



ASCE Illinois Section

News

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High Speed Rail Bridge Design: Dynamic Analysis

Written by Chris Knipp, P.E. and Yong Yang, P.E., S.E.

High Speed Rail in the United States.

In the United States for the past several decades, high speed rail has been a popular proposed solution to decrease congestion on the roads, cut down travel time, and reduce emissions in a Country that's becoming more environmentally conscious. While several projects have

speed of up to 205 MPH, the recently opened Brightline Route between Miami and Fort Lauderdale with a current operating speed of 79 MPH and a future segment to Orlando reaching 125 MPH, and the Virgin Trains USA XpressWest line connecting Las Vegas to Victorville, CA on the outskirts of Los Angeles with proposed operating speeds up to 150 MPH.

High speed rail is becoming more relevant in the United States with both public and private investments planned

been proposed, the number that have come to fruition is small, with the most successful currently operating line being Amtrak's Acela Line connecting Boston, New York City, Baltimore, and Washington DC with operating speeds up to 150 MPH.

Recently there have been a few privately funded high speed rail lines in the works. The Texas Central Line connecting Dallas to Houston with a proposed operating

The most notable publicly funded project in the United States is the California High Speed Rail Project (CAHSR) which as originally proposed will connect San Francisco to Los Angeles with operating speeds up to 220 MPH.

Dynamic Analysis

Designing bridges for these unique operating speeds requires advanced analysis methods to measure the dynamic response of the structure. The goal is to provide a ride across a bridge that's comfortable for the passenger by limiting the vertical accelerations, and safe by designing for the dynamic amplification of load effects (i.e. ratio of dynamic to static
(continued on page 7)

President's Notes

Megan McDonald, P.E.



When I began writing my President's Notes for the Spring Newsletter, COVID-19 was just starting to make its presence known in Illinois. Since then, there have been 1049 (and counting) confirmed cases of coronavirus (Covid-19) in Illinois and WHO has declared the outbreak a pandemic. Large scale events are being cancelled, sporting events and leagues are suspending their seasons, and ASCE Headquarters has cancelled their annual Fly-In as our legislators are figuring out the next steps.

This is an interesting time of social distancing, reminding people of proper hygiene and handwashing techniques, and companies changing policies to encourage people to work from home. We are lucky that we live in a country where we have access to clean water, proper sanitation, and the data infrastructure in place that we can work remotely. ASCE's first canon in the Code of Ethics is to Hold Safety Paramount. Our profession recognizes our duty to advance the safety, health, and well-being of our communities and protection of our environment. We have built the infrastructure that we are relying on today to keep our communities and people safe.

I would be remiss if I didn't take the opportunity to remind us all that this infrastructure is aging and we need sustainable funding in order to maintain and improve to continue to meet the demands of our communities and ensure public safety. If we were in Washington,

D.C. lobbying our legislators, we would be discussing the Water Resources Development Act (WRDA) of 2020. Part of WRDA is H.R. 1497 which provides low interest loans to states and territories for wastewater and stormwater infrastructure projects, and a number of other pieces of legislation that prioritize the investment needs of our water resources infrastructure. We would also be there to lobby for the Fix the Highway Trust Fund (HTF) to provide long term stability and modernization of our nation's roads, bridges, and transit systems for the 21st century. Even though our lobbying in Washington was put on hold this year, I am still participating by reaching out to my legislators and providing them with the information via email and will set up meetings as soon as everything reopens. I encourage you all to do the same.

I won't leave us on the low note, there are a lot of high notes in our Section this year and we are looking forward to 2020. I am excited about the new programs and initiatives that we are getting started as we start heading towards spring in Chicago. As part of my vision for the next year of the IL Section, I am excited about finding new ways to fund our Diversity & Inclusion Committee and their scholarship to the Notre Dame Introduction to Engineering program. I'm excited to say that we have developed a new fundraiser this year at Top- (continued on page 11)

ASCE Illinois Section News

ILLINOIS SECTION NEWSLETTER

E-Mailed to all ASCE-IS dues-paying members
American Society of Civil Engineers Illinois Section - Region 3

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Ground Improvement: Past, Present, and Future

Written by Alex Potter-Weight, P.E.

At development sites with challenging soil conditions around the world, traditional solutions have fallen into two major categories: 1) remove the poor soil and replace

Ground improvement, or ground modification, generally consists of technologies which treat the poor soil in place

with controlled structural fill; or 2) bypass the soft soil by installing a deep foundation system such as driven piles or drilled shafts. In the later part of the twentieth century, however, a third approach began to emerge. Ground improvement, or ground modification, generally consists of technologies which treat the poor soil in place. The improved ground allows structural engineers to design shallow foundations with higher bearing pressures and limited deformation, which economizes foundations and simplifies construction. Many of the early ground improvement technologies have matured over time while newer methods, such as rigid inclusions, have proliferated as sites with worse and worse soil became more viable for development. More recently, a new wave of ground modification methods using natural and renewable methods appears poised to flourish and set a new standard

of sustainable geotechnical construction.

One of the more rudimentary ground improvement methods is dynamic compaction, sometimes referred to as deep dynamic compaction. This technique consists of dropping a heavy weight, or tamper, from height to efficiently apply dynamic energy to depths up to 40 feet. This technique, developed in the 1960s in France, continues to provide value for loose sandy soil profiles or redeveloped landfills. For clay soils, dynamic energy does not provide any improvement, so traditional methods of ground improvement have involved preloading by stockpiling soil

A new wave of ground modification methods using natural and renewable methods appears poised to flourish and set a new standard of sustainable geotechnical construction

across the site. This stress increase forces water particles out of the soil, pre-consolidating the clay. However, depending on the permeability of the clay, this process can take years or even decades to occur. To accelerate this process, vertical drainage systems can be installed. After the



early development of sand drains, the modern “wick drain” was created in its current form of a plastic core wrapped in a geotextile sleeve in the early 1970’s. Wick drains and dynamic compaction are now well known by geotechnical engineers as economical methods of treating soil in-situ. Many sites, however, cannot be sufficiently improved by either of these methods or site constraints make them otherwise prohibitive. For these projects, a subset of techniques known as ground reinforcement becomes a valuable alternative to deep foundations.

Ground reinforcement relies on the installation of a network of inclusions to attract a portion of the structural load and transmit it to deeper layers. The most widely used ground reinforcement method is stone columns or aggregate piers. This technology consists of columns of crushed stone which are compacted either by a vibrating probe or vertical ramming or tamping. Since stone columns were (continued on page 9)

Updated Bulletin 70 Seminar

Written by Jerome McGovern.

On October 23, 2019 the Environmental and Water Resources Institute of the IS-ASCE hosted a seminar on the Updated Bulletin 70. Dr. Momcilo Markus of Illinois State Water Survey gave a presentation on the work that led to the revised Bulletin 70 issued in March 2019. After-

On October 23, 2019 the Environmental and Water Resources Institute of the IS-ASCE hosted a seminar on the Updated Bulletin 70

wards representatives of various governmental agencies gave a brief overview of how they planned to implement Updated Bulletin 70 in their design requirements.

Bulletin 70's full name is "Frequency Distributions and Hydro climatic Characteristics of Heavy Rainstorms in Illinois". First published in 1989, it was created by the Illinois State Water Survey (ISWS) and State Climatologist Dr. James Angel and Dr. Floyd Huff. It was an attempt to provide better information on what could be expected during an extreme precipitation event.

Civil Engineers plan and build highways, airports, land developments and flood control reservoirs all of which must be designed to collect and manage the stormwater runoff generated by the impervious area created. In the process one must assume a design storm in

48 Hour Rainfall Through 7 am April 19th as Estimated by Radar



order to calculate the volume of runoff generated. Traditionally the design storm has been the 24-hour, 100-year storm event or the amount of rainfall expected to fall in 24 hours with a 1% chance of occurring in any given year.

Prior to Bulletin 70 the most common source of rainfall data was the United States Weather Bureau's Technical Paper 40 published in 1961. ISWS believed that Technical Paper 40 did not have enough information to properly predict extreme precipitation events. While there is a large population of small recurring storms, there is not a large population of extreme precipitation events upon which to extrapolate a 100 year storm with a high degree of confidence. Consider that when Technical Paper 40 was published there had only been 90 years of precipitation records for Northern Illinois and those included the abnormally dry years of the 1930's. Bulletin 70 used available precipitation records and statistical analysis to divide the State of Illinois into 10 distinct regions

and provide rainfall intensity for storms of various time intervals and recurrence intervals (a 2-year storm, a 25-year storm, a 100-year storm). The results showed that expected rainfall for extreme precipitation events in Northern Illinois was greater than what was predicted by Technical Paper 40. Bul-

Civil Engineers plan and build highways, airports, land developments and flood control reservoirs all of which must be designed to collect and manage the stormwater runoff generated by the impervious area created

letin 70 was eventually adopted by most regulatory authorities for the basis of the precipitation to be expected for a 100-year storm event.

In the late 1980's there were a (continued on page 10)

Focus on the Future

Written by Taylor Leahy, P.E. & Tim Alston

The IS-ASCE Outreach Committee has their sights on the future civil engineers in our Section. Whether the students attend one of our three universities (Northwestern, Illinois Institute of Technology, University of Illinois at Chicago) or are just beginning their journey in kindergarten, we want to share the gift of engineering with them.

Whether students attend one of our three universities (Northwestern, Illinois Institute of Technology, University of Illinois at Chicago) or are just beginning their journey in kindergarten, we want to share the gift of engineering with them

It is through our heart-filled engagement with these students that we can influence a brighter future for all.

The committee has played an active role in the community by helping facilitate activities that inspire young minds (K-12) to consider a future as an engineer. As part of sharing our time and talents with these students, we hosted several events at local schools. Many of these recent events were surrounding and celebrating Engineers Week (E-Week). Helen Keller Elementary School's STEAM night kicked off the 2020 E-Week events. Lauren Gardner, Student Outreach

Secretary led the effort that engaged over 60 local students on February 12. Lauren and her team of fellow ASCE members and friends joined in the fun. "It is really exciting and satisfying to create an opportunity for all students to engage with engineering in simple yet fun way," said Gardner. "I always find myself impressed with the creativity and problem-solving skills these students already possess!"

Supporting our collegiate members, the Outreach team supports one of its newest endeavors, the mentorship program. The mentorship program is currently in its third year. The program has grown tremendously, we now have 23 pairings. The 2019-2020 ASCE Mentorship Program has been a successful initiative thus far. In a climate where networking and "who you know" is just as important as one's credentials and experiences, this program provides students and prospective engineers with the opportunity to learn and build relationships with professionals in their fields of interest. So far, there

The IS-ASCE Outreach Committee has played an active role in the community by helping facilitate activities that inspire young minds (K-12) to consider a future as an engineer

has been a lot of positive feedback from both mentors and proteges engaged in the program that they have been able to meet and connect with each other. Whether these meetings have been informal "meet and greets," to getting lunch with one another, to even arranging an office or company visit, these experiences are invaluable to



Helen Keller STEAM Night volunteer, Kevin Danko, assists a student with building

forming a professional relationship that can benefit both parties! We are looking forward to continuing this program for years to come, and even expanding our ASCE sponsored events to help facilitate more fun and advantageous activities for both mentors and proteges to get involved with.

If you have partaken as a volunteer or as a mentor, thank you! (continued on page 11)

IS-ASCE Annual Membership Committee Update

Written by Matt Huffman, P.E.

This year the Membership Committee has welcomed two new members Tatiana Papakos (Michael Baker) and Tom Borges (Bloom Companies). For 2020, we have identified two initiatives to focus on:

1. Student Member Transition
2. Establishing a localized membership network within the Illinois Section

Every year, there are many student members that do not know or understand the process for transitioning their membership upon graduation or that there is a graduated membership dues scale for the first 5 years after graduation. Currently there are 591 active student members registered within the Illinois Section from 102 different universities. Approximately 55% of the student members are from UIC

The membership committee will be reaching out to graduating student members to welcome them to the Illinois Section, inform them of the many ways to get involved, and explain the process of transitioning their membership

(202), IIT (92) and Northwestern (38). The remaining are students

who attend other universities that permanently reside within the Illinois Section. The membership committee will be reaching out to graduating student members to welcome them to the Illinois Section, inform them of the many ways to get involved, and explain the process of transitioning their membership.

The other initiative that the membership committee will be working on in 2020 is establishing a localized membership network within the Illinois Section. This initiative is in its early stages with the development of an implementation plan and coordination with ASCE Headquarters. The overall objective of this initiative is to strengthen our membership network within the Illinois Section to allow for more efficient communication with our members. The idea is to identify one point of contact at each company or agency that is a current ASCE member. The point of contact will help facilitate/communicate various efforts and programs from the Illinois Section, inform new hires within their company about ASCE, and be kept up to date regarding various membership benefits that can be shared with other members or non-members within their company/agency. More information will be shared at the upcoming President-Elect/Student Scholarship Dinner in April regarding the development on these two initiatives. However, if you can't make it to the

Scholarship Dinner and are interested in helping with this initiative, please contact Matt Huffman at mhuffman@cbbel.com.

Remember to keep your ASCE account up-to-date with your latest employment and contact information via your online ASCE account ([Login](#)). Also, when renewing your 2020 membership, please remember to pay the Section dues (\$30), which constitutes a majority of our Section income. Please note that ASCE has a membership re-

Remember to keep your ASCE account up-to-date with your latest employment and contact information via your online ASCE account ([Login](#)). Also, when renewing your 2020 membership, please remember to pay the Section dues (\$30), which constitutes a majority of our Section Income.

newal grace period which lasts until March 31st, so make sure to renew soon!

The state of membership within the Illinois Section of ASCE begins 2020 with 2,720 active members. The makeup of our Section consists of 1,500 Members (55%), 450 (continue on page 8)

High Speed Rail Bridge Design: Dynamic Analysis

(continued from page 1)

effects).

For CAHSR, trains are expected to travel at an operating speed of up to 220 MPH with a design speed of 250 MPH required per the Project Specific Design Criteria. Given this upper limit, there is a wide

Designing bridges for high speed rail operating speeds requires advanced analysis methods to measure the dynamic response of the structure Bounded analysis approach for mass and stiffness assumptions required for dynamic analysis

range of speeds that need to be considered for the purpose of analysis. To add to the complexity, there are several axle configurations that could potentially traverse the bridge. Unlike AREMA with freight train loading, a simple equation for calculating the dynamic amplification has yet to be established for continuous structures. These unique speeds and axle configurations require a complete linear time history analysis to monitor displacement, force, and accelerations for the full duration of time it takes for the train to traverse the bridge.

The analysis needs to consider the stiffness and mass of all components of the structure including superstructure, bearings, substructures, and soil. Stiffness (k) and mass (m) define the dynamic

response characteristics of a structure, as presented in the familiar natural frequency equation below:

$$w_n = \sqrt{\frac{k}{m}}$$

We know that there is a good degree of variability in both the stiffness and mass when the structure is constructed. What we assume in our analysis almost certainly won't match *exactly* with the stiffness and mass of the structure that is built. Because of this, we must take a "bounded" approach in our assumptions. For CAHSR, this is done by assuming two conditions:

1. Condition 1 – Lower Bound Stiffness (0.95 x nominal stiffness), Upper Bound Mass (1.05 x nominal mass)
2. Condition 2 – Upper Bound Stiffness (1.05 x nominal stiffness), Lower Bound Mass (0.95 x nominal mass)

lower bound natural frequency in Condition 1 and an upper bound natural frequency for Condition 2.

Frequency of loading is also an important variable in this analysis. For this project, 5 trainsets with unique axle configurations and weights were considered. The bridges were analyzed assuming the 5 trainsets traveled across the bridge at speeds ranging from 90 MPH to 250 MPH at 10 MPH increments. In analytical terms, the speed and axle configuration give us the frequency at which a certain node along the bridge model is loaded. With these variables, time history forcing functions can be created. An example of a time forcing function developed in MIDAS can be seen in Figure 1, with the vertical axis representing the applied axle force (kip) and the horizontal axis representing time (s).

Forcing functions are created for

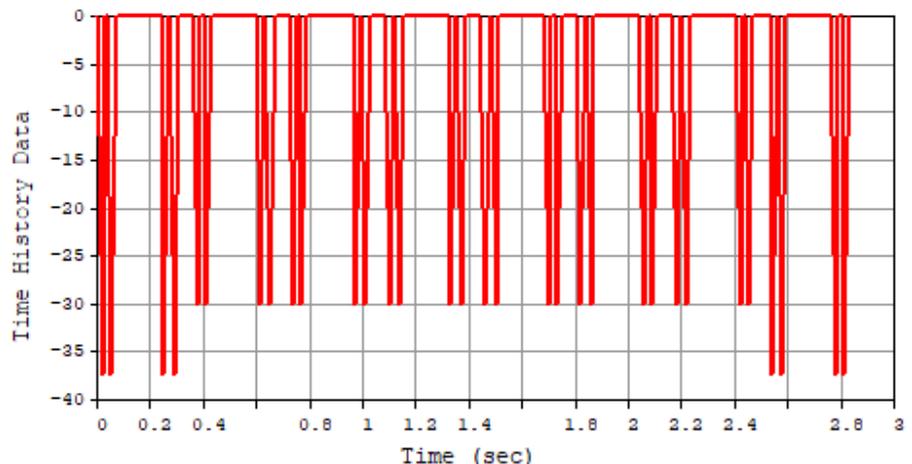


Figure 1: High Speed Train Forcing Function

Referencing the basic natural frequency equation, we can see that these two conditions give us a

each speed (17 speeds considered) (continued on page 8)

High Speed Rail Bridge Design: Dynamic Analysis

(continued from page 7)

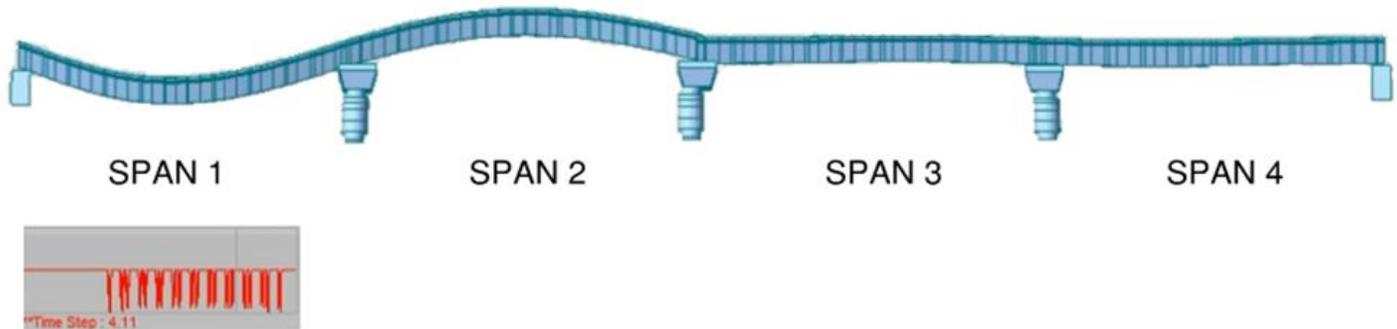


Figure 2: Dynamic Response at Critical Time Step

and each axle configuration (5 axle configurations). This results in the creation of 85 unique forcing functions.

As the frequency of loading approaches the natural frequency of the structure, the structural response reaches resonance. Naturally, the speed at which the train is traveling when the structure reaches resonance is called the “resonance speed”. At resonance, displacement, acceleration, and force effects become amplified to a level much higher than at other speeds. For typical structures along CAHSR, maximum dynamic amplification for high speed trains range from 1.7 to 3.2, depending on the structural configuration. An

example of the dynamic response at a critical time step can be seen in Figure 2. As can be seen, at this

As the design of high speed rail structures becomes more relevant to the structural engineering industry in the United States, it’s important to understand and design for the unique effects that speed can have on the response of a structure

time step the left two spans have formed a natural mode shape resulting in amplified bending

moments and deflections developed in spans 1 and 2.

Conclusion

As the design of high speed rail structures becomes more relevant to the structural engineering industry in the United States, it’s important to understand and design for the unique effects that speed can have on the response of a structure.

Chris Knipp, P.E. is a Bridge Engineer at Jacobs in Chicago and currently serves as Secretary for the IS-ASCE Structural Engineering Institute.

Yong Yang, P.E., S.E., is a Senior Bridge Engineer at Jacobs in Chicago and has 28 years of advanced structural design Engineering.

IS-ASCE Annual Membership Committee Update

(continued from page 6)

Associate Members (17%), 591 Student Members (22%), 89 Fellows (3%), 7 Distinguished Members, and 83 Affiliate Members (3%). The Illinois Section also has 424 Life Members (16%) who have made a lifetime commitment to ASCE and the profession by

maintaining membership for the length of their career.

Please note that ASCE has a membership renewal grace period which lasts until March 31st, so make sure to renew soon!

Please contact Matt Huffman, the Illinois Section Membership Committee Chair, with any membership-related questions at mhuffman@cbbel.com.

Matt Huffman, P.E. is a project Manager at Christopher B. Burke Engineering, Ltd. within the Phase I Engineering Department.

Ground Improvement: Past, Present, and Future

(continued from page 3)

brought to the United States in the 1970s, they have spread to many sectors of the construction industry due to their adaptability to many different soil conditions, from soft clay to loose sand. Over this time, specialty design-build contractors have continuously improved methods of installation and today stone columns provide a very economical ground improvement solution, especially at depths of up to 20 feet. While stone columns remain a cornerstone of any geotechnical designer's toolbox, limitations remain which have contributed to the proliferation of a newer form of ground reinforcement known as rigid inclusions.



The development of rigid inclusions since their conception in France in the 1980s represents the next step in the evolution of ground reinforcement as it approaches the performance capabilities of deep foundations in many situations. A rigid inclusion is a column of cementitious material that is designed as ground improvement

with a gravel cushion between the top of the column and the foundation. Compared to stone columns, which are defined as flexible inclusions, RIs do not expand into soft soil layers when loaded. This feature enables high column capacities even in very soft or organic layers. The use of RIs has increased over the last 20 years both in the US and around the world. Even within this relatively new

As the ground improvement market continues to evolve and play a larger role in geotechnical construction, sustainability must remain at the forefront of its development

technology, innovations continue to emerge. Equipment developments have allowed for columns to be installed to record depths of over 150 feet in the last few years. In cases where a thick gravel cushion would be required between the foundation and the inclusion, this can be replaced by a flexible stone column cap on top of each RI. These developments have further broadened the applicability of RIs to enable economized foundation systems, reducing material cost and thereby lowering overall carbon footprint. However, the inclusions still rely on the production of Portland cement for their material composition. To more fully address the geotechnical construction industry's contribution to the climate crisis, further innovations are required. Fortunately, multiple

emerging technologies offer promising paths forward.

On building sites, one of the developing technologies in the field of renewable energy systems relies on geothermal heating and cooling within pile elements, colloquially known as "energy piles". Though these systems have thus far been primarily incorporated into deep foundations, the recent growth of the RI market offers a significant opportunity to add geothermal elements into ground improvement systems. To take the next leap forward, however, focus may need to shift to the use of completely novel and sustainable geo-materials. One developing category of ground modification involves the use of microorganisms for soil biocementation. By flushing bacteria through soil matrices, we can trigger microbial processes which cause particles to bind together and effectively turn loose sand into rock. The geotechnical community certainly has one eye on the future as evidenced by the annual Geo-Congress conference in February. In addition to a keynote speech on energy foundations, full session topics included the field of bio-geotechnics and other innovative trends, such as ground treatment by electrokinetics. As the ground improvement market continues to evolve and play a larger role in geotechnical construction, sustainability must remain at the forefront of its development.

Alex Potter-Weight, P.E., is a Regional Design Manager for Menard USA in their Chicago office, where he develops ground improvement solutions for projects across the Midwest.

Updated Bulletin 70 Seminar

(continued from page 4)

series of extreme precipitation events that led to severe flooding in Northeastern Illinois especially in Lake and DuPage Counties. This

Even with the adoption of the rainfall intensities of Bulletin 70, it became apparent that with changes in climate in Illinois over the last 30 years (it is warmer and wetter than it used to be) that Bulletin 70 may need to be updated to reflect current conditions.

Updated Bulletin 70 focused on precipitation data from 1948 to 2017 which better represents current climate conditions.

led to the legislation by the State of Illinois allowing counties in Northeast Illinois to create and fund agencies dedicated to stormwater management. It is interesting to note that the original Bulletin 70 did not include those storms in its analysis. The 1989 version of Bulletin 70 covered precipitation events from 1901 to 1983.

Even with the adoption of the rainfall intensities of Bulletin 70, it became apparent that with changes in climate in Illinois over the last 30 years (it is warmer and wetter than it used to be) that Bulletin 70 may need to be updated to reflect current conditions. Updated Bulletin 70 focused on precipitation data



from 1948 to 2017 which better represents current climate conditions. There also three times as many reporting stations available from 1948 to the present which provides a greater amount of data. A statistical adjustment was made to give more weight to the second half of the data (1983-2017) to more accurately portray the trend in heavier precipitation. Of the five wettest years on record for the Chicago metropolitan region, four have occurred in the last eleven years: 2008, 2011, 2019 and 2018!

The Updated Bulletin 70 indicates that the 24-hour duration storms of all recurrence intervals from 2-year to 100-year have increased. For Northeastern Illinois, the expected precipitation during a 24-hour, 100-year storm increased from 7.58 inches to 8.57 inches.

Dr. Markus closed with an excerpt from the Climate Science Special

Report prepare by U.S. Global Change Research Program:

- Precipitation will continue to increase (medium confidence)
- Heavy precipitation events will increase in frequency and amounts (high confidence)

Since the October seminar ISWS has released Frequency Distribution of Heavy Precipitation in Illinois: Spatio-Temporal Analysis (December 2019). This report provides Huff curves, consideration of Areal Reduction Factors and rainfall depths for sub-hourly durations and recurrence intervals of less than 2-years.

EWRI would like to thank the following presenters who helped to make this presentation a success:

- Dr. Momcilo Markus, ISWS
- Dr. Trent Ford, State Climatologist

(continued on page 11)

Updated Bulletin 70 Seminar

(continued from page 10)

- Kurt Woolford, Lake County SMC
- Dan Feltes, MWRDGC
- Joanna Colletti, McHenry County
- Dave Winklebleck, DuPage County
- Liana Winsauer, IDNR-OWR
- Perry Masouridis, IDOT
- Scott Killinger, Will County
- Andrew Billing, City of Chicago

- Nick Smith, ISTHA
- Adam James, CCDOTH

We would also like to thank Dr. Jim Angel, retired State Climatologist and Dr. Karsten Shein, Director of the Midwestern Regional Climate Center for joining us. A link to the reports can be found at <http://hdl.handle.net/2142/103172> and at <http://hdl.handle.net/2142/106006>. All of the

presentations from the seminar are available at:

<https://drive.google.com/open?id=1ZpT7BEu-ruXKDrM7Ti5VUFjn5LqdS-mAnm>

Jerome F. McGovern is a senior Municipal Engineer with Baxter & Woodman

Focus on the Future

(continued from page 5)



Representatives of the IL-Section ASCE Institutes review Northwestern University ASCE members resumes following the scholarship presentation

These events and programs are simply not possible without your

support. If you have not volunteered or mentored before, we would like to encourage you to do so. These experiences can be just as rewarding for you as it is for the students we aim to inspire. Please reach out to stoutcommittee@gmail.com if you would like to get involved; we would be honored to have you.

Taylor Leahy, P.E. is a Compass Project Manager at CDM Smith. She currently serves as the Chair of the IS-ASCE Outreach Committee.

Tim Alston is an Environmental Engineer at CDM Smith. He currently serves as the lead for the IS-ASCE Mentor-Protégé program.

The 2019-2020 ASCE Mentorship Program has been a successful initiative thus far. In a climate where networking and “who you know” is just as important as one’s credentials and experiences, this program provides students and prospective engineers with the opportunity to learn and build relationships with professionals in their fields of interest.

President’s Notes

(continued from page 2)

Golf Schaumburg this summer. I hope to see some new faces there, while we raise money for a good cause.

I hope everyone stays healthy during this pandemic, make sure you’re following the guidelines and directions from the CDC, and

most importantly PLEASE WASH YOUR HANDS!!

To inform Illinois Section members of the discussions at monthly Board meetings, the Section Secretary contributes this article to the newsletter. Any questions or comments on the Board activities are welcome by contacting Andrew Walton at awalton@orionengineersllc.com.

■ **Treasurer’s Report**

▲ A treasurer’s report was presented at the December 2019, January 2020, and February 2020 meetings. All reports were approved.

■ **Highlights from Illinois Section Activities and Group Reports.**

▲ **IS-ASCE Holiday Party** – The ASCE IL Section and Technical Institutes Holiday Party was held on Wednesday 12/11 at Haymarket Pub & Brewery located at 737 W. Randolph Street, Chicago, IL 60661. The party kicked off at 6:00pm with 112 members in attendance bringing unwrapped toys to donate for the Toys-for-Tots charity and raising almost \$500 in cash from the Toys-for-Tots raffle. Please contact YMG Member Brian Janus with any questions at bmjanus@transystems.com.

▲ **2020 ASCE Regions 3, 6 & 7 Multi-Region Leadership Conference (MRLC)** – The ASCE Regions 3, 6 & 7 Multi-Region Leadership Conference was held this year in Detroit, MI from Friday 1/10/2020 thru Saturday 1/11/2020 at the Detroit Marriot at the Renaissance Center. Six (6) members from the Illinois Section attended this conference, including Region 3 Governor John Lazzara.

▲ **Future City Competition** – The 2020 Future City Illinois (Chicago)

Regional competition was held in January on Saturday 1/18 at the UIC Student Center West located at 828 S. Wolcott Avenue, Chicago, IL 60612. The Illinois Section and Technical Institutes sponsored nine (9) special awards and had over 10 members participating as volunteer mentors, judges, and coordinating staff. More information can be found at www.futurecity.org/illinois-chicago or by contacting Future City Illinois (Chicago) Regional Coordinator Don Wittmer at illinois@futurecity.com.

▲ **TFIC Reception** – IS-ASCE sponsored a reception hosted by the Transportation for Illinois Coalition (TFIC) held at the Illinois Governor’s mansion to celebrate the ‘Rebuild Illinois’ capital plan. Five (5) members of the IS-ASCE board were in attendance to represent the Illinois Section. For more information, please contact Secretary Walton at awalton@orionengineersllc.com.

▲ **Women in the Built World** – IS-ASCE sponsored the 2020 Women in the Built World symposium held on Friday 2/7 held in Chicago at the Merchandise Mart. For more information, please contact Past-President Dhooli Raj at draj@collinsengr.com.

▲ **ACEC-IL Engineering Excellence Awards (EEA) Gala** – IS-ASCE sponsored the 2020 ACEC-IL EEA Gala held Thursday 2/20 at the Hyatt Regency O’Hare Chicago. Multiple ASCE members including President McDonald, Secretary Walton, and Treasurer Homola were in attendance in addition to other members of the IS-ASCE board.

▲ **Western Society of Engineers - Washington Award** – IS-ASCE sponsored the 2020 Washington Award presented to Dr. Richard A. Berger on Friday 2/28 at the Donald E. Stephens Convention Center in Rosemont, IL. Secretary Walton was in attendance to represent the IS-ASCE executive board.

▲ **ASCE Legislative Fly-In & OPAL Awards – CANCELLED Legislative Fly-In due to COVID-19.** ~~The ASCE National Legislative Fly in will be held this year in Washington, D.C. from Wednesday 3/11/2020 thru Thursday 3/12/2020. This intensive two day program provides participants with an inside look at the public policy process at the National level. The ASCE Outstanding Projects and Leaders (OPAL) Awards Gala was held on Friday 3/13/2020. Dr. Raymond J. Krizek, Ph. D, P.E. (Illinois Section member) was awarded the OPAL Education award for his demonstrated excellence in furthering civil engineering education. Sergio A. Pecori, P.E. (Central Illinois Section member) received the OPAL Management award for his exceptional management skills. For more information, please see <https://www.asce.org/opal/>.~~

▲ **ASCE Government Relations University – CANCELLED due to COVID-19.** ~~The Illinois Section has requested participation in ASCE’s Government Relations University, targeting a late March or April 2020 date. For more information, please contact President McDonald at me-gan.mcdonald@clarkdietz.com.~~
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▲ **ASCE Legends Program** – The Illinois Section is developing a pilot ‘ASCE Legends’ program with the mission of connecting ASCE life members and retired civil engineers with students interested in learning from and engaging with them. For more information, please contact UIC student and ASCE Legends program initiator Michelle Calcagno at ascel-legends@uic.edu or Membership Committee Chair Matt Huffman at mhuffman@cbbel.com.

▲ **IS-ASCE LinkedIn Page** – IS-ASCE members are encouraged to please visit and follow the official IS-ASCE LinkedIn page: ‘*Illinois Section ASCE*’.

▲ **IS-ASCE Scholarships & President-Elect Dinner** – **CANCELLED due to COVID-19.** The 2020 IS-ASCE Technical Institutes scholarship applications are now available online. New this year is a \$1,000 ‘Student Leadership & Involvement’ scholarship for an undergraduate or graduate student in an active leadership role in their ASCE student chapter with a strong interest in continued ASCE involvement upon graduation. Please also save the date for the 2020 President Elect / Student Scholarship Dinner to be held Wednesday 4/8/2020 at Maggiano’s Chicago located at 516 N. Clark St., Chicago, IL 60654. Please visit www.isasce.org/scholarships/ to access the scholarships application form.

▲ **ASCE Region 3 Assembly** – The ASCE Region 3 Assembly will be held this year in Cleveland, OH from Friday 7/24/2020 thru Saturday 7/25/2020.

▲ **2020 Annual Awards Dinner** – Please save the date for the 2020 ASCE IL Section Annual Awards Dinner to be held on Thursday 10/1/2020 at the Hyatt Regency Chicago located at 151 E. Wacker Drive, Chicago, IL 60601. More information will be forthcoming.

▲ **ASCE National Convention** – The 2020 ASCE National Convention will be held this year in Anaheim, CA from Wednesday 10/28/2020 thru Saturday 10/31/2020 at the Disneyland Hotel. The ASCE Convention is ASCE’s flagship membership event and is the single annual opportunity that the entire Society is represented together. For more information about the ASCE National Convention, please refer to the following webpage: <https://www.asceconvention.org/>

▲ **Construction Institute (CI)** – **CANCELLED due to COVID-19.** The Illinois Section’s Construction Institute (CI) will be partnering with the SEI to host a joint dinner meeting on Chicago’s Bascule Bridges on Wednesday 3/18/2020. For more information or if you’re interested in joining this institute, please contact CI Chair Zach Pucel at zjpuceel@transystems.com.

▲ **Environmental & Water Resources Institute (EWRI)** – Please contact EWRI Chair Jeana Gowin at jgowin@cbbel.com with any questions or for information about joining the EWRI.

▲ **Geo-Institute (GI)** – The GI hosted a lecture on ‘Addressing Sustainability in Geotechnical and Geoenvironmental Projects’ on Tuesday 1/14/2020 and a lecture on ‘Integrity Testing of Deep Foundations’ on Tuesday 2/11/2020. Both events were

held at Pazzo’s located at 311 S. Wacker Drive, Chicago, IL. Please contact GI Chair Alex Barlan for more information or with any questions at asceilgeotech@gmail.com.

▲ **Structural Engineering Institute (SEI)** – The SEI hosted a dinner meeting discussing the ‘Design and Construction of IL 89 over the Illinois River’ on Wednesday 1/29/2020 and a dinner meeting discussing ‘Lightweight Modular Accelerated Bridges System for Managed Car Lanes’ on Wednesday 2/12/2020. Both events were held at Pazzo’s located at 311 S. Wacker Drive, Chicago, IL. **CANCELLED due to COVID-19.** The SEI will be partnering with the Construction Institute (CI) to host a joint dinner meeting on Chicago’s Bascule Bridges on Wednesday 3/18/2020. For more information about these and other events, please contact SEI Chair Justin Pattison at jmpattison@transystems.com.

▲ **Transportation & Development Institute (T&DI)** – The January T&DI luncheon featured Chicago Department of Aviation (CDA) Commissioner Jamie Rhee, providing an overview of construction and engineering activity at O’Hare International Airport (ORD) and Midway International Airport (MDW). Please contact T&DI Chair Robert Brzezona for more information at robert.brzezona@mbakerintl.com.

▲ **Urban Planning & Development Group (UP&D)** – The UP&D is looking for new members – if you’re interested in joining this group, please contact UP&D Chair Amar Farooqi at afarooqi@gsg-consultants.com.

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▲ **ASCE Younger Member Group (YMG)** – The ASCE YMG hosted and participated in a series of events during the months of January and February 2020 and submitted for the ASCE national Younger Member Group (YMG) award. For more information or if interested in joining this group, please contact YMG Chair Anirudha Vasudevan at

anirudha.vasudevan@aecom.com or YMG Vice-Chair Ben Ostermann at Benjamin.Ostermann@jacobs.com.

The Illinois Section Board Meetings are held every first Monday of the month, except for holidays. The next board meeting is scheduled for April 6, 2020 and will be held by teleconference only due to the ongoing COVID-

19 pandemic. If you are interested in attending these meetings, please contact President Megan McDonald at megan.mcdonald@clarkdietz.com.

By Andrew Walton, PE
ASCE IL Section Secretary 2018-2020
awalton@orionengineersllc.com




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Illinois Section

Activities

ASCE IL Section ASCE EWRI Winter Social – Postponed

ASCE IL Section SEI & CI Joint Dinner Meeting – Rehabilitation of Movable Bridges: Design & Construction – Cancelled

ASCE IL Section UP&DG March Meeting – Cancelled

ASCE IL Section Student Outreach – Meadow Glens STEM Discover Night – Cancelled

ASCE IL Section T&DI March Technical Luncheon – CTA ft. Bill Mooney & Chris Bushell – Postponed

ASCE IL Section T&DI Board Meeting

Date: Wednesday, April 1
Time: 5:30pm
Place: American Surveying & Engineering
30 N. LaSalle St.
Suite 3440
Chicago, IL

RSVP: Robert.Brzezona@mbaker-intl.com

ASCE IL Section YMG Spring 2020 PE Mock Exam

Date: Saturday, April 4
RSVP: [pe.review.ymg@gmail.com?subject=PE Mock Exam](mailto:pe.review.ymg@gmail.com?subject=PE%20Mock%20Exam)
[PE Review Flyer](#)

SEI Structures Congress 2020 – Cancelled

ASCE IL Section Annual President-Elect/Student Scholarship Dinner – Cancelled

ASCE IL Section Student Outreach – Aurora East STEM-A-Palooza – Volunteer Opportunity

Date: Saturday, April 18
Time: 10:00am – 2:00pm
Place: Field House at East Aurora High School.
500 Tomcat Ln.
Aurora, IL 60505
Contact: Monica Crinion; monica.crinion@aecom.com

ASCE IL Section Construction Institute – Save the Date

Date: Thursday, April 30
American Airlines Hangar II at O'Hare International Airport
(Details to follow.)

ASCE IL Section Sustainability Committee Envision Training Event – Save the Date

Date: Friday, May 8
This event will no longer be held as an in-person event on this date. We are reserving this date and are investigating the feasibility of conducting this training virtually. If we are unable to hold this as a virtual training event, then we will postpone to a later date. Thank you for your patience!

ASCE IL Section Construction Institute – Save the Date

Date: Wednesday, May 20th
Highway and Building Construction Safety
(Details to follow.)

ASCE IL Section Diversity and Inclusion (D&I) Committee Scholarship Fundraising Event – Top Golf – Coming this Summer

ASCE IL Section Construction Institute – Save the Date

Date: Thursday, June 18
Underwater Bridge Inspection/Imaging and Special Inspection Access
(Details to follow.)

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

www.isasce.org/calendar/