



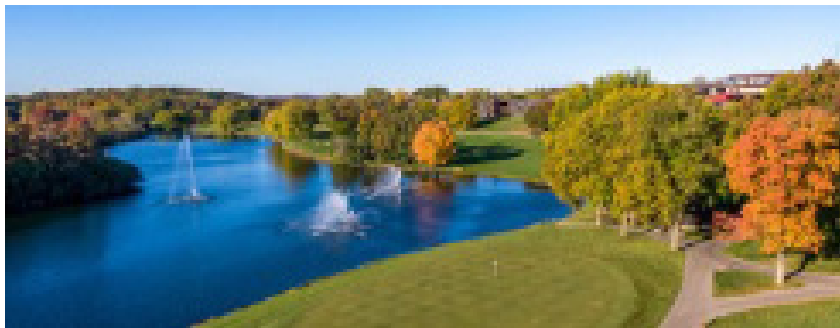
Don't Miss the 2023 Fall Conference

"Connecting the World Through Public Works— Don't Miss Out on the Connection"

Wednesday, November 1 – Friday, November 3, 2023
 Grand Geneva Resort & Spa, Lake Geneva, Wisconsin

Photos Courtesy of Grand Geneva

wisconsin.net/apwa-wisconsin-chapter-fall-conference-lake-geneva-wi



The 2023 Chapter Fall Conference will be held November 1-3 and will be hosted by the City of Kenosha and Kenosha County. It will be held at the beautiful Grand Geneva Resort & Spa.

The Chapter and host committee are excited to host this exciting conference.

A special preconference workshop for Winter Road Maintenance Operator Training will be held Wednesday morning (11/1/2023). A golf outing at the beautiful Highlands Course is scheduled (weather permitting) on Wednesday and two technical tours will be offered Wednesday

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President's Comments



By Nathan Wachtendonk

It's that time of year when we turn a page and welcome Fall. Leaves start to change color, daylight starts to dwindle away, the first freeze of the season starts to appear in the Northwoods which means snow is inching closer.

Coming off a successful and eventful summer starting off with the Chapter Scholarship Fundraiser and Summer Golf Outing where \$1,700 was raised for scholarships, Snow Plow Roadeo having 86 competing drivers and record setting vendor participation, congratulations to Mike Gescheidle, Winnebago County for taking 1st place and Henry Teetz, West Allis, for finishing 2nd. Both will go on to the National Snow Plow Roadeo in Loveland Col. to represent Wisconsin, good luck to both of them, and recently PWX, where the Chapter accepted the 18th Presidential Award for Chapter Excellence (PACE) award, and the City of Eau Claire and Kraemer North America was awarded the Project of the Year Award for the High Street Bridge Reconstruction

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Wisconsin Chapter News
 October 2023

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Editor's Note 

By Nancy Cavanaugh

The Changing Face of the Newsletter

Earlier this year, National changed news delivery by revamping *The Reporter*, converting it into a digital file using partica software. Sept.ediiton: <https://www.apwa.org/news-media/reporter-magazine/>


The September issue offers an interesting balance between text and images. It shows the traditional layout, but also has a “flip” button that converts articles into a stylish, interactive web app by changing pdf confent into reflowable HTML articles optimized for mobile, but adaptable across all devices.

Before reviewing *The Reporter*, I experimented with doing layouts for this issue in reverse. I laid out pages at the end of the issue first, working my way forward. Some articles, like the Roadeo and Chapter Dinner recaps,

included a number of photos that fit together. Some didn't even need captions. A couple required a photo search.

What's really useful is that over time, contributors are sending more photos with their articles. If you compare their current images to what the newsletter looked like two decades ago, there's a huge improvement. The final version—a color-based pdf file—is attractive and easy to transmit via a website or email.

The Wisconsin Chapter has a unique newsletter because the pdf version is practical. It employs an interactive menu bar at the top of each page for rapid clicking through the pages.

Follow the link to the September edition of the National newsletter. Then enjoy the October ediiton of the Chapter newsletter. 

ON THE COVER:

Banner images: Left: Exhibitors' Show the Snowplow Roadeo (page 3). Center: The Wisconsin Chapter Dinner and Business Meeting at PWX in San Diego (page 7). Right: The Grand Geneva Highlands Golf Course is set for use on Wednesday during the Fall Conference (page 7).



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Fleet Services Committee



From left to right: Nathan Wachtendonk – Chapter President (City of Green Bay); 1st place – Mike Gescheidle, Winnebago County; 2nd Place – Henry Teetz, City of West Allis; 3rd Place – Adam Veile, Town of Grand Chute; 4th Place – Brian Hill, City of West Allis; 5th Place – Sam Huffman, City of Beloit; Tom Zembruski – Fleet Services Chair (Waukesha County).

33rd Annual Snowplow Roadeo Moves West – Continued Success!

By Tom Zembruski, Fleet Services Chair; Fleet Manager, Waukesha County

Roadieo planning can be an interesting thing—one day you have it and the next day; your team is tasked with finding another location to host our great event.

Fox Valley Technical College provided a wonderful location last year, but construction and timing were factors again this year resulting in a move west to Fox Cities Stadium, home to the Wisconsin Timber Rattlers baseball team.

Changing the 2023 APWA Roadeo to Fox Cities Stadium culminated in another great event, including over 85 driver competitors for 2023 with our top two finishers representing Wisconsin at the Western Snow and Ice Conference in Loveland, Col. being held September 26-28, 2023. I applaud the Wisconsin APWA Chapter's leadership for their continued support in sending Wisconsin's best to compete on a national level.

Changing venues is never easy, and Event Manager Mackenzie Liedtke and Timber Rattler organization did a great job in supporting our event, including planning, facilities support, and catering of our vendor social and main event. Many thanks to Mackenzie and her staff for providing top notch service and accommodations for this year's event.

We haven't been very consistent in picking a site the last few years, but what has remained consistent has been Truck Country-Freightliner and their continued support as vendor social and main sponsor for 2023. Our vendor showcase grew again this year to well over 20 vendors—many who contributed not only to our gift raffle, but also in volunteering staff for judging and final tallying of the Roadeo results. I won't have space to list them all, but I want to thank Force America-Precise for their continued support

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Snowplow Roadeo (Cont.'d from page 3)

along with RNOW Inc. for sponsoring our 1st place finisher again for 2023.

No two parking lots are the same which meant some small changes to this year's course as we adjusted to the east side of Fox Cities Stadium. This year's course aligned closely with last years including the sweeping curve, round-about, outside curve, slalom course, dead end/backing, and start-stop finishing line in addition to stopwatch timing for each competitor. Some wondered if we would have a "three-peat" this year, but in the end, Mike Gescheidle from Winnebago County came out on top nabbing 1st place honors and punching his ticket to Loveland, Colorado in September.

While driving takes center stage, the disabled vehicle inspection never disappoints! Former Fleet Chair Jay Getka continues to hold the fort, making sure that all judging and tabulating of scores goes smoothly. This year's event saw new vehicles supplied by the City of Milwaukee, Waukesha County, and the City of Kenosha. Many thanks to those municipalities who volunteer equipment resources for our event – driving home (so to speak) the importance of well inspected and safe equipment.

The Director's Cup driving competition is another great part of our event that allows Directors, Mayors, and other non-patrol workers the chance to compete

and see how they stack up compared to professional drivers. This year's competition was close, but in the end Adam Schmitt, Operations Superintendent from the City of Fond du Lac was victorious which brings both bragging rights and caretaker responsibilities for our traveling trophy.

As most can imagine, large events like this require a great deal of planning along with a dedicated team of volunteers to pull everything off. There are many parts to our team, but I would personally like to thank **Nathan Wachtendonk** (City of Green Bay), **Jay Getka** (City of Kenosha), **Bruce Brazee** (City of Appleton), and **Jeff Tews** (City of Milwaukee) along with all their staff who contributed to a successful Roadeo event this year!

Finally, I want to send a huge thank you out to all our volunteers including all our judges, admins helping with registration, and all our vendors who support this great statewide event. We set a record this year for vendor participation, raffle prizes and gift cards which is truly appreciated by our team and all the competitors who attend. Fleet Service Chairs serve three-year terms, and I am confident that the 2024 APWA Roadeo will be our best yet. Thank you again and I look forward to seeing everyone next Summer! 🙌

👉Page 6 (Snowplow Roadeo)

President's Comments (Cont.'d from page 1)

project. Additionally, at PWX, we got to watch Jason Atchison, Baxter & Woodman, walk across the graduation stage for successfully completing the Emerging Public Works Leaders Academy. The Chapter is excited to have Ela Lodzinski, Baxter & Woodman, and Britney Meyer, GRAEF, enrolled in the 2023-2024 state program while additionally Ela was selected for also being in the national program.

I can certainly say the Chapter is doing extremely well and I am looking forward to the upcoming Fall Conference in Lake Geneva. This conference has the unique opportunity to co-host with the Chicago Metro Chapter. The Conference Planning Committee has exciting and informational educational sessions lined up and fun activities planned. New this year to

the Fall Conference, by popular demand, the Winter Road Maintenance Operator Certification class will be offered followed by a hands-on spreader calibration class hosted by Wisconsin Salt Wise. These two opportunities are geared for the front-line employees who do both snow/ice fighting duties along with salt spreader calibrations. CEU credits are available for both classes.

Looking ahead, planning the 2024 Spring Conference has started to take place. The Chapter is extremely excited to have a large vendor exhibition show taking place in Madison and many fun new activities taking place on the vendor floor.

Stay tuned for more exciting details. 🙌



Several guests enjoy each other's company at the PWX Chapter Dinner and Business Meeting in San Diego.

2023 APWA Wisconsin Chapter Dinner & Business Meeting

By Kamron Nash, P.E., Public Works Director, Village of Summit

The 2023 PWX Wisconsin Chapter Dinner and Business Meeting was held the evening of Tuesday, Aug. 29 at Fleming's Steakhouse and Wine Bar in San Diego, located in the historic Gaslamp District. A total of 29 attendees enjoyed hors d'oeuvres, starters, and prime steak and seafood dinner options, as well as delicious beverage options. As always, great conversation and collabo-

ration transpired between public works professionals, and everyone reported a great time! A special thank you goes out to the following dinner sponsors: Corrective Asphalt Materials, Westwood Professional Services, Trotter and Associates, and County Materials Corporation. For those who were not able to attend PWX this year, we hope you will be able to join us at PWX in Atlanta in 2024. 📍

Snowplow Roaddeo (Cont.'d from page 4)



Closeup of the vendor show at the Roaddeo.



The obstacle course ready for competitors.

Six Wisconsin Public Works Leaders Complete the APWA Public Works Management Institute

By Benjamin Jordan, Program Director, UW-Madison Transportation Information Center

Six public works professionals completed the Wisconsin Public Works Management Institute certificate program in June: **Kevin Jump**, Civil Engineer Project Manager at City of Sheboygan; **Matthew Pleshek, P.E.**, City Engineer at City of Shawano DPW; **Natalie Smith**, Sanitation District Manager at City of Milwaukee; **Cody Shanks**, Assistant Street Supervisor at City of Marshfield; **Adrian Wencka Jr.**, Water Plant and Systems Manager at Milwaukee Water Works; and **Mitchell Vis**, Village of North Fond du Lac.

These six new graduates join the other 88 leaders who completed the Wisconsin Institute certificate since it was created 15 years ago.

The Wisconsin Public Works Management Institute is an APWA approved Public Works Institute, requiring successful completion of 90 hours (15 classroom days) of supervisory and management training.

The topics covered are essential for the success of public works supervisors and managers. Topics

include understanding local government structures, processes and the respective roles of elected leaders and staff; application of ethics and standards; effective approaches to organizing and staffing, budgeting, planning, and managing public works functions; effective leadership and delegation; personal communication skills; and high-quality customer service.

Participants benefit from the knowledge of instructors with real-world management experience in public works, gain a better understanding of their individual leadership and management styles, and take away useful problem solving approaches that can be implemented in their work.

For more information on the certificate program, call TIC toll free at (800) 442-4615 or visit our website at interpro.wisc.edu/tic/public-works-certificates. If you have additional questions contact Program Director Benjamin Jordan, at (608) 265-4478 or Theresa Rodger, Program Support at (608) 262-6361. 📧

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Scott Kroening, City of Shawano Director of Public Works, presented the APWA award to City Engineer Matt Pleshek, P.E.



Adrian F. Wencka, Jr., Water Plant & Systems Manager, Milwaukee Water Works.

Certificate Recipients (Cont.'d from page 7)



The APWA award was presented by Director of Public Works David Biebel to Kevin Jump, Civil Engineer Project Manager, City of Sheboygan.



The APWA award was presented by Sanitation Area Manager Carl Chopp to Sanitation District Manager Natalie Smith at City of Milwaukee.



Mitchell Vis, Director of Public Works, Village of North Fond du Lac.



Cody Shanks, Assistant Street Superintendent, City of Marshfield.



Public Works Classes Offered by UW-Madison Transportation Information Center (TIC)



By Ben Jordan, Director, Wisconsin Transportation Information Center

These public works supervision and management classes will provide you and your organization an opportunity to:

- Build a more effective management team;
- Enhance supervision skills and management practices;
- Prepare staff to grow in their career and take on new responsibilities.

Classes are part of two public works certificates offered in cooperation with the Wisconsin Chapter of APWA: the **Public Works Supervisory Academy** (PWSA) certificate, composed of nine, one-day classes (54 class

hours in total), and the **Public Works Management Institute** (PWMI) certificate, composed of 90 class hours in total, including the nine courses in PWSA, and the **Public Works Management Institute** (PWMI) certificate, composed of 90 class hours in total, including nine courses in PWSA, plus an additional 36 class hours that focus on more advanced management-oriented courses. The PWMI certificate is recognized by National APWA as meeting requirements for Leadership Excellence in Public Works.

You may enroll in individual classes without enrolling in the

Academy or Institute. Academy and Institute classes may be taken in any order, except that the PWMI certificate requires a Capstone course that must be taken as the last class in the series.

No academic experience is required to participate in either program.

For additional PWSA and PWMI information, go to: <https://interpro.wisc.edu/tic/public-works-certificates/>

You can register for currently scheduled classes at: <https://interpro.wisc.edu/tic/>

Fundamentals of Public Works Operations

October 3, 9, 17, 18, 2023

Online 8:30 a.m.-11:30 a.m.

Instructor: Ben Jordan

Focus on managing the range of services in a public works department, including current operational issues. Each student will make a short presentation and lead a relevant public works operational topic that they identify during the course topic of their choice. (PWMI)

Management Assessment for Personal Planning and Development

October 4 and October 5, 2023

Online 8:30 a.m.-11:30 a.m.

Instructor: Tina Hallis

(Offered in partnership with the Division of Continuing Studies, registration closes Sept.29, 2023) Use the DiSC® assessment instrument to build self-awareness and explore the many facets that shape the way we see our world and function at work. Develop specific strategies to adapt and respond to others for more effective interactions and management styles would be the most effective for these interactions. (PWSA)

Fearless Performance Management

November 7, 2023

In-Person 8:30 a.m.-4:30 p.m.

Grainger Hall, UW-Madison

Instructor: Jeff Russell

(Offered in partnership with UW-Madison Small Business Development Center)

This class presents a model for managing employee performance and provides you with specific tools you can use to set performance goals, document performance, maintain ongoing communication, manage performance, conduct performance reviews, and develop performance improvement plans. (PWMI)

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PWSA/PWMI (Cont.'d from page 13)

Purchasing & Inventory Control

Online November 8 & 9, 2023

8:30 a.m.-11:30 a.m.

Instructor: Mike Daun

Learn about government techniques, with a focus on construction-related contracting, including Wisconsin State statutes related to public works purchasing.

Municipal Engineering Fundamentals for Non-Engineers

In-person November 14-15, 2023

8:00 a.m.-5:00 p.m. both days

Madison Concourse Hotel and Governor's Club

Instructors: David Barber and Ben Jordan

(Offered in partnership with UW-Madison Interdisciplinary Professional Programs)

Learn about basic engineering concepts and methods used by public works engineers to design, construct, operate, and maintain municipal infrastructure. (PWMI)

Advanced Communication Skills
 TBD

Online 8:30 a.m.-11:30 a.m.

Improve communication skills in one-on-one and public-facing situations, making formal presentations, and speaking with the media. (PWMI)

Human Resources (HR) Basics for Non-HR Professionals

November 30, 2023

8:30 a.m.-4:30 p.m.

Grainger Hall-UW-Madison
Instructors: Brittany Hanson, MBA, PHR

(Offered in partnership with UW-Madison Small Business Development Center)

Gain awareness of common human resources issues encountered by supervisors and managers and learn how to effectively address issues and comply with employment-related laws. (PWSA)



2023-2024 Wisconsin Chapter Sponsorship Program

By Cory Horton, Chair, Education & Scholarship Committee

Has your company registered to be a 2023-2024 Chapter Sponsor or event sponsor yet? These sponsorships are vital to the Chapter's business and provide opportunities for Wisconsin public works professional to continue to lead APWA and public works initiatives within the state.

To be a 2023-2024 sponsor, please go to the Chapter website at <https://wisconsin.apwa.org/about/sponsors>. You can also contact **Lee Lgl**, Wisconsin Chapter Treasurer, at lee.igl@mcfarland.wi.us or **Eric Dundee**, Wisconsin Chapter Past President, at ericd@madsewer.org.

New Member Packet Under Development

By Jim Hessling, Past President, 2017

I have been asked by the Fall Conference host and 2024-2025 Chapter President Shelly Billingsley to assist with the creation of a new member's packet.

The Contents

We would like this packet to be informative to all new members and those that are first timers at our conferences. It is also Shelly's intent that this Welcome Packet will assist the membership know who the Executive Committee Directors are, along with the chairs of our various committees. Along those lines, we will have a short narrative of what each committee does. It is the hope of the Executive Committee that this will help bolster committee participation and make our Chapter even better!

Chairs of *all* committees, this is where I need your help! Please submit a photo of yourself along with a short introduction of what your committee does. I will need this information no later than **Friday, Oct. 6, 2023**. This will give us time to format the information and have it ready for the Fall Conference at the beautiful Grand Geneva in Lake Geneva to be held November 1-3, 2023.



WI CHAPTER | APWA CONFERENCE | NOV. 1ST - 3RD 2023 | GRAND GENEVA

APWA KENOSHA Grand Geneva

WELCOME

AMERICAN PUBLIC WORKS ASSOCIATION
APWA
 Wisconsin Chapter

Welcome to APWA

Making a good first impression counts!

Welcome to APWA – Wisconsin Chapter! We are pleased to know that you have chosen us to spend the next couple of days with. As a new member or future member, we hope to serve you in many ways.

Welcome to your first APWA – Wisconsin Chapter Conference here at the Grand Geneva. This conference brings together Technical professionals from around the state to discuss issues that impact their communities. We are delighted that you have chosen us and while you are here, we invite you to enjoy all that APWA has to offer and we encourage you to attend our sessions and meet many of our members.

We would love for you to join our Past Presidents at the Reserved Table at Thursday and Friday's breakfasts. Just look for the "Reserved" placards and one of our Past Presidents will be there to greet you! APWA utilizes an app called WHOVA for our conference programming and event management. The app will connect you to our

Members, upcoming sessions and is our ability to get feedback from the attendees to offer the best programming we can. You can obtain the WHOVA app from the app store on many mobile devices.

We have also included the conference schedule inside this welcome packet for your convenience. If you have any questions feel free to reach out to any of the attendees. We would love for you to get involved! Thursday early evening we will have a host of Committee meetings happening. We will have several to choose from so please find an area you are interested in, or are knowledgeable about, or would like to learn more about. There is something for everyone so please find the Chairperson and they will direct you to the meeting location! Enjoy!

CONNECTING THE WORLD

For more information visit online at Wisconsin.apwa.net

WELCOME PACKET

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Technical and Special Committees. 2

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Inside Story 3

Inside Story 4

Inside Story 4

Inside Story 4

CONFERENCE HIGHLIGHTS

- Join the Past Presidents for Thursday and Friday Breakfast
- Come to our Committee Meetings—we have several Committees for your choosing. Choose areas you are interested, are knowledgeable, or would like to know more about. There is something for everyone!
- Join the Young Professionals for after seminar activities on Thursday to get to know our Members.

If you'd like to preview a more complete copy of the packet, please contact me at djhessling@gmail.com.

Training Benefits Reimbursement

The Wisconsin Chapter of the American PublicWorks Association (APWA) provides partial reimbursement to both municipal employee members (50%) and non-members (25%) of the APWA Wisconsin Chapter who attend the PUBLIC WORKS SUPERVISORY ACADEMY (PWSA) and PUBLIC WORKS MANAGEMENT INSTITUTE (PWMI) conducted by the UW-Extension.

■ Members are eligible for course reimbursement of 50% of the course fee up to \$400. Non-members are eligible for 25% reimbursement of the course fee up to \$150." Note: Courses that are part of a degree program are not eligible for tuition reimbursement.

- Courses taken under the PWSA and PWMI do not require advanced approval for reimbursement. The PWMI and PWSA websites will provide details on the program and course availability.
- Courses other than those included in the PWSA and PWMI programs require advance approval prior to attending in order to qualify for reimbursement.
- Upon completion of either a PWSA, PWMI or other course approved in advance, you must send verification of payment and attendance to the Education and Scholarship Committee chairperson For more information: <https://wisconsin.apwa.org/education/training-benefits-reimbursement/>.

Fall Conference (Cont.'d from page 1)



Highlands Course at Grand Geneva, host of the Fall Conference Golf Outing.

afternoon.

In addition to the two tours, 23 educational sessions are scheduled, with the opportunity to earn up to 10.0 PDH's of continuing education, including an Ethics session. Great networking opportunities are available with the Wednesday night Get Acquainted Party, Thursday evening Scholarship Awards Banquet, conference meals, and committee meetings.

The golf outing will be great at the Scottish-inspired Highlands Course with its scenic hills, trickling creeks and lush foliage. The educational sessions will be engaging and range across all of public works. And don't forget about attending the technical field trip, Young Professionals event, and our scholarship banquet.

Be ready to meet some new and exciting team

members, as the Wisconsin Chapter and Chicago Metro Chapter will have the opportunity to connect during a social hour at this year's conference!

As always, you can find conference details including lodging info, sessions, PDH opportunities, and special events on the event page (<https://wisconsin.apwa.org/event/apwa-wisconsin-chapter-fall-conference-lake-geneva-wi/>).

All registration will be through the Whova app, where you will find registration options for the Winter Road Maintenance Operator Training, full

conference registration, Fall Conference golf outing and various a la carte items. Also make sure to update your WHOVA app so you don't miss out on conference updates and announcements.📱

Be ready to meet some new and exciting team members, as the Wisconsin Chapter and Chicago Metro Chapter will have the opportunity to connect during a social hour at this year's conference.

The Benefits of AI in Construction

By Sumana Rao, Trimble Construction

10 Examples of AI in Construction

1. Prevent cost overruns

Most mega projects go over budget despite employing the best project teams. Artificial Neural Networks are used on projects to predict cost overruns based on factors such as project size, contract type and the competence level of project managers. Historical data such as planned start and end dates are used by predictive models to envision realistic timelines for future projects. AI helps staff remotely access real-life training material which helps them enhance their skills and knowledge quickly. This reduces the time taken to onboard new resources onto projects. As a result, project delivery is expedited.

2. AI for better design of buildings through generative design

Building Information Modeling is a 3D model-based process that gives architecture, engineering and construction professionals insights to efficiently plan, design, construct and manage buildings and infrastructure. In order to plan and design the construction of a project, the 3D models need to take into consideration the architecture, engineering, mechanical, electrical, and plumbing (MEP) plans and the sequence of activities of the respective teams. The challenge is to ensure that the different models from the sub-teams do not clash with each other.

The industry uses machine learning in the form of AI-powered generative design to identify and mitigate clashes between the different models generated by the different teams to prevent rework. There is software that uses machine learning algorithms to explore all the variations of a solution and generates design alternatives. Once a user sets up requirements in the model, the generative design software creates 3D models optimized for the constraints, learning from each iteration until it comes up with the ideal model.

3. Risk mitigation

Every construction project has some risk that comes in many forms such as quality, safety, time, and cost risk. The larger the project, the more risk, as there are multiple sub-contractors working on different trades in parallel on job sites. There are AI and machine learning solutions today that general contractors

use to monitor and prioritize risk on the job site, so the project team can focus their limited time and resources on the biggest risk factors. AI is used to automatically assign priority to issues. Subcontractors are rated based on a risk score so construction managers can work closely with high-risk teams to mitigate risk.

4. Project planning

One construction intelligence company launched in 2017 with the promise that its robots and artificial intelligence hold the key to solving late and over budget construction projects. The company uses robots to autonomously capture 3D scans of construction sites and then feeds that data into a deep neural network that classifies how far along different sub-projects are. If things seem off track, the management team can step in to deal with small problems before they become major issues. Algorithms of the future will use an AI technique known as “reinforcement learning.” This technique allows algorithms to learn based on trial and error. It can assess endless combinations and alternatives based on similar projects. It aids in project planning since it optimizes the best path and corrects itself over time.

5. AI makes jobsites more productive

There are companies that are starting to offer self-driving construction machinery to perform repetitive tasks more efficiently than their human counterparts, such as pouring concrete, bricklaying, welding, and demolition. Excavation and prep work is being performed by autonomous or semi-autonomous bulldozers, which can prepare a job site with the help of a human programmer to exact specifications. This frees up human workers for the construction work itself and reduces the overall time required to complete the project. Project managers can also track job site work in real time. They use facial recognition, onsite cameras, and similar technologies to assess worker productivity and conformance to procedures.

6. AI for construction safety

Construction workers are killed on the job five times more often than other laborers. According to OSHA,

☞Page 14 (AI in Construction)

AI in Construction (Cont.'d from page 13)

the leading causes of private sector deaths (excluding highway collisions) in the construction industry were falls, followed by struck by an object, electrocution, and caught-in/between. A Boston-based construction technology company create an algorithm that analyzes photos from its job sites, scans them for safety hazards such as workers not wearing protective equipment and correlates the images with its accident records. The company says it can potentially compute risk ratings for projects so safety briefings can be held when an elevated threat is detected. It even began ranking and releasing safety scores for each U.S. state based on COVID-19 compliance in 2020.

7. AI will address labor shortages

Labor shortages and a desire to boost the industry's low productivity are compelling construction firms to invest in AI and data science. A 2017 McKinsey report says that construction firms could boost productivity by as much as 50 percent through real-time analysis of data. Construction companies are starting to use AI and machine learning to better plan for distribution of labor and machinery across jobs.

A robot constantly evaluating job progress and the location of workers and equipment enables project managers to tell instantly which job sites have enough workers and equipment to complete the project on schedule, and which might be falling behind where additional labor could be deployed.

An AI-powered robot such as Spot the Dog can autonomously scan a jobsite every night to monitor progress—making it possible for a large contractor like Mortenson to get more work done in remote areas where skilled labor is in short supply.

8. Off-site construction

Construction companies are increasingly relying on off-site factories staffed by autonomous robots that piece together components of a building, which are then pieced together by human workers on-site. Structures like walls can be completed assembly-line style by autonomous machinery more efficiently than their human counterparts, leaving human workers to finish the detail work like plumbing, HVAC and electrical systems when the structure is fitted together.

9. AI and big data in construction

At a time when a massive amount of data is being

created every day, AI systems are exposed to an endless amount of data to learn from and improve every day. Every job site becomes a potential data source for AI. Data generated from images captured from mobile devices, drone videos, security sensors, building information modeling (BIM), and others have become a pool of information. This presents an opportunity for construction industry professionals and customers to analyze and benefit from the insights generated from the data with the help of AI and machine learning systems.

10. AI for post-construction

Building managers can use AI long after construction is complete. By collecting information about a structure through sensors, drones, and other wireless technologies, advanced analytics and AI-powered algorithms gain valuable insights about the operation and performance of a building, bridge, roads, and almost anything in the built environment. This means AI can be used to monitor developing problems, determine when preventative maintenance needs to be made, or even direct human behavior for optimal security and safety.

The Future of AI in Construction

Robotics, AI, and the Internet of Things can reduce building costs by up to 20 percent. Engineers can don virtual reality goggles and send mini-robots into buildings under construction. These robots use cameras to track the work as it progresses. AI is being used to plan the routing of electrical and plumbing systems in modern buildings. Companies are using AI to develop safety systems for worksites. AI is being used to track the real-time interactions of workers, machinery, and objects on the site and alert supervisors of potential safety issues, construction errors, and productivity issues.

Despite the predictions of massive job losses, AI is unlikely to replace the human workforce. Instead, it will alter business models in the construction industry, reduce expensive errors, reduce worksite injuries, and make building operations more efficient.

Leaders at construction companies should prioritize investment based on areas where AI can have the most impact on their company's unique needs. Early movers will set the direction of the industry and benefit in the short and long term.

Reprinted from an article by Sumana Rao, Global Product Marketing Leader, April 6, 2022.



2023 Southeast Wisconsin Transportation Symposium

Friday, October 6 – 7:45 a.m.-2:30 p.m.

UWM Student Union – Ballroom
 2200 E. Kenwood Blvd., Shorewood

Wisconsin Department of Transportation
 Institute for Physical Infrastructure and Transportation

- Bringing academics, students and practitioners together to network and share information on topics of interest to transportation professionals in southeastern Wisconsin and beyond.
- Showcasing practical applications of transportation related academic research.
- Providing an opportunity for Wisconsin DOT and other presenters to share their innovative practices with the broader transportation community.
- **Registration closed Friday, September 22, 2023 at 5 pm. Questions? Contact Mark Gottlieb at markgott@uwm.edu**

Schedule

- | | |
|---------------|--|
| 7:45 – 8:15 | Registration and Continental Breakfast |
| 8:15 – 8:30 | Welcoming Remarks
Kristina Boardman, Deputy Secretary, Wisconsin Department of Transportation
Xiao Qin, Director, UWM Institute for Physical Infrastructure and Transportation |
| 8:30 – 9:15 | Keynote Speaker – “Building a Talent Pipeline: All Roads Lead to Partnerships” – Dr. Morna Foy, President, Wisconsin Technical College System |
| 9:15 – 9:30 | Break and Networking |
| 9:30 – 10:45 | Breakout Sessions 1-3 |
| 11:00 – 12:15 | Breakout Sessions 4-5 |
| 12:15 – 1:00 | Lunch with Speaker – Craig Thompson, Secretary, Wisconsin Department of Transportation |
| 1:00 – 2:30 | Interactive Workshop: “Developing an Effective Style of Workplace Communication” |

2023-2024 APWA Wisconsin Chapter Sponsorship Program

By Eric Dundee, Wisconsin Chapter Past President

Has your company registered to be a 2023-2024 Chapter sponsor or event sponsor yet? These sponsorships are vital to the Chapter's business and provide opportunities for Wisconsin public works professionals to continue to lead APWA and public works initiatives within the state.

To be a 2023-2024 sponsor, please go to the chapter website at <https://wisconsin.apwa.org/about/sponsors>. You can also contact **Lee Igl**, Wisconsin chapter Treasurer at lee.igl@mcfarland.wi.us or **Eric Dundee**, Wisconsin Chapter Past President, at ericd@madsewer.org.

Looking Ahead – 2024 Conference Schedule

By Eric Dundee, Wisconsin Chapter Past President

The end of 2023 in closing in on us fast, so the Chapter is already looking ahead to 2024. The Chapter is finalizing plans for both of our 2024 conference locations. Save the dates and check out the highlights.

2024 Spring Conference – Madison

Monona Terrace, May 1-3, 2024

Conference Committee Chair: Eric Dundee

This will be a large conference! The plan is to fill the vendor space to the max with vendors for an unforgettable experience on Wednesday night, and a jammed-packed day on Thursday. With some support, we hope to open the vendor space up to all frontline workers for *free* to learn about the companies and equipment at the show. Reservations for exhibitor floor space will become available at the end of 2023 for Chapter sponsors to pre-register.

2024 Fall Conference – Sheboygan

Blue Harbor Resort, Oct. 30-Nov. 1, 2024

This conference will take us to the beautiful shores of Lake Michigan at a fantastic venue. The conference will include the Halloween holiday so look for some fun opportunities with that. Also, be ready to look at this opportunity for a possible short get-away before or after the conference. The venue will be offering specials to extend your stay around a wonderful conference with Sheboygan hospitality.

2023 CALENDAR

November 1-3 Fall Conference

Lake Geneva
Grand Geneva

Shelly Billingsley

Please refer to the <http://wisconsin.apwa.net> website for more detailed program and registration information.