

ASCE, PHILA. SECTION MEETING SCHEDULE 2014-15

The ASCE, Philadelphia Section Meeting program for the upcoming season is being wrapped up at this point, with topics and speakers either in place or being finalized for what we anticipate will be an interesting and informative series of meetings. The TENTATIVE dates have been provided below for your planning purposes. We would suggest that you use this to mark your calendar at this time and hold these dates.

In coming issues of *THE NEWS*, this information will be “fine-tuned” to provide updates as they are available. We also suggest you visit the Section website for the latest changes in our meeting program. As we have done, each month’s edition of *THE NEWS* will feature detailed information on that month’s meeting along with as much information as is available for the following month’s meeting. The “look-ahead” schedule will show details that are available for future meetings at that time for your advance awareness.

Dinner meetings generally follow a schedule of a cocktail hour starting at 5:30PM, dinner at 6:30PM, and the meeting presentation following at approximately 7:30PM, unless otherwise noted. We also intend to follow our second-Thursday pattern except where joint meetings will preclude this.

As always, you are welcome to attend the meeting presentation without dinner at no cost if you prefer to do so.

Information on future meetings this season as of this printing are:

February 12, 2015 – Topic to be determined

March 12, 2015 – Topic to be determined

April 9, 2015 – Multi-topic meeting/breakout sessions, to be determined; Villanova Conference Center, Radnor

May 2015 – Spring Social; date/location to be determined

**Maturity is reached the day we
don't need to be lied to about
anything.**

– Frank Yerby

DECEMBER JOINT DINNER MEETING

American Society of Civil Engineers, Philadelphia Section
Engineers' Club of Philadelphia

14 Additional Technical Society Co-Sponsors (to date)

MONDAY, DECEMBER 8, 2014

DoubleTree Hotel, Broad and Locust Streets, Center City Philadelphia
Cocktails 5:30 PM, Dinner 6:30 PM, Meeting 7:30 PM

SUBJECT: Infrastructure Challenges in Transforming the Navy Yard from Military Use to a Thriving Business Center

SPEAKERS: Will Agate, Senior Vice President, Navy Yard Development and Management, Philadelphia Industrial Development Corporation (PIDC), and Carmen Zappile, Vice President/Planning and Project Management, PIDC

RESERVATION DEADLINE — MONDAY, DECEMBER 1. The cost per attendee is \$70, with a reduced rate of \$35 for students, for reservations received by the deadline.

RESERVATIONS RECEIVED AFTER DECEMBER 1 — Reservations received after the deadline and “walk-ups” without prior reservations paying at the door will be charged \$80, with a reduced rate of \$45 for students.

THERE IS NO GUARANTEE THAT SPACE WILL BE AVAILABLE IF YOU DO NOT RESERVE A SPACE. Please keep in mind there are many participating societies and a sizable turnout is expected.

All reservations should be directed to the Engineers' Club – online at www.engrclub.org/to/Multi-Society, via e-mail at reservations@engrclub.org, or by phone at **215-985-5703**. Checks should be made payable to Engineers' Club of Philadelphia and mailed to Engineers' Club of Philadelphia, 215 S. 16th Street, Philadelphia, PA 19102. *ASCE, Philadelphia Section will NOT be accepting any reservations for this meeting.*

Payment will be expected for all reservations regardless of attendance.

TOYS FOR TOTS COLLECTION: Once again, the Mid-Atlantic Chapter of the Construction Management Association of America (CMAA) will be coordinating a **Toys for Tots** collection with the **Marine Toys for Tots Foundation**. Please bring an UNWRAPPED toy to brighten a child's holiday.

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JANUARY JOINT DINNER MEETING

American Society of Civil Engineers, Philadelphia Section
Delaware Valley Section, American Society of Highway Engineers

WEDNESDAY, JANUARY 21, 2015

Radisson Hotel/Valley Forge Casino, 1st Avenue and Gulph Road, Valley Forge, PA
Cocktails 6:00 PM, Dinner 7:00 PM, Meeting 8:00 PM

SUBJECT: ASCE Pennsylvania Infrastructure Report Card 2014

COST: \$35 through January 16 (\$20 for government employees and students), \$45 January 17 and after and at the door

More information on the topic and speakers will be included in the January edition of *THE NEWS*. PLEASE NOTE: RESERVATIONS MUST BE MADE THROUGH **DELAWARE VALLEY SECTION, ASCE**. The Philadelphia Section will NOT be accepting any reservations for this meeting. Reservations will be accepted starting **January 2, 2015**, and the process will be provided in the January edition of *THE NEWS*.

Walk-ins will be subject to acceptance on a space-available basis. **THERE IS NO GUARANTEE THAT SPACE WILL BE AVAILABLE IF YOU DO NOT RESERVE A SPACE.**



PRESIDENT'S MESSAGE

With the Thanksgiving holiday upon us that must mean one thing is around the corner...yes, your National and Philadelphia Section ASCE membership renewals will be due in just a couple short weeks.

First, I would like to thank those who have dutifully sent in your 2015 National and Philadelphia Section membership dues. For those who may still be looking at the renewal form and asking yourself what is this for, let me help answer that question.

This month I wanted to let you know some of the things that membership dues avail to you. Sure, you may be thinking, my dues get me a copy of the *Civil Engineering* magazine on a monthly basis as well as a copy of this newsletter. But it does much more than that, both for you professionally and for the Civil Engineering profession. Did you know that all members have access to free webinars that can provide up to 5 free PDHs per year? Or did you know that with your membership, ASCE can offer discounted life, health and professional liability insurance to you as well? Your membership also provides access to technical, educational, and professional resources through over 35 technical journals and 8 specialty institutes.

As I mentioned, your membership dues also help the Civil Engineering profession as a whole and many of those efforts can be best experienced locally. Membership dues not only help support our local events, from technical meetings and construction tours to community service and networking events, but allow us to continue our aggressive outreach efforts to the next generation of Civil Engineers. Whether it's through the Civil Engineering (CivE) Club in Philadelphia (the after school program that offers pre-college students an opportunity to learn more about the Civil Engineering field), our presentation of a Special Award through a partnership with the Delaware Valley Science Fairs, or our student and member scholarship programs, membership dues help make all these events possible.

These are just a few of the many benefits being a member of ASCE can provide you. I hope, no matter your reasons for membership, you find it a valuable and rewarding experience. It's only through the strength and support of our membership that the Section can continue to grow advance the profession forward.

Sincerely,
Joseph Platt, P.E.
President, ASCE Philadelphia Section

DECEMBER DINNER MEETING

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The dinner will be in the Ormandy Ballroom on the ground floor of the south annex of the hotel. The entrance to the ballroom is on Broad Street, south of the entrance to the parking garage; access is not available from the hotel lobby. Discounted parking for \$12 (cash only) will be available for those parking in the hotel parking garage; be sure to request a validation sticker at the registration desk.

Join the Engineers' Club and partnering societies at the annual Multi-Society Dinner Meeting. This is a good opportunity to kick off the holiday season by networking with engineers and other professionals that you might not normally see at your society meetings.

Since the closure of the Navy Yard as an operating naval facility in 1997, the Philadelphia Industrial Development Corporation (PIDC) has worked extensively as the base closure/reuse agency to secure private investment in the myriad of old buildings devoted to military needs and the shipbuilding/refitting trades. Messrs. Agate and Zappile will provide an update on recent development at the Navy Yard, which today is home to over 10,000 employees of nearly 50 companies. Many of its existing buildings have been repurposed for a variety of present-day functions and needs, from shipbuilding (their original purpose) to pharmaceuticals to apparel. They will describe what PIDC has done to attract

this investment and the challenges that remain, particularly in the upgrading and replacement of critical infrastructure.

Mr. Agate leads PIDC's team in the management of The Navy Yard, the most successful Navy base redevelopment in the country. He oversaw the completion of the comprehensive Energy Master Plan that allows PIDC to continue to own and operate The Navy Yard's existing unregulated electric grid, while deploying various smart grid technologies. He also serves on the Consortium for Building Energy Innovation (CBEI, formerly EEB Hub) Operating Committee at The Navy Yard, which is focused on generating impact in the small- and medium-sized commercial buildings retrofit market. A native of New England, he moved to the Philadelphia area more than 30 years ago after attending Gettysburg College, where he received his Bachelors degree.

Mr. Zappile's primary focus is on the redevelopment of The Navy Yard. Prior to taking his current position, he spent 12 years with the Planning Division of the U.S. Army Corps of Engineers, Philadelphia District. He has a Bachelor of Science degree in Civil Engineering from Widener University and a Master of City Planning from the University of Pennsylvania.

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**Our Constitution recognizes only the immediate Past President as a part of our Board but, following tradition, we list the immediate three Past Presidents to acknowledge their service.*

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**COPY DEADLINE FOR
JANUARY 2015 ISSUE
DECEMBER 19, 2014**

YOUNGER MEMBER FORUM NEWS

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DELAWARE I-495 EMERGENCY BRIDGE REPAIR PRESENTATION

DECEMBER 9

Municipal Services Building, 16th Floor, Rooms Y & Z; 1401 Kennedy Boulevard, Center City

On **Tuesday, December 9**, join YMF for a presentation by the Delaware Department of Transportation's (DelDOT) State Bridge Engineer **Barry Benton** on the Emergency Repair of Bridge 1-813 on I-495 over the Christina River in Wilmington. The presentation will discuss the various stages of the project, including the cause and discovery of the problem, DelDOT's response, lessons learned from the emergency, and the innovative technology and concepts enacted to find a solution. The event is free for students and \$10 for professionals. Visit our website at www.ymfphilly.org for additional details and to RSVP.

YMF AND ASHE YOUNG MEMBERS JOINT HAPPY HOUR

DECEMBER 11

Rock Bottom Brewery; King of Prussia

On **Thursday, December 11** YMF will team up once again with ASHE Delaware Valley Young Members to host a joint happy hour at **Rock Bottom Brewery** in King of Prussia. This year's event will run from 5:00 PM to 8:00 PM and offers a great opportunity for networking, delicious appetizers, and even a little holiday shopping!

YOUNG GOVERNMENT EMPLOYEES LUNCHEON

DECEMBER 18

Municipal Services Building, 16th Floor, Room Z 1401 Kennedy Boulevard, Center City

On **Thursday, December 18**, YMF will present an opportunity to young government employees (as well as anyone else who may have an interest) for networking and presentations from current and former government staff. A light lunch will be provided at no cost (FREE!). We hope you will take advantage of this event to meet public sector Engineers (both past and present) and others who may be attending. This will start at 12:00 Noon and run until approximately 1:30 PM. Visit our website at www.ymfphilly.org for additional details and to RSVP.

WINTER SOCIAL

JANUARY 26

*McGillin's Olde Ale House;
1310 Drury Lane, Center City*

YMF will be hosting our annual **Winter Social** event on **Monday, January 26** at our "usual spot," **McGillin's Olde Ale House**, tucked away "off the beaten path" in Center City. This event

regularly attracts over 150 Young Engineers from all across the Philadelphia area. We are currently requesting donations of raffle prizes, the proceeds of which will be donated to local charities. Last year, over \$2,000 was donated to the local Future City Competition, Philabundance, and Bridges to Prosperity. If interested, please contact Chris Renfro by email at **Christopher.Renfro@phila.gov**. Stay tuned for details on how to register.

WE'VE ADOPTED A HIGHWAY!

ASHE Delaware Valley Young Members and YMF are excited to announce that we have adopted the stretch of highway on Bethlehem Pike (SR 2018) between Butler Pike and Lafayette Connector Road in Fort Washington. Both groups will join together to do four cleanups per year of the highway section, starting this Spring. Please email secretary@ymfphilly.org if you'd like to get involved.

SECTION SCHOLARSHIP PROGRAM OPEN FOR APPLICATIONS

The Section's Scholarship Program has been moved to start earlier in the year to help promote an increased number of applications. The program is now open for applications for the 2014-15 season.

The Section offers three distinct undergraduate scholarships annually:

- ASCE Delaware Valley Engineers Week Scholarship
- ASCE Student Scholarship
- ASCE Section Member Scholarship

ENGINEERS WEEK SCHOLARSHIP

The application process for this Scholarship closed on November 17. This will be awarded at the Engineers Week Awards Luncheon on February 20, 2015.

STUDENT SCHOLARSHIP

A minimum of one \$1,000 scholarship will be awarded by the Section to an undergraduate Civil Engineering student who meets the following requirements.

The applicant must be matriculating in a full-time Civil Engineering or Architectural Engineering program at one of the Philadelphia Section's five Student Chapters: Drexel University, Swarthmore College, Temple University, Villanova University, or Widener University.

The applicant must be an active participant in the ASCE Student Chapter.

The applicant must be in their sophomore or junior year (and Pre-Juniors at Drexel).

Application Requirements:

Cover letter containing:

- The applicant's name
- The applicant's institution
- GPA and/or class rank
- Address/telephone number

Additional information for consideration (such as need):

- Resume
- Letter of Recommendation from faculty advisor

- Essay (limited to 1,000 words) on the following topic:

What is the biggest challenge that Civil Engineers in the US will face over the next 10 years? What are some possible solutions, and how should the ASCE be involved?

Submittal Deadline:

Applications (including recommendations) must be submitted by **January 31, 2015** to **Andrew Bechtel** (bechtela@tcnj.edu).

Scholarship winners will be notified by February 27, 2015. Recipients will be invited to attend our March 2015 dinner meeting (tentatively scheduled for March 12, 2015) to be recognized accordingly.

SECTION MEMBER SCHOLARSHIP

A minimum of one \$1,000 scholarship will be awarded by the Section to an undergraduate civil engineering student who is the child of an active Philadelphia Section member. The requirements are the same as that of the Student Scholarship except:

All children of active Philadelphia Section members in their sophomore or junior year (and Pre-Junior at Drexel) matriculated in any full-time Civil Engineering or Architectural Engineering program at an accredited college or university are eligible.

Application requirements and submittal deadline are the same as for the Student Scholarship. The applicant's cover letter should include his/her parent's name and ASCE ID number.

We encourage all eligible students to apply. Good luck!

SUBMISSIONS BEING ACCEPTED FOR OUR SECTION'S CHRISTMAS/HOLIDAY MESSAGE

Taking a page from our favorite retailers, who put Halloween candy and decorations on their shelves once the back-to-school items are ready to be moved (usually about late August), and who have already welcomed Santa and have their Christmas decorations in full "bloom," we at *THE NEWS* will once again conduct our annual Christmas/holiday message. And what might that be? (You mean you don't recall this from last year?)

As you may be (painfully?) aware, our Section has allowed our Editor to be a bit of a "loose cannon" at times, and one of those times is the Christmas/holiday season, when he has crafted a message of sorts for our "enjoyment." This has even gained a title as the Lightly Amusing Yuletide Message (with the appropriate acronym LAYM). To share the opportunity, we are once again opening a competition for you, our loyal readers, to submit your own personal LAYM for possible use in the January edition of *THE NEWS* (when we properly and chronologically correctly cite the festive time). This can be a poem, a limerick, whatever, and we're open for anyone who's feeling creative, festive, maybe a little seasonally-affected (by natural, alcohol, or other means – we aren't judging!) to submit his/her

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NOVEMBER DINNER MEETING

November 6, 2014

Loews Hotel, Center City

PennDOT District 6-0 Update

by Robert Wright, Editor

For our second meeting of the season, we found ourselves back at the Loews Hotel in Center City at the end of a particularly rainy and miserable day on which the rain didn't seem to let up. To compound things, the return to Standard Time earlier that week made it even more dark and dismal. Despite this, in addition to a last-minute change of meeting room that caught more than a few of our attendees on the wrong floor, over 70 intrepid folks turned out to see what our local PennDOT District had in store with all that money it would be getting courtesy of last year's new Transportation Funding legislation (Act 89) and its 28-cent tax on each gallon of gasoline they purchase.

The crowd settled in the meeting room after a lively cocktail and networking hour and were greeted by President-Elect **AnnMarie Vigilante**, filling in for President **Joe Platt**. Following her opening remarks, she invited the Drexel "contingent", led by Professor **Joseph Martin** and ASCE Student Chapter President **Ajin Fatima** and Vice President **Belinda Lester**, all of whom presented information on Drexel's current programs and happenings and then cheered on by other Chapter members in attendance. Dr. Martin asked the Drexel alumni in the room to stand and be recognized, and then thanked another "honorary" alumnus (who will remain nameless) for his help with student project teams over the years, despite his not being a Drexel grad. Following this unnamed person's slight protest, (in the name of his own alma mater, that small Ivy League school around the corner from Drexel) Past President Ruben David was then called to the podium to restore order, return us to the meeting agenda and lead us in a blessing of the meal.

As dinner wound down, President-Elect Vigilante called Past President **Bob Wright** to front and center to introduce our evening's featured speaker, **Lester Toaso**, District Executive of PennDOT District 6-0, for his presentation. Mr. Toaso noted that he had just arrived at the Loews a few minutes before he was scheduled to present, only showing that the fragile highway infrastructure we have treats all equally, even District Executives, who literally own the road. Since he is no stranger to traffic problems and has first-hand familiarity with the various difficulties presented by our region's highway system, Mr. Toaso took this in stride and began giving us the good news.

And it is indeed good news, as Mr. Toaso noted that similar presentations he has given over the years usually revolve around what cannot be done, because the funding is not there, and now that the funding is there, compliments of Act 89, it is indeed time to catch up. He outlined some facts and figures to show that 77 projects were advanced to bids in 2014 (a record year), with bid amounts totaling close to \$2 billion (yes,

billion). This is literally only scratching the surface of Act 89, which was passed not quite a year ago and which funding is only now beginning to assist in the movement of projects which had been stalled in design because of lack of funding for construction. He added that one more "let" (bid opening, to those not familiar with the PennDOT parlance) is scheduled for this calendar year, an \$81 million first-phase of the replacement of bridges over I-676 in Center City. In contrast to the magnitude of this project, a large number of the other lettings this year were smaller in scope and addressed pavement conditions on highways that had been less than ideal before the polar vortex arrived and were only exacerbated by the severe winter.

As District 6 encompasses the five-county Philadelphia metropolitan area, the busiest in terms of traffic usage and the most heavily populated of PennDOT's 11 Districts, it should come as no surprise that some of the DOT's most impactful and expensive projects are in our area. Mr. Toaso went through a county-by-county list of projects currently underway, most of which were started before Act 89 was enacted, including the I-95/Pennsylvania Turnpike Interchange (Bucks), improvement projects on US 202 and US 422 (Chester and Montgomery), and the Girard Avenue and Cottman/Princeton Avenues interchanges on I-95 (Philadelphia). The infusion of over \$350 million annually in additional funds expected from Act 89 over the coming five years will allow these efforts to be completed and continue with other major projects that have been "on the books" for many years, including the rebuilding of US 1 (Bucks), US 322 (Delaware), US 202 east of King of Prussia/Norristown (Montgomery), and more segments of I-95 (Philadelphia).

Act 89 will also bring some new initiatives and programs which were touched on by Mr. Toaso. The recognition that traffic signal systems, which are not maintained by PennDOT but by local jurisdictions, are generally in need of upgrading and modernization to take advantage of current technology and help move traffic efficiently has led to the "Green Light Go" program, which offers funding assistance for such signal improvements at the local level. Liquid fuels funds, which pass through to local jurisdictions for resurfacing and paving programs, are also being increased to help municipalities and townships improve their road conditions.

Mr. Toaso also addressed the "P3" bridge program. This will be implemented to reduce the number of PennDOT's structurally deficient and/or functionally obsolete bridges, which total over 22% of its highway structures. Recently, a \$900 million design/build/maintain contract was advertised and a project team was selected for the replacement of over 500 bridges statewide. The team will, in a first for Pennsylvania, also

maintain the structures for 25 years after completion. Similar efforts are underway for design management, construction management, and right-of-way activities. Very few of the involved bridges are in District 6, as those selected for the program are of limited complexity with no historic issues, railroad crossings, or complicated permits, which usually combine to slow project development.

A number of well-thought questions were posed to Mr. Toaso, who ably responded to them. Among these was one on upcoming design projects. Because of the backlog of projects which could not move to construction since there was inadequate funding available, there is little in the way of new design projects on the immediate horizon. As current projects advance into construction, there may be some new design efforts coming later to address needs beyond 2020 (and even with Act 89, only about one-third of the District's annual needs will be able to be met). Mr. Toaso additionally answered a question related to PennDOT's assumption that federal highway funding levels will continue to support state funding. Congress has continued to address the Highway Trust Fund and federal authorization in a stop-gap "band-aid" fashion, and it is hoped that a long-term solution will be ironed out.

President-Elect Vigilante thanked Mr. Toaso for his informative presentation, as well as his intrepid determination to make the meeting despite severe highway congestion that evening, and gave him a token of the Section's appreciation for his effort.

CONTINUING EDUCATION SEMINARS

National ASCE offers numerous continuing education seminars which will help you obtain your professional development hours (PDH's) needed to maintain and renew your professional licensure. Please visit www.asce.org for a list of all currently-offered courses and locations.

Two such courses will be offered in our area in the coming months:

FINANCIAL MANAGEMENT FOR THE PROFESSIONAL ENGINEER

December 11-12

Crowne Plaza Philadelphia West
4010 City Avenue

DESIGN AND RENOVATION OF WOOD STRUCTURES (NEWLY UPDATED FOR 2012 IBC)

March 26-27

Embassy Suites Hotel
1776 Ben Franklin Parkway

STOP WEARING YOUR WISHBONE WHERE YOUR BACKBONE OUGHT TO BE.

— Elizabeth Gilbert

MEMBERS IN THE NEWS

BAUMERT RETIRES AFTER 58 YEARS (!) OF SERVICE

Carl A. Baumert, Jr., P.E., Structural Engineer and Historic Preservationist, who worked with Keast & Hood for nearly 60 years, has retired. He was cited for his years of service at a celebration at the Union League on November 14.

Carl joined Keast & Hood in 1956, soon after the company was founded in 1953. He served as principal from 1963 to 1995, and as senior consultant from 1995 until earlier this year. In nearly six decades with the firm, he directed the Structural Engineering of major new building and renovation projects, including participation as the lead structural consultant on the multi-disciplinary restoration team for Philadelphia City Hall.

“Carl’s technical proficiency, creativity, and penchant for history have left a lasting impression on the design and construction community in Philadelphia and at large,” says Keast & Hood Principal Constantine (Dean) Doukakis, PE. “He probably has more structural knowledge about Philadelphia buildings – especially City Hall – than any other living building professional.”

Carl worked on some of the region’s most recognizable structures, including the Philadelphia Museum of Art main and Perelman Buildings, City Hall, University of Pennsylvania,

University of Delaware, and the Union League of Philadelphia. For each of these repeat clients, he provided engineering design for new construction, renovations, and historic preservation. He also provided Structural Engineering for construction of the J.C. Penney store in the Gallery II Mall on Market Street, renovation of historic SEPTA rail stations throughout the region, and recent renovations at 1650 Arch Street.

“Carl’s expertise is legendary among Philadelphia architects,” says Keast & Hood Principal Frederick C. Baumert, PE, CCS, who followed his father into the profession and firm. “He quietly impacted standards for how buildings are assessed and rehabilitated and he has always been willing to share his knowledge and experiences with colleagues and staff.”

Early in his career, Carl developed an interest in historic buildings and in solving challenges facing their structures and exterior envelopes. He was appointed to the ASCE National’s Committee on the Assessment and Rehabilitation of Buildings in 1982. As part of the committee, he participated in the development and writing of landmark standards for building condition assessment: SEI/ASCE 11: Guideline for Structural Condition Assessment of Existing Buildings and SEI/ASCE 30: Guideline for the Condition Assessment of the Building Envelope, serving as chair for production of the latter.

Carl has spoken and written for organizations including the National Council of Structural Engineers Associations, National Science Foundation, Traditional Buildings Conference, and STRUCTURE magazine. He is a life member of ASCE and has held memberships in the American Society for Testing and Materials, Association for Preservation Technology International, Delaware Valley Association of Structural Engineers, and American Institute of Steel Construction. He was cited as our Section’s Structural Engineer of the Year in 2011.

Born and raised in Philadelphia, Carl earned a Bachelor of Science in Civil Engineering from Drexel Institute of Technology (now Drexel University) in 1951. He served in the U.S. Army Corps of Engineers from 1951-1953 at Fort Belvoir, VA, and in Korea where he was a platoon commander and battalion recon officer. He is a Registered Professional Engineer in 14 states.

Congratulations to Carl on his well-deserved retirement!

LOWDERMILK MOVES TO PB

Dave Lowdermilk recently accepted the position of Statewide Operations Manager for Pennsylvania at Parsons Brinckerhoff. According to Bernie McNeilly, Northeast Transportation Regional Manager at PB, “We are extremely pleased to have Dave rejoin our team where he will continue to strengthen our client service and delivery throughout the Commonwealth.” Congrats, Dave!

PENNSYLVANIA’S TRANSPORTATION SYSTEM NOT AT THE BOTTOM, BUT CLOSE...

A recent study released by the Reason Foundation indicated that Pennsylvania’s transportation system ranks 41st in the nation. Some facts to know:

- Miles of state roads: 41,584 (fifth most)
- Construction spending per mile: \$80,566 (30th highest)
- Maintenance spending per mile: \$33,509 (17th highest)
- Administrative spending per mile: \$12,204 (24th highest)
- Total spending per mile: \$165,728 (26th highest)
- Percent of structurally deficient bridges: 38.7 percent (third highest)
- Percent of urban freeway miles with congestion: 41.1 percent (18th worst)
- Fatality rate per 100 million vehicle miles: 1.32 (17th highest)

The Foundation, a libertarian policy group based in Los Angeles, noted that our neighbors in New York (43rd) and New Jersey (48th) are even worse off, with Maryland (39th), Delaware (37th) and West Virginia (34th) ranking slightly better, although West Virginia has the nation’s highest fatality rate at 1.76 deaths per 100 million vehicle miles. Ohio is an exception, with its transportation system ranking 14th overall, up from 25th three years ago.

“Pennsylvania has a tough hand to play with its weather, terrain and the sheer size of its system. Ohio’s situation isn’t as complex or difficult,” said lead author **David Hartgen**, transportation professor emeritus at the University of North

Carolina at Charlotte. Ohio spends \$174,199 per mile on its transportation system, which includes 20,371 miles of state-maintained roads, while Pennsylvania spends \$165,728 per mile to maintain 41,584 miles, the study said.

Pennsylvania’s rank is down from 39th three years ago (which might explain the D+ in the Bridge category and the D– for roads in the recent PA Report Card). Hartgen expects Pennsylvania to move up the list in coming years because of the passage of Act 89 last year, which will generate an extra \$2.3 billion annually within five years. PennDOT spokesman **Rich Kirkpatrick** said the new law is providing an added \$600 million this year, boosting transportation spending to about \$7.3 billion. “That will provide money for at least 250 more projects this year, or more than 900 overall,” Kirkpatrick said. “We were losing ground on pavement conditions, and progress we had made on bridges was threatened.” Pennsylvania has some of the worst urban interstate pavement conditions in the nation.

Pennsylvania is one of many states finding new ways to pump more money into decaying transportation systems. Since January 2013, 12 states passed laws to boost transportation funding with measures such as increased gasoline taxes or higher registration or license fees, according to the Washington advocacy group Transportation for America. The states include Pennsylvania and neighbors Ohio, Maryland and Delaware.

Thanks to the *Pittsburgh Tribune* for this information.

OOPS (AGAIN...)

Last month we reported on the end of our latest “all good” streak, with a couple of minor boo-boos in the October edition of *THE NEWS*. As things turn out, there was another that was just recently brought to our attention.

In the article on the Spring Social, we noted that **Ruben David**, our Engineer of the Year award recipient, graduated from his alma mater, the University of the East in Manila, in 1974. Ruben advised that his graduation was actually in 1976. (And he has the diploma, so he should know.) In any event, we would like to make that correction, and take this opportunity as well to send our apologies to Ruben for inadvertently making him just a little bit older than he is.

On a somewhat selfish note, the good news for *THE NEWS* is that, since there were no reported “hiccups” in November, our “good” streak remains alive at one issue in a row (and shooting for two with this one).

**No one is useless in this world
who lightens the burden of it
for anyone else.**

– Charles Dickens

N-ASCE*

We thought we could stretch this into another month of bridge stories, but... (sorry, bridge boys and girls – you can skip to another article....)

CAREFUL – THE NEXT INTERSECTION YOU ENCOUNTER (OR CAR YOU ARE DRIVING, OR BOTH) MAY BE HACKED...

With recent issues on photos and other personal information being easily hacked, a couple of other troubling items have surfaced. Researchers at the University of Michigan found that traffic signal systems are dangerously easy for hackers to take control using a common laptop and radio broadcast equipment. The research team tested equipment supplied by a manufacturer who will remain anonymous which is installed at over 100,000 US and Canadian locations. While these signals operate on a computer network, they communicate using radio signals, similar to the WiFi systems used in homes and businesses. The research team demonstrated how easy it would be for someone to get into the system by actually hacking the signal at an undisclosed intersection in Michigan this past spring using a laptop and operating out of a truck parked near the intersection.

The researchers noted that this is not the fault of the manufacturer. The problem arises from the age of the WiFi routers used and that the owners of the systems usually do not enable encryption or password protection. Even when they do, they tend to use the default usernames and/or passwords that are published in online manuals.

In another study, a research team hired by the Pentagon investigated security vulnerabilities in automobiles. After 10 months of activity and examination of the technical configurations of 24 different car models, it presented its findings at a security conference in Las Vegas this past August. The models ranked most “hackable” include the 2014 Infiniti Q50, the 2014 Jeep Cherokee, the 2015 Cadillac Escalade, and the 2010 and 2014 Toyota Prius. These models share an inherent flaw in that their computer networks that control critical operational functions such as steering and braking also connect the vehicle to the Internet through apps, Bluetooth, and/or satellite radio. Thus, a virus imported through Bluetooth could “infect” the control systems and allow hackers to send conflicting messages.

Some vehicles such as the Audi A8 have a separation so the operational features and wireless systems are not interlinked, and a “gateway” blocks commands to the operational side from the wireless one.

One more thing to think about as you drive around...

Thanks to *Roads and Bridges* for this information.

...OR AMERICA'S MOST DANGEROUS INTERSECTION...

It might not surprise you that the most dangerous intersection in the US is local, but if you guessed it was on Roosevelt Boulevard, you

would be incorrect. *Time Magazine* analyzed data from the National Highway Traffic Safety Administration on fatal traffic accidents in the 2003-2012 time period and used latitude and longitude coordinates to count the number of fatal accidents that occurred within approximately 150 feet of each other. The conclusion was that the most dangerous intersection was Knights Road and Street Road in Bensalem. This is in a commercial corridor and had 7 fatal crashes during the 10-year analysis period. A traffic audit conducted in 2008 revealed other issues, such as poor signage, dim lighting, discontinuous sidewalks, aggressive drivers and jaywalkers. In the one-mile stretch of Street Road in this area, there were 144 crashes in the two years leading up to the audit, and 170 people died or were injured.

More than 36,000 vehicles travel on Street Road daily. The specific layout at the Knights Road intersection, which is on a skew, complicates the flow of traffic. Since the audit, at least six fatal crashes have occurred. The Bucks County Planning Commission among others has suggested a full redesign of the intersection to improve capacity and safety.

There were 11 runners-up for the most dangerous intersection, with 6 fatal incidents each during the 10-year time period, with the closest being in Elizabeth, NJ (and, surprisingly, none on Roosevelt Boulevard...).

Thanks to *Time Magazine* for this information.

...OR THE MOST “DANCE-ABLE” INTERSECTION...?

Daimler AG has developed a “spin” on the pedestrian traffic signal indication, also known as the “walk/don’t walk” signal. Where these words once appeared on the indications, now a walking person and a red hand have replaced them. Daimler has replaced the hand with a red stick figure that dances its way through every red light. The idea is that an engaging moving image will keep pedestrians entertained, and more importantly, curbside, and cut down on jaywalking in bustling urban environments. Several of these have been installed in European cities and have been well received, with at least one location having the ability to have the figure controlled by dancers cutting up a rug in a nearby booth. The fist pumps and spaghetti arms were captured on camera and translated into pixelated, crossing signal discos for pedestrians to enjoy while they waited to safely cross the street.

There is some movement to have one of these installed at an intersection in Staten Island, but this is still being evaluated by New York City DOT. (Although we at THE NEWS have seen people dancing on street corners in New York occasionally, often to their own beat and often a beat that is not able to be heard by anyone else, from the looks of things...)

Thanks to the *Staten Island Advance* for this information.

* N – ASCE – not always something concerning engineering...

THANKS TO OUR SPONSORS

We have 14 firms participating in our Sponsorship program thus far this season. We extend our special and collective THANKS to each sponsor for their financial commitment and support.

Sponsor logos are displayed in a special Sponsors section of our website. Additionally, we provide direct links to sponsors’ own websites so prospective employees can review all available and up-to-date positions. We also offer sponsors the opportunity to have a “spotlight” article in an edition of *THE NEWS* as well as service as a sponsor of one of our monthly dinner meetings.

If you have an interest in joining our sponsorship program, please contact **Bob Wright** at newseditor@asce-philly.org for more details.

ASCE PENNSYLVANIA SECTIONS TO TEAM UP FOR NITTANY LIONS FOOTBALL

The four ASCE Sections in Pennsylvania (Central PA, Lehigh Valley, Pittsburgh and us) will be joining forces to co-sponsor a group outing when **Penn State** hosts **Michigan State** on Saturday, **November 29**. A pre-game tailgate/get-together is also being coordinated by the Central PA Section.

Tickets can be ordered online through Ticketmaster and range between \$70 and \$85 (visit https://oss.ticketmaster.com/html/group_corp_start.html?l=EN&team=pennstate&owner=2754697&group=150&err=&event=&customerID= to create an account and order tickets).

For those who intend to participate in the tailgate, more information on the meeting location will be provided on our website. You will be asked to RSVP for the tailgate so that sufficient food can be ordered and provided. The tailgate will be free but you are encouraged to bring a snack or side dish to share.

Please visit our website for more details.

BE AN ENGINEER

ExxonMobil has begun an initiative with a series of advertisements and a website geared toward students to show the potential for them in the engineering and science fields. This is well done and is very useful for us in our various outreach activities such as career days and similar interactions with students. Please take a look at this site: <http://www.beanengineer.com> if you are thinking about such outreach and encourage students to visit it as well.

Motivation is simple.

You eliminate those who are not motivated.

– Lou Holtz

TECHNICAL GROUPS/CHAIRS

Information on the ASCE, Philadelphia Section's Technical Groups is given below. If you have any topics that you think would be of interest to the Groups, please feel free to pass this information along to the appropriate Group Chair.

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ENGINEERS WEEK EVENTS — MARK YOUR CALENDARS

The Delaware Valley Engineers Week Committee will be celebrating **Engineers Week 2015** from **February 20 through February 28** and will continue its schedule of three events which will highlight the various contributions of Engineers and Engineering students in the Delaware Valley. Please note this information in your calendar and plan to participate.

AWARDS LUNCHEON

FRIDAY, FEBRUARY 20, 2015

DoubleTree Hotel, Center City

This event is both the kickoff event of Engineers Week and the main event of the Delaware Valley celebrations.

A poster session, with presentation of student paper winners, will be conducted starting at 11:00 AM.

All Delaware Valley Awards and Scholarships will be presented.

Project and individual awards of all participating Engineering societies in the Delaware Valley will be recognized.

The 2015 Engineer of the Year, **Dr. Adam Fontecchio** of Drexel University, and Young Engineer of the Year, to be selected shortly, will make brief remarks.

YOUNG ENGINEER SOCIAL EVENT

TUESDAY, FEBRUARY 24, 2015

Manayunk Brewery, Philadelphia/Manayunk

This event will be a happy-hour type event geared to younger Engineers. The Young Engineer of the Year will make brief remarks.

CELEBRATION OF ENGINEERING RECEPTION THURSDAY, FEBRUARY 26, 2015

Singh Center for Nanotechnology, University of Pennsylvania, Philadelphia/University City

The culminating event of Engineers Week will be a social/networking gala event to celebrate Engineering, with cocktails, appetizer stations, and dessert stations.

Award recipients will be honored with posters/exhibits/running PowerPoint in the networking area.

Future City Competition Regional winners will display their first place model.

The Engineer of the Year and Young Engineer of the year will provide brief remarks.

More information will be provided on price, location, and other details in the coming months. Please visit www.dvewc.org for up-to-date announcements.

As always, volunteers are needed! If you are interested in volunteering for one of the many activities of Engineers Week, please visit www.dvewc.org.

DON'T FORGET ABOUT YOUR DUES!

Your dues statement/invoice for 2015 should be in your hands, both in hard-copy format as well as electronically, at this point. As a reminder, this is payable by January 1, with some incentives being offered for early renewal. You can pay by check or electronically.

Please don't forget to pay your ASCE National and Philadelphia Section dues. Your dues are vital to the support of our Section's activities. We appreciate your ongoing support.

HOLIDAY MESSAGE

Continued from Page 3

messages. We welcome team efforts as well. Feel free to submit more than one effort if you choose.

The intent is to conduct a contest, and that means we need to get submissions to make this work (unlike in the past when we've received ZERO (0!) entries). The winning entry will be published in the January edition of *THE NEWS*. Or we'll print all the entries – we'll see how this goes. We don't have much in the way of criteria – it should be "G" rated, and have some sort of Christmas/holiday connection, and no "borrowing" from Hallmark, American Greetings, Carlton, etc., but we're fairly wide open otherwise. The "winner(s)" will be given the opportunity to have this published anonymously if they so choose. There might even be a prize of sorts as well – since we haven't had to think about this in the past, we haven't come up with prizes, but there's always a first time.

Please feel free to consult past January editions of *THE NEWS* (available on our website if your collection isn't up to date) to see what's passed for this in years gone by.

Submissions are due by **December 12**. Please send these to our Editor at newseditor@asce-philly.org. As always, staff members of *THE NEWS* and their families are not eligible for prizes, just to keep this fair, but they can still submit an entry or two (or three...).

We are hopeful that we'll get at least one submission or else we'll have to leave this to our Editor to handle, and we've seen the results of that route.



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