World: EWB and EfID's International Volunteer Projects

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researching using crushed glass with a biofilm layer as a filtration media to remove microorganisms from raw water samples.

Presenters

Jonathan Mead is an environmental geologist with more than nine years of service with Engineers Without Borders on water supply projects in India and Cameroon. Jonathan previously served as the state representative for the Washington DC Chapter of Engineers without Borders. He is currently the Vice President of EWB's Southeast Regional Steering Committee.



Andrew Simpson joined George Mason's Volgenau School of Engineering as a transfer student from

Northern Virginia Community College in the Spring of 2017. Prior to his admission, he had been working closely with the Chief Executive of Advertising, Marketing, and Sales for a local media organization, through which he was able to gain contact with several business owners in Prince William County and learn valuable lessons by observing the communication between the private and public sector. At NOVA, he served as the Vice President of the Manassas Campus's Green Club and was recognized for his academic achievement by the Phi Theta Kappa honor society. He joined the EfID during his first semester at George Mason and now serves as the organization as its President after having successfully led and managed several projects as its Operations Manager.



Omar Azizi is currently a senior civil engineering major at George Mason. He joined EfID in the fall of 2016 and has led several EfID projects. He was the lead designer of the 2018 PATC Bridge project and a team member of the 2017 PATC Bridge Project. He has also participated in the Nicaragua Low-Income Housing Project and hopes to work on future international projects during his time in EfID. Omar plans to pursue a career in structural engineering after graduation. Omar joined EfID because it gave him an opportunity to help others and connect with other civil engineering students. He believes that EfID is a special organization because it impacts communities around the world and makes the world a little bit better with each project. ■



Newsletter

Sumon Chatterjee, Editor

March 2019 Issue Deadline: February 18, 2019

To Submit Articles: newsletter@asce-ncs.org

NCS eNewsletter Archives: go to www.asce-ncs.org and view along the sidebar.

Address Changes: Call 1-800-548-ASCE, e-mail member@asce.org, visit www.asce.org, or write: ASCE – Membership, 1801 Alexander Bell Drive, Reston, VA 20191. Include your membership number.

National Capital Section

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Please refer to the [NCS website](http://www.asce-ncs.org) for a current list of NCS committees and chairs.

FE Exam-Day Experience: From Testing Environment to Exit Procedures

Season's Greetings! New Year brings not only joys, but it makes us happy with a hope to satisfy our dream or maybe even a new beginning of our life. We would like to wish all our readers a VERY HAPPY AND PROSPEROUS NEW YEAR!

When approaching the FE Exam for the first time, it's natural to feel a bit overwhelmed. The best way to build your confidence is to prepare for the test and to know the ins and outs of the test. To answer many of our readers' questions, in this month's article, we would like to review the exam day experience and what you are expected to do that day. Make sure you review the website of NCEES. Once your registration is approved, you will receive an email notification that you have been authorized to take the exam and are eligible to schedule your exam appointment. NCEES computer-based tests (CBT) are offered in testing windows throughout the year during the following months: January, February, April, May, July, August, October and November.

After you register and know your exam date, NCEES recommends the following: First, you should plan to arrive at the testing center 30 minutes prior to your scheduled appointment. Upon arrival, a representative will provide you with a copy of NCEES-CBT exam rules for your review. After doing so, you will be asked to provide your digital signature to confirm that you have read the rules and agree to abide by them. Also you will be asked to provide a current government issued form of



ID such as a driver's license. Once the representative has confirmed your identification and the exam that you are taking, you will be asked to provide a palm vein scan and have your photo taken. Your signature, palm vein scan, and photo will be stored with your exam result. Prior to being admitted into the testing room, a representative will insure that you have, in your possession, only the items that NCEES allows into the testing room. These items include, your ID, an NCEES approved calculator, and eye glasses. Most test centers have secure storage lockers on site for you to store prohibited items such as cell phones, other electronic devices, and personal belongings such as a watch, wallet, and bag.

Once you complete the check in process, then you report to an exam proctor who will ask you to confirm your ID by providing, again, your palm vein scan. Next, the proctor will provide a review of the exam rules, escort you to the exam room, assign you a work station, and launch the exam period. Then the proctor will review the exam rules and will escort you to the exam room and assigned work station and launches the exam. Before starting your exam, all examinees will be required to read and agree to the NCEES' non-disclosure agreement and

complete a brief tutorial to learn how to ADVANCE to the next item, RETURN to a previous item, and FLAG items

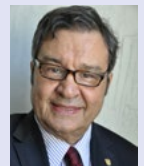
for review. After completing approximately 55 questions, examinees will be prompted, on screen with the option to take a 25 minute break. Examinees who wish to take the scheduled break should raise their hands and wait for the prompter to offer assistance. Unscheduled breaks may be requested at any time during the exam by following the same procedure. However, examinees should be aware that clock will not stop during an unscheduled break. Examinees are allowed to access their lockers during the scheduled and unscheduled breaks.

After completing the exam and a brief survey, you should raise your hand and the proctor will verify that you have properly exited from the exam. They will then escort you from the testing room and collect your booklet and marker. You will not receive any type of score before leaving the testing center. You will receive an email from NCEES within 7 to 10 days notifying you that your results are available for viewing in your MYNCEES account.

Finally, in both FE and PE exams, *timing* is everything. To conquer these exams, speed is crucial, but remember, speed can only be attained through practice and more practice!

Good Luck,
Ahmet Zeytinci, Ph.D.,
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(Dr.Z.)

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Surveying the Smart City Landscape

By Ranjit S. Sahai, PE, F.ASCE

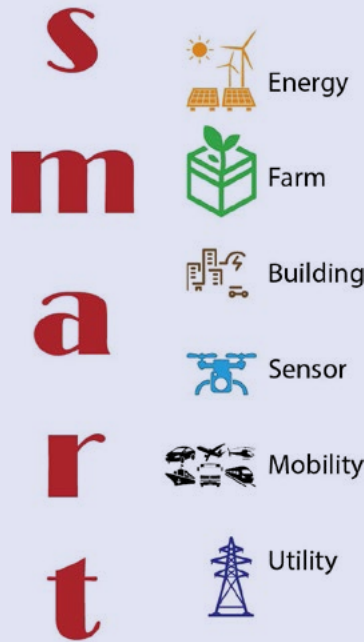
Do a search for “Smart City” and the information you find online will include case studies of innovative services for citizens, of efficient management of infrastructure – made possible by sensors, big data, artificial intelligence, and software.

So, what makes a city “smart?” To answer this question, let’s take a guided tour through a smart city. Our guide will make six steps to highlight the city’s smart services.

The Six Steps

The first step is Smart Energy. “When renewable energy,” the guide explains, “is produced, stored, and used locally, and contributes to the public utility grid during peak power consumption periods, that’s what we call smart energy.” The guide points to a micro-grid research facility, visible at a distance, and explains that the city is developing and testing technologies to integrate variable power renewable energy sources into a high-availability grid system. The challenges are known, but there is much yet to explore before we attain the goal.

Next stop is an urban farm. It grows food in vertical farming systems integrated within high-rise buildings in a controlled environment such that no herbicides or pesticides are required. The technology is mature, the guide explains, but is not yet economical when compared to traditional outdoor farming due to the high cost of urban space and energy needs for lighting.



The much-touted savings in transportation costs, he notes, is insignificant in the economic equation.

Next stop is a smart building. It includes centralized control of lighting, heating, ventilation, and air conditioning systems through a building automation system to respond to the environment by controlling light, temperature, and air quality. The pace of adoption of this technology, the guide points out, is growing among commercial building developers and operators due to the reduction in energy use.

Next stop is a townhall meeting where chief executives from commercial farms, emergency responders, movie studios, tower inspectors, and bridge inspectors share experiences and best practices about the use of smart sensors. Smart Sensors are sensors that can fly (drones) or move on surfaces (robots) to monitor and document surroundings in and around hard to access or dangerous areas. The technology is mature and is delivering economic value – regulatory protocols are being developed and innovation in this space is opening up new markets at a fast clip.

Next stop is a State DOT (Department of Transportation) ITS (Intelligent Transportation Systems) center. With congestion costing drivers both wasted time and gas compounded with maintenance and upgrade-funding shortfalls for urban highways, proven operating models used by public utilities (i.e. gas, electricity, water) for usage-based pricing are being increasingly adopted for mega projects. Information technology coupled with sensors and transmitters are enabling vehicle to vehicle, vehicle to infrastructure, vehicle to cloud, and cloud to smartphone communication to optimize vehicle navigation and highway capacity optimization. This is Smart Mobility.

The last stop is at an electric grid operator. The guide explains that the grid operator is responsible for
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**Ethan Grossman
Engineering**

The Smart Mobility Series, continued

operating and maintaining power distribution systems, much like the water distribution system operator operates and maintains the water pipe network. Sensors coupled with data communication networks and control systems are monitoring the condition of distribution networks and optimizing the flow of utility service, while preventing wastage, and ensuring quality of the utility service. This is a mature technology and most new installations and upgrades of distribution system are implementing it.

Use Cases

Let's further explore a few usage scenarios, i.e. use cases, that are being pitched by smart technology vendors.

An elevator arrives as you step on the elevator bay and whisks you to your floor. This scenario leverages sensors that monitor characteristics of human motion to determine if a given person intends to ride the elevator or simply pass through the elevator bay. It also leverages sensor connectivity with the elevator and with information about the person who triggered the sensor.

A fleet of metro buses is automatically routed and the bus schedule adjusted based on demand. This scenario leverages sensors at bus stops that monitor the presence of passengers. It also leverages variable message signs and a smartphone app to communicate with passengers.

At a crowded conference, a fitness band anticipates your destination, based on the type and/or direction of your movement, and helps you navigate to the destination by bypasses bottlenecks. This scenario leverages connectivity between the fitness band and the conference center's plan layout in the cloud, and with conference hall transmitters that broadcast pedestrian traffic flow.

The use cases that offer the biggest payback have also been the most challenging. However, availability of big data on a key attribute of their area of interest is opening opportunities that weren't on the radar before. Let's explore what this means in terms of mobility.

Smart Mobility for the Smart City

When the U.S. Department of Transportation launched its Smart City Challenge in December 2015, it asked mid-sized cities to propose innovative ideas to move people and goods more quickly, cheaply, and efficiently by leveraging big data, software, and sensors, i.e. smart mobility. 78 cities proposed ideas resulting in 7 finalists. The US DOT report (available for download here) that includes proposed ideas and the challenges they address along with lessons learned had an interesting takeaway. Many cities, regardless of their diverse characteristics, faced similar mobility challenges – and the ideas they proposed leveraged shared

use vehicles, smart curb space management, inductive wireless charging of electric vehicles, connected vehicles, coordinated data collection, and analysis.

If the concept of smart mobility for the smart city interests you, check out the program for ASCE's "Engineering Smart Mobility for the Smart City" conference coming to Alexandria, Virginia, in June 2019.

[NOTE: This article is the first in a series of articles on smart mobility.]

About the Author

Ranjit, a Past President (2013–14) of ASCE-NCS, is a principal and founder of RAM Corporation, a firm serving State DOTs with a focus on traffic engineering design, stormwater facility inspections, and IT solutions for engineering workflows. He is also an author and speaker.



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ASCE-NCS Committee and Branch News and Updates

ASCE-NCS Reston Branch

By Shainur Ahsan, PE, M. ASCE, Reston Branch Vice President and Lisa Anderson, F. ASCE, Reston Branch President

On January 9th, Vanessa Aguayo, PE, Transportation Planner from the Capital Projects and Traffic Engineering Division at the Fairfax County Department of Transportation, presented on the “Richmond Highway Bus Rapid Transit Project and Fairfax County DOT”. She discussed the two phases of the planned system from Huntington Metro to Hybla Valley (Phase 1) and from Hybla Valley to Fort Belvoir (Phase 2) along Route 1.



The next meeting will be held on February 12th at the ASCE Headquarters in Reston, VA, with sign-in starting at 11:30am. Michael Loulakis, Esq., FDBIA President and CEO of Capital Project Strategies, LLC, will be presenting on P3/Design-Build. Please see the Reston Branch webpage for more information. One PDH will be awarded to attendees.

The ASCE NCS Reston Branch is pleased to announce two of our members: José L.M. Clemente, Ph.D., P.E., D.GE., F.ASCE and Michael C. Loulakis, Esq., FDBIA, have attained ASCE Life Member status in 2019. We would also like to recognize Wayne R. Bergstrom, Ph.D., P.E., D.GE., F.ASCE, an ASCE NCS Reston Branch member who attained ASCE Life Member status in 2018, the first year of our Branch’s establishment. Dr. Clemente, Mr. Loulakis, and Dr. Bergstrom will be recognized at the February meeting of the ASCE NCS Reston Branch. There are currently 29 ASCE Life Members that are members of the ASCE NCS Reston Branch.

José L.M. Clemente, Ph.D., P.E., D.GE., F.ASCE, currently serves as the Manager of Geotechnical Engineering for Reston-based Bechtel Corporation. José holds an undergraduate degree in

Civil Engineering from the Federal University of Rio de Janeiro (UFRJ), Brazil, and M.S. and Ph.D. degrees in Civil Engineering from Duke University, Durham, NC. After graduating from UFRJ, José worked as a geotechnical engineer for an engineering company in Rio de Janeiro. After graduating with a Ph.D. degree from Duke, José worked in academia for about five years. He then joined Law Engineering in Columbia, MD, and subsequently Bechtel in Gaithersburg, MD, in 1991. José was elected ASCE Fellow and Diplomate in 2006, Geotechnical Engineering of the Academy of GeoProfessionals in 2012, and a Bechtel Fellow in 2016. José has been active with ASCE previously serving as chair of the MD Section Geotechnical Group and currently serving as vice-chair of the Soil Improvement Committee.



Michael C. Loulakis, Esq., FDBIA, is President of Capital Project Strategies, LLC, a specialized consulting firm that provides strategic procurement, contracting, and risk management advice to clients that develop and construct capital projects. Mike is both a civil engineer and lawyer, and has been in the construction industry for 40 years. He is particularly well-known for his expertise in the area of design-build and P3, having worked on, among other things, the Dulles Metrorail Project, 495 Express Lanes, and DC Water’s Clean Rivers program. Mike is a Fellow in the American College of Construction Lawyers and Design-Build Institute of America, as well as a member of the National Academy of Construction. He has authored the monthly legal column in Civil Engineering magazine for almost 40 years, and is an adjunct professor in George Mason University’s civil engineering program. Mike holds a civil engineering degree from Tufts University and a law degree from Boston University School of Law.



Wayne R. Bergstrom, Ph.D., P.E., D.GE., F.ASCE, holds BS, MS, and PhD degrees in civil (geotechnical) engineering from Michigan Technological University, Purdue University, and the University

of Michigan, respectively. Named a Bechtel Distinguished Engineer in 2013, he currently serves as an Assistant Chief of Civil/Structural Engineering for Bechtel Infrastructure. His career has spanned more than 41 years of engineering practice on a wide variety of civil, geotechnical, and geoenvironmental projects located in various countries on 6 continents. He is a registered professional engineer in 5 states. Active professionally, he has served on numerous ASCE and ASTM committees, including the Executive Committee of ASCE’s Energy Division. Also active in ABET for more than 25 years, he recently completed his term as ABET President for 2016-17.



Upcoming Events

- **February 12th:** Reston Branch Meeting – Michael Loulakis, President/CEO of Capital Project Strategies, LLC – P3/Design-Build

ASCE NCS Education Committee – Collegiate

By Jameelah M. Ingram, PE, M. ASCE Engineers and their painstaking works are highlighted every week in February during National Engineers Week! National Engineers Week, from February 17th to the 23rd in 2019, serves as an opportunity to reflect on past civil engineering achievements and to strengthen the pipeline of future engineers through engagement in outreach activities. Here are some ways that you can celebrate through the ASCE NCS Education Committee this month and beyond:

1. Explore Works of Civil Engineering

Gain a new appreciation for a work of civil engineering featured in ASCE’s Civil Engineering Magazine, or reflect on an existing work of civil engineering located in the National Capital Section. The ASCE NCS “Engineering The Nation’s Capital” book is also an excellent resource.

2. Volunteer at the Virginias’ Conference*

The 2019 Virginias’ Section Regional Student Conference will be held from Thursday, March 28th through Friday, *continued on page 7*

March 29th at George Mason University. Local engineer volunteers are needed to judge the Concrete Frisbee and Blue Sky Competition on Friday, March 29th. Additional assistant judges may also be needed for the Concrete Canoe Competition which will be hosted at Fountainhead Regional Park on Friday, March 29th. Please contact the student event planning committee at asce@gmu.edu if you are interested in volunteering!

3. Coach a Collegiate Chapter

Are you interested in becoming more involved with one of ASCE NCS's Student Chapters? If so, please consider becoming a Practitioner Advisor for one of the schools under ASCE NCS's purview. This includes: Catholic University of America, George Washington University, George Mason University, Howard University, and the University of the District of Columbia. The role of a Practitioner Advisor is to offer support and guidance to the student chapter as they plan activities and prepare for competitions throughout the school year. Please contact jameelah.muhammadiningram@wsp.com to express your interest for the upcoming school year.

4. Share Professional Advice

Graduating seniors are seeking full-time opportunities. The ASCE NCS Education Committee often receives requests from students for advice in the process. We are compiling a list of tips to be shared with ASCE NCS Student Chapters. Please submit your piece of advice for consideration (less than 100 words). Name, Title, and Advice should be emailed to jameelah.muhammadiningram@wsp.com.

5. Research Inspirational Civil Engineers

Top off your National Engineers Week by asking who inspires you as an engineer from the past or present. Mr. Howard P. Grant is one notable civil engineer in ASCE's history, also recognized as the first known African-American member of the American Society of Civil Engineers (<https://www.asce.org/black-history-month/>)

**Information contributed by Sarah Shay (GMU ASCE President) & Andres Izquierdo (GMU ASCE Vice President).*

Upcoming Events

Students from ASCE NCS Student Chapters are encouraged to register to attend the upcoming ASCE International Conference on Transportation and Development. It will serve as a great opportunity to learn and interact with professionals, even during a break in your school semester. This year, it will be held in Alexandria, Virginia from June 9–12, 2019. Please refer to the flyer and visit www.asce-ictd.org for more details.



Younger Members Forum

By Maria Raggousis, EIT, YMF Secretary/
Newsletter 2018-2019

Monthly Happy Hours: The NCS Younger Members Forum (YMF) holds monthly happy hours, generally alternating between Arlington, VA and Washington, DC. Happy hours are usually the first Wednesday of each month unless a holiday falls during that week.

The NCS YMF enjoyed food, drinks, and trivia at happy hour at [Buffalo Billiards](#) near Dupont Circle in Washington, DC on January 9th, 2019. Several members attended the event and the trivia team of 6, "Let's Be Civil", started off in third place after Round 1 but the luck ran out after several more trivia rounds of increasing difficulty.

Join us for our next ASCE Happy Hour sponsored by the ASCE Younger Members Forum at [Bluejacket Brewery](#) on Wednesday February 6th, 2019 with free appetizers and drink specials. This is a joint event with the Younger Members Forum of the Structural Engineers Association – Metropolitan Washington Chapter (SEA-MW). Can't make next month's happy hour? Be sure to look out for emails for the upcoming March happy hour.

Social Events: Any one interested in social running? A group from Walter P. Moore in Washington DC takes part in Friday afternoon runs and they would like to have others from nearby offices join them. Runs begin at 1747 Pennsylvania Ave NW, Washington, DC, at 4:30 PM. If you are interested, please

reach out to Mia Jimenez (mjimenez@walterpmoore.com).

Professional Events: The YMF board is planning upcoming professional development events for 2019. If you have suggestions for professional development meeting topics, or would like to become more involved with the YMF in other areas, please contact the YMF President at ncsymfpresident@gmail.com.

Stay Connected! Check out photos and stay up-to-date with YMF events by visiting the new [YMF Facebook](#) page. Also, follow us on [Twitter](#) (@asce_ncsYMF).

Get Involved! Are you interested in getting involved with more Younger Members activities? Do you have ideas for social events or volunteering activities? Would you like to be a board member? The NCS Younger Members Group is always looking for new members! Let us know if you are not already on our mailing list! If you would like to become more active with the YMF or would like more information on our events, please email the [YMF President](#).

Transportation Committee Update

By Ranjit S. Sahai, PE, F.ASCE

A 21st Century Vision for America's Highways presented by Robert W. Poole, Jr.

Wouldn't it be nice if our highways were free of congestion, continually upgraded to meet anticipated demands, and offered benefits to us as drivers that exceeded the cost to us in time, gas, and aggravation when commuting for work or play?

It's not a pipe dream. It's possible. The model has proven its merit on highway projects completed in France, Italy, Spain, Portugal, and other countries over the last twenty or so years. The model was used in America during the 19th century. It replicates what we're used to from our public utilities: electricity, telephone, natural gas, cable/satellite, and water.

State DOTs, today, operate differently from how other public utilities operate.
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ASCE-NCS Committee and Branch News and Updates

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How so? We don't pay DOTs directly based on how much we use its highways – we do pay public utilities based on the services we choose to consume from them. State DOTs depend on their legislatures to come up with funding, a scenario that pits politics against economics.

Robert W. Poole, Jr. – a respected transportation policy expert with Reason Foundation, who has advised the Reagan, George H. W. Bush, Clinton, and George W. Bush administrations on transportation policy – delivered a compelling presentation at the NCS Transportation Committee meeting on January 16, 2019.

His presentation was chock-full of statistical data from numerous projects that have been delivered under the P3 (Public Private Partnership) model to design, build, operate, and maintain highways.

The presentation was based on his recently published book, *Rethinking America's Highways* published by University of Chicago Press.

If the transformation of our highway infrastructure interests you, and you wish you'd attended Robert Poole's presentation; you can. He'll be back again in our area in April 2019 to speak at the GMU Center for Transportation Public-Private Partnership Policy's annual event at its Arlington, Virginia campus.

Educational Committee K-12

By Victor I. Crawford, P.E., M.ASCE

Showing off our profession to the next generation. Discover Engineering Family Day at the National Building Museum will be February 16, 2019, and we need your help. This will be the major event in 2019 for reaching out to thousands of students from the DC area. With the Dream Big movie kits going out to schools across the area in 2019, students and their parents will be participating Windy City, an exercise taken directly from the movie. This exercise provides challenges to students in building a structure that can remain standing in a strong wind, while teaching them about how our civil engineering profession benefits the public. Therefore, please contact victor.crawford51@gmail.com to become a volunteer



Discover Engineering Family Day from 2017

at this educational event held on a Saturday. You will be joined by engineers from Bechtel and staff from ASCE Headquarters. Following the event, Bechtel will host an event to thank the volunteers. Once again, we want to thank Bechtel for sponsoring the Dream Big movie and ASCE Headquarters staff for supplying the material for the Windy City exercise. Remember, not only does this exercise highlight how we do engineering to inspire the next generation, but also shows off our profession and how we benefit the public. ■

Employment Clearinghouse

The NCS provides the Employment Clearinghouse as a free service to its membership. The Clearinghouse allows members to post short notices for available positions or candidates seeking employment. All employers

listed herein are equal opportunity employers. If you have questions, are seeking employment or would like to post a position please contact the [newsletter editor](#) and visit our [jobs page](#).



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AEI 2019 CONFERENCE

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The Architectural Engineering Institute (AEI) of ASCE, in partnership with Penn State College of Engineering is pleased to announce the **2019 AEI Conference: "Integrated Building Solutions - The National Agenda."** This conference offers an opportunity for members of the building construction industry to learn about and discuss advanced strategies and state-of-the-art practices of building technology. Network with industry experts, emerging professionals and future leaders while earning valuable PDHs!

Please visit the following links to register or to be a key sponsor today!

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Plenary Keynote Speaker:

Kevin Kampschroer,
Chief Sustainability
Officer, and the Director,
Office of Federal High-

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Services Administration



Thursday Luncheon
Keynote Speaker:

Scott Radevic,
LEED®AP, Populous
Integrating Data and

Design: The Future Stadium



Friday Luncheon
Keynote Speaker:

Heather Wishart-Smith,
P.E., PMP, LEED AP BD+C,
F.ASCE, Jacobs

*What If? Design Attitude in the Age of
Digital Disruption*

Upcoming Events *(Also available on the NCS website under the [Events tab.](#))*

February 6

YMF Happy Hour, 6–8 pm, Bluejacket Brewery, Washington, DC. Celebrate our monthly happy hour and network with members. Look for an email announcement for upcoming happy hours and YMF events.

February 12

Reston Branch Meeting, by Michael Loulakis, President/CEO of Capital Project Strategies, LLC – P3/Design-Build

February 17–23

Engineers Week. The National Capital Section and our partner, Bechtel, will be looking for volunteers to lead a kid-friendly, educational, hands-on activity booth on February 16 at the National Building Museum. If you're interested in volunteering at the ASCE booth, please contact Rachel Boots (rboots@bohlerdc.com). Volunteers are needed from 9am to 5pm, with flexible shift times.

March 6

YMF Happy Hour, 6–8 pm, Four Courts, Arlington, VA. Celebrate our monthly happy hour and network with members. Look for an email announcement for upcoming happy hours and YMF events.

March 12–13

Legislative Fly-In. Washington, DC. The 2019 Legislative Fly-In is a younger member program that provides participants with an inside look at the public policy process, advocating for infrastructure.

March 28–29

Virginia Regional Student Conference. Local engineer volunteers are needed to judge the Concrete Frisbee and Blue Sky competition.

April 3–6

The Architectural Engineering Institute (AEI) of ASCE, in partnership with Penn State College of Engineering is pleased to announce the 2019 AEI Conference: "Integrated Building Solutions - The National Agenda." This conference offers an opportunity for members of the building construction industry to learn about and discuss advanced strategies and state-of-the-art practices of building technology. Network with industry experts, emerging professionals and future leaders while earning valuable PDHs!

June 9–12

T&DI Conference. The Transportation & Development Institute (T&DI) of ASCE is hosting its flagship conference in the national capital region at the Hilton Mark Center in Alexandria, Virginia. The Conference Steering Committee is seeking a local representative to participate as a member of the Conference Steering Committee. The local representative sets up a Local Organizing Committee (LOC), that helps recommend and organize technical tours for the conference, and also helps promote the conference for sponsorships and exhibits by local organizations. Through the course of the next few months, T&DI will need National Capital Section's help to promote the conference at its events, and through its newsletter, eblasts, and other means of outreach and promotion. The immediate need for promotion is for the call for abstracts which was recently released. Further information is available on the conference website at www.asce-ictd.org.

REGISTRATION OPEN! Register now at early-bird rates at www.asce-ictd.org



ASCE Booth #439

ASCE

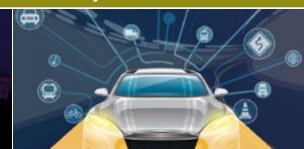
INTERNATIONAL CONFERENCE ON TRANSPORTATION & DEVELOPMENT 2019

Alexandria, Virginia | June 9–12, 2019

ASCE's Flagship Conference in Transportation & Development

Engineering Smart Mobility for the Smart City

How will society adapt to the engineering and development challenges facing the transportation needs of cities of today and the future? Join your peers and other leading planners, researchers, and policy makers as they discuss innovative and necessary solutions to these needs and how our cities must appropriately adapt.



Conference Tracks

ICTD 2019 will explore the future of transportation and development, including information and communication technology, sensors, big data and analytics, new energy, financial and legal issues, codes and standards, and more, organized into eight conference tracks:

- ▶ Connected & Autonomous Vehicles
- ▶ Rail & Public Transit
- ▶ Challenges & Opportunities of Emerging Technologies
- ▶ Infrastructure Systems
- ▶ Transportation Safety
- ▶ Traffic Operations
- ▶ Planning & Development
- ▶ Aviation Operations

Plenary Sessions and Special Events

Four plenary sessions — **Smart Cities, Smart Energy, Smart Mobility, and Smart Data** — will present an overview of critical issues. The conference also features breakout sessions, pre-conference workshops, an awards banquet, younger member session, poster session, an icebreaker reception, and technical tours.

Follow us on Twitter @ASCE_TDI

#ICTD19

Become a sponsor or exhibitor!
Visit the website to learn more

www.asce-ictd.org