ASCE Illinois Section

News

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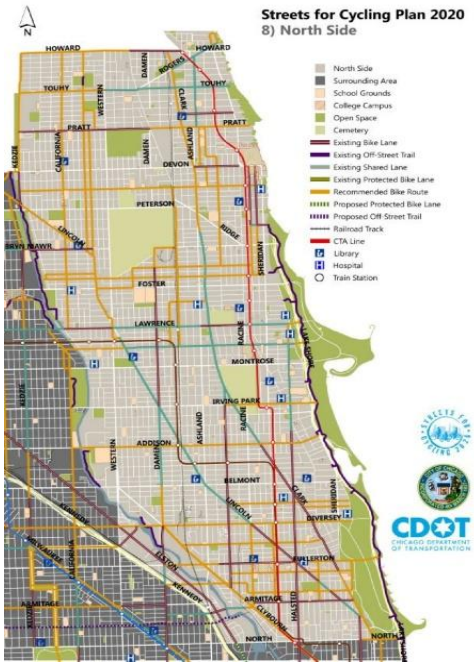
Winter 2014

Divvying Up the Roads

By Madison Heideman

Chicago is proud to say that it remains one of the most bike friendly cities in the nation, and is continuing to maintain that reputation. Approximately 1.3% of commuters in the city use bikes as their form of transportation, which is higher than New York (0.8%) and Los Angeles (0.9%), but not as high as other cities including San Francisco (3.5%) and Portland (6%). Chicago is taking steps to encourage biking as a good form of transportation including extensive bike lane plans, Divvy bike station installations, and bike safety awareness.



Approximately 1.3% of commuters in the city use bikes as their form of transportation, which is higher than New York (0.8%) and Los Angeles (0.9%), but not as high as other cities including San Francisco (3.5%) and Portland (6%).

The Chicago Streets for Cycling plan 2020 was launched in 2012 by Mayor Emanuel in order to make it easier for all Chicago residents to have access to safe biking routes throughout the city. The major goals of this plan were to provide a bicycle accommodation within a ½ mile of every Chicago resident, provide greater number of bikeways where more people live, and increase the amount of infrastructure where ridership is currently lower, but has the potential to grow. At the time this program was launched, Chicago had approximately a 236 mile bike system, including on street and trail biking. The proposed plan for 2020 is to increase this by almost three times that amount; this is a 645-mile bike system. Approximately 50 miles of new bike lanes have been installed since the launch of this program. This includes implementing

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President's Notes

Mike MacKinnon, P.E.

Greetings and happy holidays! I am honored to begin my term as president of the Illinois Section of the American Society of Civil Engineers. I would like to thank our Past-President, Pat Lach, for his leadership this past year and for being a great mentor to myself and the Illinois Section. With his continued hard work, the Illinois Section has remained a premier representation of civil engineers in Illinois.

We had another fantastic turnout for our annual dinner this past October, with over 400 in attendance. US Cellular Field was a great and unique location for our dinner this year. I would like to congratulate all of the award winners and thank the numerous Illinois Section volunteers that made this another successful event. We will continue to look for exciting new venues for our 2015 annual dinner.

The Illinois Section will be celebrating its centennial anniversary beginning October 1, 2015. This will be a yearlong celebration with numerous events throughout the area. This is an extraordinary undertaking, so please stay tuned to learn how you, your employees, and your company can help us celebrate 100 years as a section.

The Illinois Section has formed a coalition with other professional design and construction industry organizations this past year to support (and oppose) legislation in Springfield and voice the opinions of our members. Other professional organizations in the coalition include the American Council of Engineering Companies – Illinois, the Illinois Professional Land Surveyors Association, the Illinois Society of Professional Engineers, and the Structural Engineers Association of Illinois.

This coordinated effort representing tens of thousands of members has sent a powerful message to legislators this past year and we have had numerous successes. For example, in the past veto session we were able to stop, at least for now, an attempt to increase the statutes of limitation and repose for design liability.

We have also been strongly opposed to legislation requiring the Responsible Bidder Act to apply to all government projects, and we have opposed legislation seeking change to the oversight of surveyors from professional designers to construction contractors. We have been successful in our effort to stop these bills.

We will continue to fight for our members on our own and in conjunction with the professional design and construction industry coalition. If you would like to help us in these efforts, please contact me at president@isasce.org.

Thank you for the opportunity to serve as the president of the Illinois Section, and I look forward to working with you in the upcoming year.

ASCE Illinois Section

News

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98th Annual Dinner Meeting Highlights

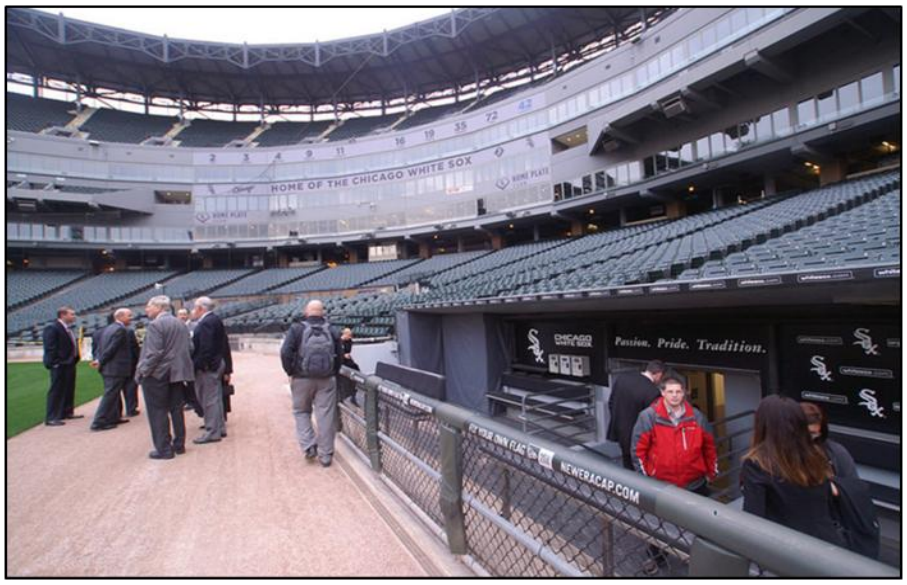
By John. G. Green, Ph.D., P.E. and John Lazzara, P.E., ENV SP

Scoreboard at U.S. Cellular Field with Premium Sponsor's advertisement displayed (photo by Bob Johnson, F.ASCE)

The professionals whose names were announced at U.S. Cellular Field on the night of Thursday, October 30, 2014 practice in a different way than those normally announced at the field, but they too

More than 400 Members, Life Members, Student Members, guests and award winners attended the ASCE Illinois Section Annual Dinner..

are at the pinnacle of their game. On that evening, more than 400 Members, Life Members, Student Members, guests, and award winners attended the ASCE Illinois Section Annual Dinner. The event was hosted by Michael Huff, former White Sox outfielder, engineering graduate of Northwestern University, and current Vice President of the Bulls/Sox Academy, the only youth player development facility, open all year, in the country, owned and operated by a professional team (actually two teams).



Annual Dinner guests tour the field and dugouts (photo by Bob Johnson, F. ASCE)

During the cocktail hour prior to the dinner, guests had the option of touring the field, dugouts, and pitching bullpens.

After Mr. Huff's inspiring key note speech, new Life Members were congratulated on-stage for their long-term support for ASCE. Then outgoing Officers, Directors, and Technical Group Chairs were recognized for their service. Following that, the incoming Officers, Directors, and Technical Group Chairs were brought up on stage, introduced, and sworn in for the coming year. The evening was highlighted by the presentation of individual and project awards for 2014. A total of 23 nominations were received in 10 categories from members throughout the Section. All winners were chosen by a vote of the Awards Committee, which was composed of members from each of the Section's Technical Institutes or Groups, and

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98th Annual Dinner Meeting Highlights

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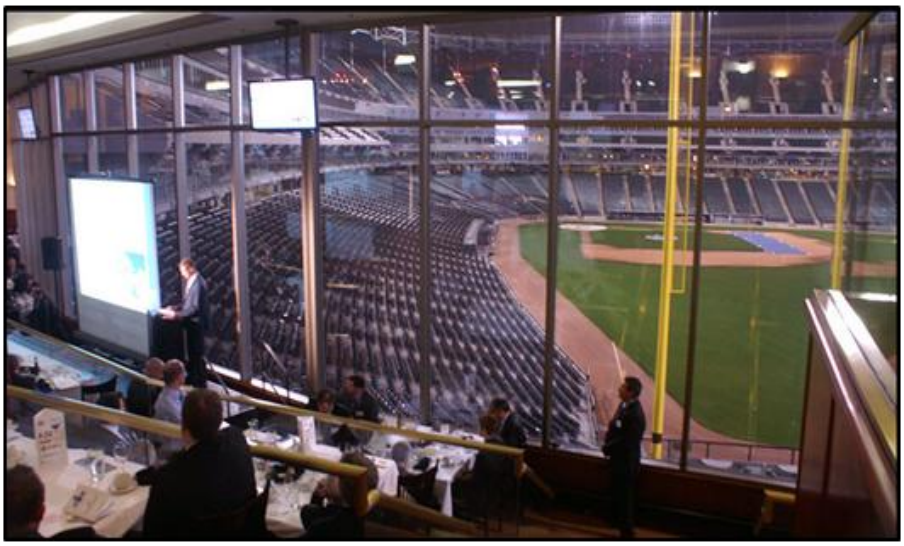
representatives from the Board of Directors. The Committee's selections were ratified by full Illinois Section Board of Directors

There were many outstanding nominations, and the Awards Committee thanks all those that particpated in the process!



View of the field during the Annual Dinner (photo by Bob Johnson, F. ASCE)

CITIZEN ENGINEER OF THE YEAR

Scott Eshleman, P.E., S.E., CVS

Ever since his sophomore year in high school Scott Eshleman has been captivated with the idea of becoming a bridge engineer and somehow using that skill to help others. In pursuit of that goal Scott obtained a degree in Mathematics from Goshen College and went on to get his undergrad and graduate degree in Civil Engineering from Purdue University. Scott now has 26 years of professional design experience as a Bridge Engineer. Since 2001 he has served as the Structural Department Manager for Stanley Consultants' Chicago Office.

In addition to his professional responsibilities in 2007 Scott joined a humanitarian non-profit organization called Engineers Without Borders. Since 2007 Scott has personally lead over a dozen engineering teams to Central America to build two pedestrian bridges and one 8-span vehicle bridge, working side-by-side with local community members. In addition, the last two years Scott has been leading a water distribution project that will bring clean water to a 2000 person village in northwest Honduras.

Scott also serves on the Technical Advisory Board of a similar organization known as Bridges to Prosperity. Through this organization Scott works with student chapters to plan, build and implement construction of foot bridges for developing countries around the world.

Scott enjoys speaking at university engineering seminars, bridge building training events, professional organizations and is an avid promoter of cultural awareness and giving back to a world in need. Scott's passion for this work is contagious, so be careful or you too may just find yourself on an engineering adventure of a lifetime!

YOUNG GOVERNMENT CIVIL ENGINEER OF THE YEAR

Sarah Hunn, P.E.

Sarah Hunn received her Bachelors of Science in Civil Engineering from Michigan Technological University in 2002. She began her career at the Illinois Department of Transportation and has worked for DuPage County Stormwater Management for the past nine years, most recently as Chief Project Engineer. Sarah oversees the operations and maintenance of DuPage County's flood control facilities.

Sarah has also managed several flood mitigation and restoration projects throughout her time at DuPage County, including the Deep

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98th Annual Dinner Meeting Highlights

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Overwintering Pool, Kress Creek Culvert Replacements, McDowell Grove Dam Removal, Churchill Woods Dam Removal, Urban Stream Research Center, Warrenville Grove Dam Removal & Wetland Restoration and the Brewster Creek Headwaters Flood Control Project.

Sarah is an active member of the Illinois Chapter of ASCE and the Illinois Association of Floodplain Managers. In addition to being a Professional Engineer, she is also a Certified Professional in Erosion & Sediment Control and a Certified Floodplain Manager.

Sarah and her husband Joseph (Cotter Consulting) are both actively involved with Engineers Without Borders and enjoy traveling around the world – outside of construction season, of course. She is also a triathlete, golfer and avid snowboarder.

GOVERNMENT CIVIL ENGINEER OF THE YEAR

Gregory R. Stukel, P.E.

Greg Stukel, as a deputy chief of engineering for the Illinois Tollway, is responsible for the design and construction of the agency's 286-mile system of roadways serving 1.4 million daily drivers in Northern Illinois.

Currently, he assists in delivering the third year of the Illinois Tollway's 15-year, $12 billion capital program, Move Illinois: The Illinois Tollway Driving the Future.

Mr. Stukel has more than 25 years of professional engineering experience and has been employed by the Tollway for more than 21 years. Prior to joining the Tollway in 1992, Mr. Stukel was employed by consulting firms working on various transportation projects, including light rail transit, railroads and highways.

Mr. Stukel earned his Bachelor of Science and Master of Science in civil engineering from Purdue University. He is a registered professional engineer in Illinois and a member of the American Society of Civil Engineers. He is married with three children and currently resides in Naperville, Illinois.

YOUNG CIVIL ENGINEER OF THE YEAR

Brett Sauter, P.E., S.E.

Brett Sauter is a Structural Project Engineer at Ciorba Group, Inc. where he has worked for the past 10 years. He has over 13 years of experience in the design of bridge rehabilitation and reconstruction projects including designing cast in place, prestressed precast concrete and steel bridges and bridges on curved alignments with complex geometry. Mr. Sauter has been the team leader on major river bridge inspections and has designed repairs of major river bridges. He recently served as the Project Engineer for the I-90 over Kishwaukee River bridge replacement, currently the longest integral abutment bridge in Illinois. Mr. Sauter received his B.S. degree in civil engineering from Valparaiso University and his M.S. degree in civil engineering from University of Illinois-Chicago which he earned while working at Ciorba. Brett is a licensed Structural Engineer in Illinois and a licensed Professional Engineer in Illinois, Indiana, Wisconsin, and Michigan.

Mr. Sauter has been involved in ASCE since 1997 where he was a member of Valparaiso University's ASCE Student Chapter. He just completed his term as Chair of the Structural Engineers Institute and has served on the ASCE Annual Dinner Awards committee and the SEI Lecture Series committee. In addition, he serves on the ACEC-IDOT Bridge Committee.

Brett lives in Downers Grove with his wife of 7 years, Heather and his two sons, Gavin and Austin, where he enjoys woodworking and working on his house.

CIVIL ENGINEER OF THE YEAR

Charles H. Dowding, Ph.D., P.E.

Charles H. Dowding is Professor and Associate Chair of the Department of Civil and Environmental Engineering at Northwestern University, with a BS from the University of Colorado in 1967, a PhD from the University of Illinois, a post doc at the Norwegian Geotechnical Institute, and an assistant professorship at MIT.

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98th Annual Dinner Meeting Highlights

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He is best known for his four books: Construction Vibrations, Blast Vibration Monitoring and Control, Micro-Meter Crack Response to Vibration and Weather and GeoMeasurements by Pulsing TDR Cables and Probes.

He is a former director of Illinois Section ASCE and former member of the board of directors of the International Society of Explosive Engineers and founded Digital Vibration Inc. formerly of Northbrook, the first company to perfect remote digital blast vibration monitoring in the early 1980's. Along with coauthors he received the Applied Research Award from the National Rock Mechanics Committee for work on blast induced cracking of structures which serves as the basis of federal regulations (US Bureau of Mines RI 8507). He is a former chairman of the ASCE Rock Mechanics Committee, a Fellow and former member of the board of directors of the American Rock Mechanics Association.

His consulting engagements have involved projects in Alaska, Panama, Hong Kong, Italy and some 30 of the United States. He has consulted for many governmental agencies including the National Park Service, US Department of Transportation, US Department of Energy, and companies, including IBM, MWH, Stone & Webster, Sargent & Lundy, CH2MHill, Shell and Fina oil. He is proud of his graduate students who have gone on to form companies and lead other Civil Engineering Departments. He is also active in public service and is currently the Chair of the Environmental and Forestry Commission in Winnetka.

PUBLIC INVOLVEMENT AWARD

Transportation and Development Institute – Illinois Chapter

Transportation and Development Institute (T&DI) Illinois Section has participated and has made continued investments in revamping the institute's outreach program over the past year. T&DI have volunteered at the Skokie Public Library Family Expo and the 30th Annual Illinois Institute of Technology (IIT) Engineers Week Expo to provide children an opportunity to explore science and engineering. T&DI also participated in the Regional Future City Competition at University of Illinois of Chicago (UIC), which introduces engineering and city planning to 6th, 7th, and 8th grade students.

T&DI is also engaged with students at the high school and college level. T&DI is currently on the committee for the Chicago Regional Bridge Design Competition at IIT and is the lead for planning ASCE's participation in IDOT Career Day. The bridge design competition involves high school students constructing and testing model bridges and IDOT Career Day introduces high school students to careers in the transportation industry.

T&DI provided scholarship opportunities for two engineering students at UIC and Northwestern University and sponsored UIC and IIT to attend the ASCE Great Lakes Regional Competition at University of Illinois of Urbana-Champagne. T&DI and ASCE Young Members Group (YMG) are establishing a more active role with the ASCE student chapters by providing a networking event in November to students at Northwestern, UIC and IIT.

The board continues to demonstrate its involvement with the community, T&DI members, ASCE Illinois Section, various engineering organizations and governmental agencies by T&DI's consistent communication of events, providing monthly professional development and networking opportunities to its members and participating in public service.

PRIVATE SECTOR EMPLOYER RECOGNITION AWARD

Parsons Brinckerhoff

Founded in 1885, Parsons Brinckerhoff. is a leader in the development and operation of infrastructure to meet the needs of communities around the world. The

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98th Annual Dinner Meeting Highlights

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firm has approximately 14,000 employees in 150 offices globally and has participated in some of the world's most notable engineering projects, from the original New York City subway (1904) to the $2.5 billion Woodrow Wilson Bridge Replacement project outside Washington, DC.

Parsons Brinckerhoff provides planning, engineering, program and construction management, strategic consulting, and operations and maintenance services to public and private sector clients. The firm is active in multiple market sectors, including transportation, power/energy, buildings, water/wastewater, environmental, urban/community development, and Federal (US).

Throughout its history, Parsons Brinckerhoff has successfully managed a comprehensive range of projects— ranging in size from a few thousand dollars to multi-billion-dollar multi-disciplinary efforts. Our commitment to quality has made Parsons Brinckerhoff a recognized leader providing the knowledge and skill base that is borne of experience.

OUTSTANDING CIVIL ENGINEERING ACHIEVEMENT OF THE YEAR AWARD – UNDER $5 MILLION

Brewster Creek Headwaters Flood Control Project, Bartlett, IL

In fall of 2013, DuPage County Stormwater Management, the Forest Preserve District of DuPage County and the Village of Bartlett completed construction of an approximately $4.8 million flood control improvement project along Brewster Creek in Bartlett.

The Brewster Creek Headwaters Project aims to reduce flooding northeast of the intersection of Illinois Route 59 and Stearns Road. Located on the north side of Stearns Road, the existing Beaver Pond had an undersized outlet that was causing significant flooding in the area. In order to relieve some of these issues, DuPage County Stormwater Management constructed a flood storage and water quality basin within Pratt's Wayne Woods Forest Preserve, located south of Stearns Road, to collect floodwater from Beaver Pond. Crews installed more than 2,100 feet of 60-inch pipe under Stearns Road and nearly 5,000 feet of bypass storm sewer in Wayne Grove Forest Preserve to divert floodwater and alleviate drainage backups. The basin also uses native vegetation to help improve the quality of the floodwater before it is discharged into the adjacent Brewster Creek.

The Village of Bartlett first recognized the need for this project, prompting DuPage County to include it as a preferred flood control alternative within the Brewster Creek Watershed Plan Addendum. Designed by Christopher Burke Engineering, the project was one of four projects funded through a 2010 DuPage County bond to address significant flooding and water quality issues throughout the County.

OUTSTANDING CIVIL ENGINEERING ACHIEVEMENT OF THE YEAR AWARD – OVER $5 MILLION

Rehabilitation of Wells Street Bascule Bridge Project, Chicago, IL

The Chicago Department of Transportation (CDOT) retained AECOM to perform engineering services for the Wells Street Bascule Bridge over the Chicago River. This historic bascule bridge, built in 1922 and listed on the Illinois Historic Bridge Survey, is a double-deck, double leaf, fixed trunnion structure that carries the Chicago Transit Authority (CTA) elevated railway on the upper level, and vehicle, bicycle and pedestrian traffic on its lower level. The main span of the bridge is 345 feet long and 72 feet wide. The bridge had been in operation for about 90 years and had numerous members with extensive corrosion and loss of section that exceeded their useful life span. Rehabilitation required replacement of a major portion of the main trusses including the entire upper and lower level framing systems while maintaining least disturbance to the transit services. Repairs included numerous

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98th Annual Dinner Meeting Highlights

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superstructure and substructure to elements along with major upgrades mechanical and electrical components and historic bridge houses.

While coordinating very closely with CTA it was agreed that truss and track replacement (entire framing system) would take place during two 9-day shutdowns. The bridge was rehabilitated one leaf at a time, providing temporary shoring under the counterweight box for the leaf under construction, while keeping other leaf in service to allow river traffic. To expedite the process, trusses were completely pre-fabricated off site rather than stick built on site, which allowed a significant time saving. Contractor built these trusses off site and floated down the river to the project location.

SUSTAINABILITY IN CIVIL ENGINEERING ACHIEVEMENT AWARD

Goethe Elementary Sustainable Schoolyard Project, Chicago, IL

For years, the J.W. Von Goethe Elementary Schoolyard has served as one of the few outdoor spaces in the Logan Square neighborhood of Chicago. Recently, the school's green space was beginning to suffer from drainage issues, safety concerns, and other general deterioration. With Goethe's budget having been decreased, school officials and parents had to find creative ways to fund their improvement projects. Their resourcefulness paid off as they were able to obtain an Illinois Green Infrastructure Grant for the construction of a new play area from the Illinois Environmental Protection Agency.

Together with funding from the owner, Chicago Public Schools, the Goethe Elementary Sustainable Schoolyard project was able to not only provide a new play area for students, but also use sustainable Best Management Practices throughout the process, making this project especially unique because of its public school setting. Designers from Primera had to be particularly conscious about this complex design to ensure the safety of the surrounding students in this high-traffic play area.

The final project provided: an enhanced natural turf field, basketball court, playgrounds, and gardens. Primera designed these features while implementing several sustainable elements, including a rainwater harvesting system, permeable pavement and a bio-infiltration system. The resulting design not only made the school more environmentally friendly but also provided a learning opportunity for the community by making these sustainable elements Visible. Primera's design is now being used as a model for other Chicago Public Schools of similar size looking to utilize grant funding.

ASCE Illinois Section would like to thank our 2014 Annual Dinner Sponsors!

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John. G. Green, Ph.D., P.E. is a Principal Rail Engineer with URS Corporation, a subsidiary of AECOM, and he is Annual Dinner Committee Chairperson, and a former Director of the ASCE Illinois Section.

John Lazzara, P.E., ENV SP is the Transportation Business Group Manager at HDR Engineering, Inc. He is the current ASCE IL Section Secretary and past Chair of the Awards Committee. This article was written on behalf of the Annual Dinner and Awards Committees.

Divvying Up the Roads

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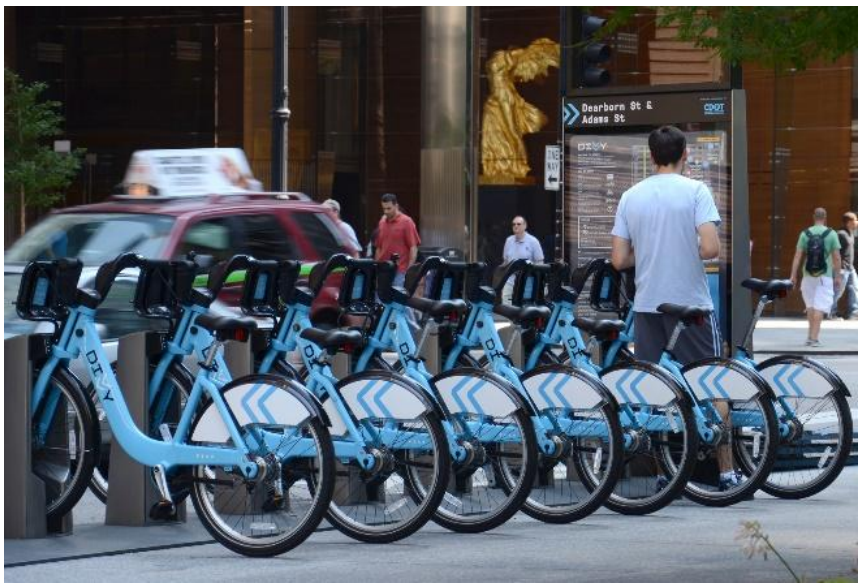
The proposed plan for 2020 is to increase this by almost three times that amount; this is a 645-mile bike system.

improvements such as neighborhood greenways, barrier or buffer protected bike lanes, standard bike lanes or shared lanes, and signed bike routes. This plan consists of three main types of bike routes: Neighborhood Routes, Crosstown Routes, and Spoke Routes.

Neighborhood bike routes are for connecting local destinations. They are located on residential streets with lower traffic. The preferred improvement for these bikeways are greenway systems, with intersection treatments at busier intersections to assist with bike crossings.

Crosstown routes are for longer routes connecting destinations across the city. They are located on higher traffic arterial and collector streets. The preferred improvement for these streets are barrier or buffer protected bike lanes to separate vehicular traffic from bike traffic.

Spoke routes are for major connections to the city for commuters on the outer city limits, or the suburbs. There are 7 major spoke routes which include Clark Street, Milwaukee Avenue, Lake Street/Randolph Street, Archer Avenue, Vincennes Avenue, South Chicago Avenue, and State Street/Wabash Avenue. The preferred improvement for these streets will be barrier protected bike lanes, but would also include enhanced intersections, bike signals, and improved pavement where feasible.



While a high level plan for this new bike system is necessary, feasibility of these improvements must always be a consideration. Due to physical constraints of an already congested area, widening roads to accommodate bike lanes is usually not an option due to physical barriers. This means that many of the streets are to be placed on a "road diet," meaning that lanes are to be narrowed, or taken out in order to provide sufficient space for bike lanes. Making sure that the traffic on these streets will not substantially increase needs to be considered. Another push to keep the city of

Divvy plans to add 175 stations and 1750 bikes in the spring of 2015.

Chicago one of the most bike friendly cities is implementation of the Divvy bike share program. Since its launch in June of 2013, approximately 2.3 million individual trips have been taken on Divvy throughout the city. There are currently 300 bike stations, with

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Eleven to Become ENVISION™ Sustainability Professionals (ENV SP)

by Gary Paradoski

On November 14th, the IL Section Sustainability Committee hosted its 1st Annual ENVISION™ Sustainability Professional (ENV SP) Accreditation Workshop at the Lake County Central Permit Facility. ENV SP is the first certification established by the Institute for Sustainable Infrastructure (ISI), a not-for-profit organization founded by the American Council of Engineering Companies (ACEC), the American Public Works Association (APWA), and the American Society of Engineers (ASCE), in partnership with the Zofnass Program at the Harvard Graduate School of Design, to develop and maintain ENVISION™, a sustainability project rating system for civil infrastructure (Figure 1). ENVISION™ provides a holistic framework for evaluating and rating the community, environmental and economic benefits of all types and sizes of infrastructure projects (ISI, 2014).

Eleven professionals from Lake County, McHenry County, the Village of Antioch, and private consulting firms (CBBEL, Greeley and Hansen, MWH, Robinson, Terra, and USG) were among the first in Chicagoland to attend the workshop, which qualifies them to take the ENV SP certification exam. Karen Kabbes, an ISI authorized Envision™ trainer and verifier and ASCE's National EWRI Past President, facilitated the workshop throughout the day. HDR, a charter member of ISI, presented one of its ENVISION™ rated projects during the afternoon session.

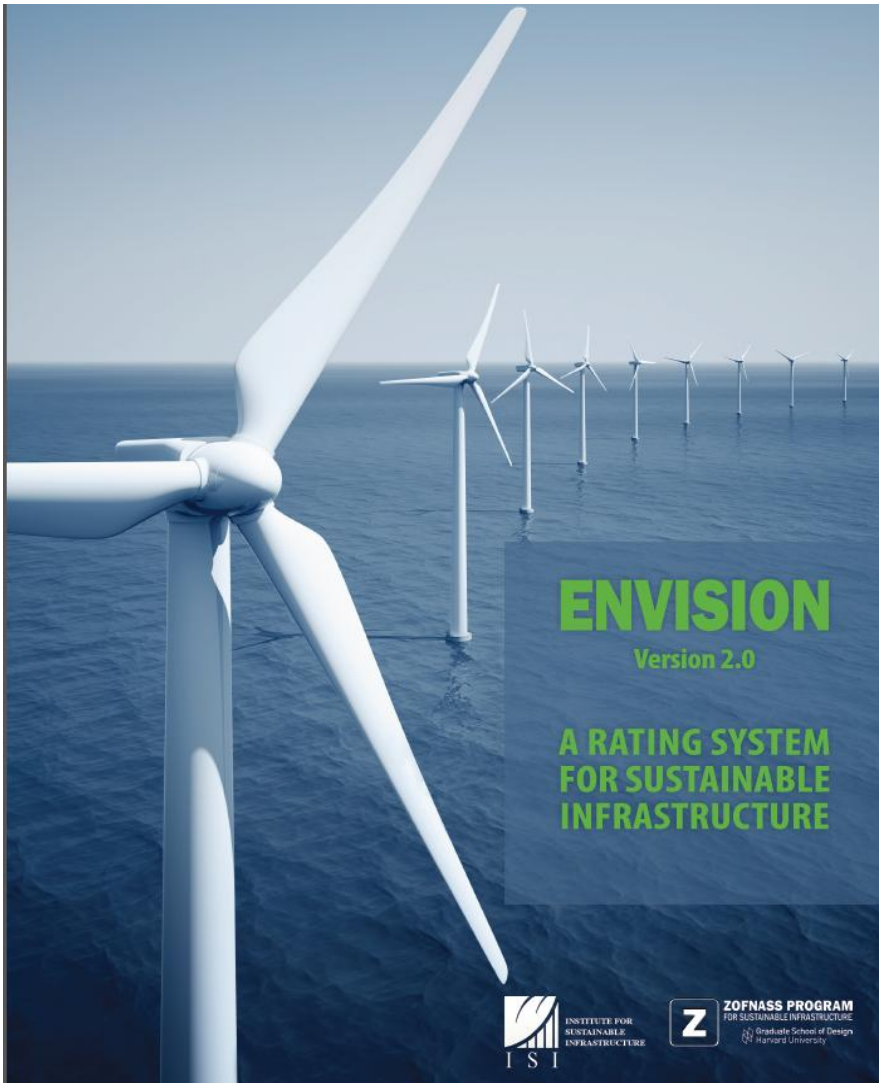

Figure 1 ENVISION™ 2.0 Guidance Manual

An ENV SP is credentialed to administer ENVISION™ for projects, meaning they guide the project team toward achieving higher levels of sustainability, document project sustainability accomplishments, and submit the project for recognition. An ENV SP uses ENVISION™ as a tool to promote collaboration amongst project owners, stakeholders, consultants, regulators, constructors, operators and the community to (ISI, 2014):

- Evaluate the triple-bottom-line (community, environment, and economy).
- Provoke dialogue, asking, "Are we doing the project right?" and, "Are we doing the right project?"
- Make decisions about the investment of scarce resources.
- Assess costs and benefits over the project life cycle.

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Eleven to Become ENVISION™ Sustainability Professionals (ENV SP)

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ENVISION™ has 60 sustainability credits divided into five aspects of an infrastructure project: Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Risk. Each credit is evaluated based upon its Level of Achievement – Improved, Enhanced, Superior, Conserving, and Restorative – and the numerical score is then given a project rating based upon the total available credits (Figure 2). Projects are not penalized for credits that are not applicable. The purpose of rating a project is to initiate a systematic change that transforms the way infrastructure is designed, built, and operated (ISI, 2014).

ENVISION™ is not intended to replace other rating systems but rather to fill the gaps that might exist between sector specific systems (e.g. roads, architecture) and the project's overarching goals (e.g. optimal mobility that meets the needs of the community). While ENVISION™ encourages the use of rating tools for specific or specialized aspects of a project, it is key to realizing the overall and full impacts of a project based upon the triple-bottom-line (ISI, 2014). For those who are interested in learning more about ENVISION™ or becoming an ENV SP, visit the website http://www.sustainableinfrastructure.org. If you would like to become more involved in sustainability activities consider joining ASCE - IL Section's Sustainability Committee.

ENVISION™ is not intended to replace other rating systems but rather to fill the gaps that might exist between sector specific systems (e.g. roads, architecture) and the project's overarching goals (e.g. optimal mobility that meets the needs of the community).

Gary Paradoski is President of Aqua Vitae, Chair of the IL Section Sustainability Committee and Past Chair of EWRI.

TABLE OF POINT VALUES

				Improved	Enhanced	Superior	Conserving	Restorative
1	QUALITY OF LIFE	PURPOSE	QL1.1 Improve community quality of life	2	5	10	20	25
2			QL1.2 Stimulate sustainable growth and development	1	2	5	13	16
3			QL1.3 Develop local skills and capabilities	1	2	5	12	15
4		COMMUNITY	QL2.1 Enhance public health and safety	2			16	
5			QL2.2 Minimize noise and vibration	1			8	11
6			QL2.3 Minimize light pollution	1	2	4	8	11
7			QL2.4 Improve community mobility and access	1	4	7	14	
8			QL2.5 Encourage alternative modes of transportation	1	3	6	12	15
9			QL2.6 Improve site accessibility, safety and wayfinding		3	6	12	15
10		WELLBEING	QL3.1 Preserve historic and cultural resources	1		7	13	16
11			QL3.2 Preserve views and local character	1	3	6	11	14
12			QL3.3 Enhance public space	1	3	6	11	13
				13	27	62	150	151
13	LEADERSHIP	COLLABORATION	LD1.1 Provide effective leadership and commitment	2	4	9	17	
14			LD1.2 Establish a sustainability management system	1	4	7	14	
15			LD1.3 Foster collaboration and teamwork	1	4	8	15	
16			LD1.4 Provide for stakeholder involvement	1	5	9	14	
17		MNGMT.	LD2.1 Pursue by-product synergy opportunities	1	3	6	12	15
18			LD2.2 Improve infrastructure integration	1	3	7	13	16
19		PLANNING	LD3.1 Plan for long-term monitoring and maintenance	1	3		10	
20			LD3.2 Address conflicting regulations and policies	1	2	4	8	
21			LD3.3 Extend useful life	1	3	6	12	
				10	31	56	115	31
22	RESOURCE ALLOCATION	MATERIALS	RA1.1 Reduce net embodied energy	2	6	12	18	
23			RA1.2 Support sustainable procurement practices	2	3	6	9	
24			RA1.3 Use recycled materials	2	5	11	14	
25			RA1.4 Use regional materials	3	6	9	10	
26			RA1.5 Divert waste from landfills	3	6	8	11	
27			RA1.6 Reduce excavated materials taken off site	2	4	5	6	
28			RA1.7 Provide for deconstruction and recycling	1	4	8	12	
29		ENERGY	RA2.1 Reduce energy consumption	3	7	12	18	
30			RA2.2 Use renewable energy	4	6	13	16	20
31			RA2.3 Commission and monitor energy systems		3		11	
32		WATER	RA3.1 Protect fresh water availability	2	4	9	17	21
33			RA3.2 Reduce potable water consumption	4	9	13	17	21
34			RA3.3 Monitor water systems	1	3	6	11	
				29	66	112	170	62
35	NATURAL WORLD	SITING	NW1.1 Preserve prime habitat			9	14	18
36			NW1.2 Protect wetlands and surface water	1	4	9	14	18
37			NW1.3 Preserve prime farmland			6	12	15
38			NW1.4 Avoid adverse geology	1	2	3	5	
39			NW1.5 Preserve floodplain functions	2	5	8	14	
40			NW1.6 Avoid unsuitable development on steep slopes	1		4	6	
41			NW1.7 Preserve greenfields	3	6	10	15	23
42		L&W	NW2.1 Manage stormwater		4	9	17	21
43			NW2.2 Reduce pesticide and fertilizer impacts	1	2	5	9	
44			NW2.3 Prevent surface and groundwater contamination	1	4	9	14	18
45		BIODIVERSITY	NW3.1 Preserve species biodiversity	2			13	16
46			NW3.2 Control invasive species			5	9	11
47			NW3.3 Restore disturbed soils				8	10
48			NW3.4 Maintain wetland and surface water functions	3	6	9	15	19
				15	33	86	165	169
49	CLIMATE	Emission	CR1.1 Reduce greenhouse gas emissions	4	7	13	18	25
50			CR1.2 Reduce air pollutant emissions	2	6		12	15
51		Resilience	CR2.1 Assess climate threat				15	
52			CR2.2 Avoid traps and vulnerabilities	2	6	12	16	20
53			CR2.3 Prepare for long-term adaptability				16	20
54			CR2.4 Prepare for short-term hazards	3		10	17	21
55			CR2.5 Manage heat islands effects	1	2	4	6	
				12	21	39	100	101
				79	178	355	700	514

Figure 2 ENVISION™ Table of Point Values

Civil Engineers, Society Needs You

By Charles Frangos

The role of the civil engineer is changing to meet the needs of society at an increasing pace due to the integration of technology, environmental challenges, and decreasing availability of traditional funding.

ASCE envisions the civil engineers of the future as needing to exhibit mastery in five key areas[1]:

- Planner, Designers, Constructors, and Operators
- Stewards of the Environment
- Innovators and Integrators of Technology
- Managers of Risk
- Leaders in Public Policy

Additionally, a focus on sustainable design, resource conservation, and energy efficiency has created the need for increased technology integration and collaboration not only between civil engineering disciplines (water resources, transportation, materials, environmental, structural) but electrical, mechanical, and process engineers. Although civil engineering practitioners have become increasingly more specialized, modern engineers must be creative, collaborative within interdisciplinary teams, and understand the economic, social, environmental and international context of their professional activities.

Financial challenges

Infrastructure is the foundation that connects the nation's businesses, communities, and people, driving our economy and improving our quality of life. For the U.S. economy to be the most competitive in the world, we need a first class infrastructure system – transport systems that move people and goods efficiently and at reasonable cost by land, water, and air; transmission systems that deliver reliable, low-cost power from a wide range of energy sources; and water systems that drive industrial processes as well as the daily functions in our homes. Yet today, our infrastructure systems are failing to keep pace with the current and expanding needs, and investment in infrastructure is faltering.[2]

For the U.S. economy to be the most competitive in the world, we need a first class infrastructure system

Roads, bridges, and transit are funded through a partnership of the federal government, states, and localities. Over the past 10 years, all levels of government have experienced challenges in funding transportation infrastructure. Revenue for the highway trust fund, the source of most federal funding for the country's roads and transit infrastructure, has fallen short of expenditures for more than a decade and infrastructure projects have been hopelessly inadequate in many areas, as the American Society of Civil Engineers' Report Card documented.[3] The Congressional Budget Office has predicted that by the end of 2014, balances in the trust fund will be so low that payments to states and localities may need to be delayed and that in fiscal year 2015, balances will be completely exhausted. A two year continuation of MAP-21 was passed in August, but Congress has not passed an infrastructure funding package that lasts longer than two years since 2005. With a polarized political climate and the removal of earmarking local projects on the Federal Transportation Bill, lawmakers are not tackling a long-term solution to fund the nation's crumbling infrastructure.

With traditional government-funded infrastructure investment in short supply, some policy experts are advocating for more private-sector involvement through public-private partnerships (PPP). Through municipal bonds, private capital often helps fund infrastructure, but a PPP is a project with direct cooperation via long-term contracts between the public and private sector in development, construction, operation, ownership, or financing.[4]

With traditional government-funded infrastructure investment in short supply, some policy experts are advocating for more private-sector involvement through public-private partnerships (PPP).

Advocating Infrastructure

ASCE continues to be an advocate and infrastructure leader on both the national and local levels. On November 23, ASCE Past President Andrew W. Herrmann, discussed the state of our nation's bridges during (continued on page 15)

[1] http://www.asce.org/vision2025/

[2] http://www.infrastructurereportcard.org/a/#p/overview/executive-summary

[3] http://www.engineeringchallenges.org/cms/8996/9136.aspx

[4] http://www.cfr.org/infrastructure/transportation-infrastructure-moving-america/p18611

Divvying Up the Roads

(continued from page 11)

3000 bikes. Divvy plans to add 175 stations and 1750 bikes in the spring of 2015. This expansion has been delayed due to funding and company bankruptcy issues, but continue to shoot for a spring completion that will extend the Divvy network area from Touhy Avenue to 75th Street, and as far west as Pulaski. A financial loss was anticipated for the first year, but ridership has increased from its launch. On the peak day in 2013, there were just over 10,000 rides, while in 2014 the highest day occurred in June with approximately 16,500 rides.

Updating the bicycle infrastructure makes the system much safer for bikers, motorists, and pedestrians. Divvy bikes are equipped with lights that make the biker more visible on the streets. In addition to these measures, Chicago has made an important push to inform and educate residents on bike safety. The City of Chicago's Bicycling Ambassadors go to schools all over the city to educate students on traffic rules and bike safety. They also help with target enforcement outreach at locations where accidents occur at a higher rate. The city has published numerous publications on bike safety, which includes best routes to take, what to watch for, and the importance of wearing a helmet. Divvy has stated they are looking into options about helmet rental as well. Due to the relatively new program implementation, it's difficult to know the effect the safety measures and new infrastructure has had on the amount of bicycle crashes in the city. The number of crashes has increased in the last two years, but the number of bicyclists has also increased. As motorists, bicyclists, and pedestrians become more familiar with the new bike system, a decrease in the accidents is anticipated.

With the infrastructure developments, biking availability, and safety and awareness, it is a goal for Chicago to become the best city for bikers. Ride Safe!

Madison Heidemann is a Structural/Civil engineer in the Power Delivery Services department at Sargent & Lundy. She is also the Current Chair for ASCE's Younger Member Group.

Civil Engineers, Society Need You

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ASCE continues to be an advocate and infrastructure leader on both the national and local levels.

primetime TV on CBS' 60 Minutes via a helicopter tour of Pittsburgh and leaned heavily on the ASCE's Report Card for America's Infrastructure.[5] Once every four years, America's civil engineers provide a comprehensive assessment of the nation's major infrastructure categories in ASCE's Report Card for America's Infrastructure (Report Card). Using a simple A to F school report card format, the Report Card provides a comprehensive assessment of current infrastructure conditions and needs, both assigning grades and making recommendations for how to raise the grades.[6] At the local level, the Illinois Section released its 2014 Report Card for Illinois Infrastructure on April 2, 2014 and conducted its 7th Annual Legislative Drive-Down to meet with our State Legislators to highlight the importance of our State's infrastructure. In addition, the Section has recently met with the Chicago Infrastructure Trust to evaluate ways the two groups could work together to help further the Trust's mission of assisting the people of the City of Chicago, the City government and its sister agencies in providing alternative financing and project delivery options for transformative infrastructure projects.

Get Involved

The practice of engineering does not exist outside the domain of societal interests. The healthy debate among engineers (as well as clients and employers) which should naturally arise in the integration and the application of the methodologies will serve to underscore the nature and importance of the role that the engineer has in society (health, safety, and welfare of the public); the role the client has in engineering design (realistic requirements, economics, reliability,

(continued on page 17)

[5] http://www.cbs.com/shows/60_minutes/video/wDHgIRBoeP_q4gHkLL0kheu_bLmCiFD9/preview-falling-apart/

[6] http://www.infrastructurereportcard.org/a/#p/home

In an effort to inform Illinois Section members of the discussions at the monthly Board meetings, the Section Secretary contributes this monthly article to the newsletter. Any questions or comments on the Board activities are welcome by contacting John Lazzara, at John.Lazzara@hdrinc.com

■ *Treasurer's Report*

▲ A treasurer's report was presented at the September, October, and November meetings. All reports were approved with no changes. The FY2014 Budget was approved at the November meeting.

■ *Group Reports*

Groups presented a written report outlining previous and current month's activities.

▲Illinois Report Card Public Relations – The Section received a proposal from Resolute Consulting for active campaigning of the Illinois Section Report Card for the coming year. Services included coalition building with various stakeholders, develop tactical tools for continued media outreach, development of collateral materials, video production and app development. The proposal was tabled until Report Card Committee obtains National's input on the proposal and develop a tiered approach on what the Section can do and afford in combination with National's support. Several Report Card outreach presentations have been given.

▲Annual Dinner/Awards Update – The Annual Awards Dinner was held on October 30 at U.S. Cellular Field. Former Chicago White Sox outfielder Michael Huff was the emcee with over 400 people in attendance. Nominations for awards included 23 submittals and awards were given out in 10 categories.

▲Presidents and Governors Forum – The Presidents and Governors Forum was held September 21-22 at National headquarters in Reston, Virginia. Treasurer Gora attended on the behalf of the Section. She reported that it was good for networking.

▲ASCE Annual Conference – The ASCE Annual Conference was held from October 7-11 in Panama City, Panama. Governor Olson and President-Elect Baldauf attended to represent the IL Section.

▲Region 3, 6 & 7 Multi-Region Leadership Conference – The next multi-region conference will be held in Houston, Texas on January 30-31, 2015.

▲Future Cities – At the October meeting Anne Marie Jensen announced the upcoming Future Cities Competition that will be held this coming January 2015. They are in need of engineering mentors for participating schools. Please contact Don Wittmer, Anne Marie Jensen or Matt Miller for more information. The Section will be sponsoring three award categories (Best Design for a Sustainable City, Best Futuristic City and Best Name for a Community). Volunteers will be needed to judge each award. Please let President-Elect MacKinnion know of interest in participating.

▲Region 3 Infrastructure Initiative – Three infrastructure initiative resolutions: Sustainable Parks and Recreation Funding Sources, Sustainable Transportation Funding Sources, and Sustainable Water and Wastewater Funding Sources were presented and approved at the last Region 3 Assembly in August.

▲Envision Sustainability Training – The Section hosted a training session on the Institute for Sustainable Infrastructure's (ISI) sustainable rating tool (Envision) on November 14.

▲100th Anniversary Committee – The committee is starting to generate ideas for events to hold during the 100th Anniversary year in 2016. Volunteers are always welcome to join the committee The Illinois Section Board Meetings are held every first Monday of every month with the exception of holidays. The next board meeting is scheduled for December 1, 2014 at 5:30pm at MWH Americas, Inc., 175 West Jackson Blvd, 19th Floor. Meetings for the first quarter of 2015 will be held on January 5, February 2, and March 2.

By John Lazzara
John.Lazzara@hdrinc.com

Illinois Section Activities

T&DI/YMG/SEI

Toys for Tots Holiday Party
Date: Thursday, December 4
Time: 5:30 PM – 7:30 PM
Place: Tradition Bar,
160 N. Franklin Street,
Chicago, IL 60606
Question/RSVP: Anne Marie Jensen
mailto:amjensen@hntb.com

YMG

Dinner Meeting - Construction Law & Risk Management
Date: Wednesday, December 10
Time: 5:30pm dinner,
6:00pm presentations
Speaker: Albert Chollet (Watt, Tieder, Hoffar & Fitzgerald, LLP)
Place: Jacobs (525 W. Monroe St., Suite 200)
Cost: $20 Professionals, FREE! Students
RSVP: https://www.123signup.com/register?id=ycmqx
Andrew Gensch
(andrew.gensch@jacobs.com)

For all Section, Group and Committee events, check out the Section website at:

www.isasce.org/web/section/calendar.html

Geo-Institute

Dinner Meeting
Date: Wednesday, December 10
Speaker: AJ McGinn, PhD, PE,
President/CEO
Brierley Associates
Time: 5:30pm Cocktails & Appetizers,
6:30pm Dinner,
Presentation follow dinner
Place: The Parthenon Restaurant
314 South Halsted
Chicago, IL
(312-726-2407)
Cost: $40 with reservations
$30 Education/Government Employees (with reservations)
$20 for students (with reservations)
$45 at the door OR if you call after the RSVP date
(Make checks payable to "ASCE Geotechnical Group")
RSVP: Tuesday, December 9, 2014
Email: asceilgeotech@gmail.com
Phone: Dhooli Raj 312-236-5119
Patrick Lydon 630-339-4322
Christian Heinz 847-777-7534
Sarah Knight 847-489-9175

EWRI & IAEP

Seminar on Urban Flooding in Illinois
Date: Wednesday, December 10
Time: 8:00-10:30 am
8:00 am registration starts,
8:00-8:30 networking with breakfast refreshments
Speakers: Josh Ellis,
Program Director,
Natural Resources Program,
Metropolitan Planning Council

Harriet Festing,
Director Water Program,
Center for Neighborhood Technology

Thomas Burke, PhD, PE,
Head, Water Resources Department,
Christopher B.Burke Engineering, Ltd.
Place: City of Des Plaines - City Hall
(City Council Chambers)
1420 Miner Street
Des Plaines, IL 60016
Cost: $35 Government
$40 ASCE or IAEP Members
$80 Non-member
Registration: Go to www.iaepnetwork.org to register on-line.

Civil Engineers, Society Need You

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Engineers have much to offer society, but this can only be done if engineers actively participate in society.

maintainability, and other associated topics of quality); the effects of engineering activity on society; and the relationship of society to engineering activities (including product liability, protection of intellectual property, environmental regulations, etc.).[7]

Engineers have much to offer society, but this can only be done if engineers actively participate in society. Don't stand on the sidelines and watch; get involved and be active within ASCE. Help reach out to policy makers and work with partner groups to find solutions to meet the challenges of today and prepare for the future.

Charles Frangos is a Project Manager and Transportation Planning and Traffic Engineering Lead with Primera Engineers, past Chair of IL Section T&DI and Director for IL Section ASCE.

[7] http://www.me.utexas.edu/~srdesign/paper/