Feature Article

Automated Vehicle R&D in Wisconsin
By Peter Rafferty, UW-Madison, and Jeff Held, Strand Associates

In December 2016, the US DOT solicited for partnerships to request designation as Automated Vehicle (AV) Proving Grounds (PG). While no funding was dedicated to the PG sites, they have become part of a peer network with the shared goal of advancing research and application of AV technology. Building on momentum from the City of Madison’s application for FHWA’s Smart Cities Challenge, the UW-Madison College of Engineering partnered with the City of Madison and others to form the Wisconsin AV Proving Grounds. In early 2017, Wisconsin was selected as one of ten AVPG locations.

So, what are some of the motivations and opportunities surrounding AV and Connected Vehicle (CV) technology?
• One is the fact that after years of decline, traffic fatalities increased in 2016 for the second straight year, and are once again approaching 40,000 deaths in the U.S. In Wisconsin, fatalities have climbed from about 500 in 2014 to nearly 600 in 2016. Studies show over 90 percent of all motor vehicle fatalities are attributable to human error. These could be virtually eliminated with widespread implementation of AV/CV.

• Equity is another key factor, with AV/CV offering new and promising solutions for traditionally underserved populations, including accessibility in urban areas with the potential to improve first mile/last mile connections to transit and other services. With this in mind, the Wisconsin AVPG brought a driverless shuttle to Madison the week of November 13 for stakeholders, elected officials, and the general public to see and experience. Outreach and addressing questions or misconceptions is critically important.

• A number of other motivations exist as well, including economic development and job creation, more efficient use of infrastructure, and efficiencies for health care, agriculture, freight, and other sectors.

AVs are experiencing very active industry development. Every major car manufacturer is pursuing various levels of automated operation. In addition, technology companies such as Apple, Google, Microsoft, Intel, Baidu, NVidia, and many more are active players in the technology needed to advance AV operation. The vehicles themselves generally rely on several redundant systems tied to a central hardware and software. The figure below describes the sensors that typically include cameras, LIDAR, radar, and GPS.
The evolution of AV operation is just underway, and the transition will take years. The International Society of Automotive Engineers (SAE)\(^1\) has defined levels of driving automation ranging from no automation (Level 0) to full automation requiring no human interaction at any time (Level 5). The levels that are and will be permitted will depend on the regulations and circumstances such as road type and weather conditions. The National Highway Traffic Safety Administration (NHTSA) issues policy guidance, and in addition to the SAE levels, they ask automakers to consider the appropriate “operational design domain” for which different vehicles and technologies may operate. The following figure illustrates a relationship between SAE levels and operating domain.

\(^{1}\) SAE is a global association of more than 128,000 engineers and related technical experts in the aerospace, automotive, and commercial vehicle industries; [http://www.sae.org/about/](http://www.sae.org/about/)
The Wisconsin AV Proving Grounds mission is to provide a path to public road evaluation by contributing to the safe and rapid advancement of automated vehicle development and deployment, and providing a full suite of test environments, coupled with research, open data, and stakeholder communication. The team includes private test tracks and industry partners, bringing diverse technical expertise in evaluation and assessment; mechanical, electrical, systems, and transportation engineering; robotics, hardware, computer science, and big data; sensing systems and high-resolution basemapping; and simulation and modeling.

The Wisconsin AVPG approach offers a range of testing facilities that allow for staged testing and application of AV technologies. This includes detailed simulation or laboratory development, early stage field testing sites at the MGA Research facility in Burlington, WI and Road America in Elkhart Lake, WI, which both will allow for closed track operation under a variety of conditions. Mid Stage sites include the UW-Madison or corporate campuses in Dane County where low speed operation will occur first on private/limited use facilities before moving to controlled, mixed traffic conditions. Finally, late stage facilities are expected to include public roads operating at higher speeds, in partnership with transportation agencies throughout our region.

AV Levels Depend on Circumstances

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Wisconsin is positioned to play a key role in guiding policy and technology development, while bringing AV related jobs and economic growth to our region. In May 2017, Governor Walker issued an executive order to create a committee on AV/CV, with the mission to coordinate among agencies and identify “laws or rules that impede the testing and deployment.” While that committee’s work will conclude next June, the broader timeline for AV proliferation is very difficult to predict, and any effort to do so is debatable.

One thing is for certain, we are only at the beginning of a long transition period. The partners involved in Wisconsin’s AV PG initiatives are excited to help shape the journey toward the future of mobility in the state, throughout the country, and around the world. Safely navigating complex AV issues in the coming years will be challenging, and an incredible opportunity for Wisconsin.

President’s Message
By Brian Porter

It has been an honor to serve as the ITE Wisconsin Section President this year. Thank you to everyone on the Executive Board and our committees for your time and commitment to ITE Wisconsin! Your dedication has made my job easier and I’m proud of what we accomplished. I’d especially like to thank Stephan Hoffman and Erin Schoon for their years of service on the Board as their elected terms come to an end. I would like to welcome Jess Billmeyer as our new Member Director and Joyce Murphy as our First-Year Affiliate Director on the Board. Finally, thanks to everyone who volunteered or participated in Section meetings and events throughout the year. ITE’s strength lies in its members and their ability to build strong partnerships so we can move forward toward our common goal of improving transportation mobility and safety.

Since our Fall Newsletter, we’ve held three Section meetings. In September, Eric Nutt from Mandli Communications presented at our Section meeting on a framework and strategies for deploying connected and autonomous vehicles. It’s exciting to see the momentum picking up for connected and autonomous vehicles in Wisconsin.

In October, the UW-Madison and UW-Platteville Student Chapters gave updates at our Section meeting on all the events they have been involved in over the past year. It’s great to see their excitement and dedication toward enhancing our global transportation system. The future of ITE looks bright.

Finally, earlier this month we held our annual meeting where we announced the board election results, presented several awards, and wrapped the evening up with a traffic bowl competition. Thanks to John Davis for creating and hosting the event.

I am pleased with how 2017 turned out. Because of our strong financial position, we reduced costs for members to participate in Section events. This is just a small token of our appreciation but we hope it was worthwhile. In June, over 30 people from the Wisconsin Section volunteered to help with hosting almost 300 attendees in Madison for the Midwestern District Conference. The Executive Board also took steps toward enhancing our communications with members and we look forward to finalizing our communications plan in 2018.

As you reflect on 2017 and look ahead to 2018, please consider the following:
- I encourage you to renew your membership. If you are currently a Wisconsin Section Affiliate member, please consider the added benefits of upgrading to an ITE International membership.
• Encourage your peers and coworkers to join ITE; especially the young professionals that you work with. Since my time as a Student Member, ITE has been a big part of my professional development.
• Get involved in ITE! Join us for a Section meeting and get reconnected with your fellow ITE members if it has been a while since you have attended. We are always looking for volunteers to help us continue to enhance the Section and we have opportunities with varying levels of commitment. If you or someone you know is interested in getting more involved with ITE, please contact me or one of the board members.

Our next Section meeting will be on January 17th in Madison. This will be our annual public service appreciation luncheon.

Thank you for the opportunity to serve you and ITE!

Brian Porter
ITE Wisconsin Section President

Recent Meetings, Events, and Awards

WTS Wisconsin and ITE Wisconsin Section Joint Meeting – September 13, 2017
By Jeff Held

The Wisconsin Sections of the Women’s Transportation Seminar (WTS) and ITE held a joint breakfast meeting at the WisDOT SE Region offices on September 13, 2017. Our Section president, Brian Porter, opened the meeting with a special thanks to WTS and the featured speaker, Eric Nutt, from Mandli Communications. The group then went through our customary self-introductions. Brian announced a new Wisconsin based international member, Kirsten Brose with HNTB Corporation.

Eric Nutt proceeded with his presentation. Eric started his career with Mandli Communications after graduating in 2004. He is the head of technology for Mandli. He specializes in converting vast amounts of information into actionable intelligence. Mandli is a leader of large-scale data collection. Eric’s topic was Challenges of an Effective Base Map.

Eric started with a question: What is the problem that automated and connected vehicles (AV/CV) are trying to solve? First, traffic congestion. In 2015 in the United States, we wasted an average of 42 hours due to traffic delays per person and 3.1 billion gallons of fuel. This equates to an estimated negative impact of $160 billion. Second, traffic safety. 2015 saw 37,000 fatalities on US roads. About 95% of those are attributable to human error. These crashes cost us another $230 billion.
So what’s the solution? AV/CV? Perhaps they are a part of the solution. But AV/CVs don’t operate on their own; they require lots of other infrastructure, including highly accurate base maps that are constantly updated.

In early 2017, Wisconsin was selected as an AV/CV proving ground (see the Feature Article in this newsletter). Eric is chairperson for the infrastructure program for AV/CV WI and is working with Peter Rafferty at the University of Wisconsin - Madison. Mobility and safety are two early focus areas of AV/CV WI.

Eric introduced the group to the Base Map Life Cycle. New Base Map creation consists of data collection, information extraction, and attribution. This information is the receiving grounds for data from field devices and vehicles. Scaling is a major challenge. There are expected to be 10 million vehicles with self-driving features by 2020, with fully autonomous vehicles available and in use by 2025. There is an expectation of four terabytes per vehicle, per day.

On the other side of the Base Map Life Cycle are autonomous vehicles and base map updates. AV vehicles use the base maps for navigation. So the base map must remain as accurate as possible. However, even with constant updating, navigation can’t be solely based on basemap.

Security is a consideration. Block chain technology (e.g. Bitcoin, Ethereum) shows promise, but the current technology is a long way from being able to process the number of “transactions” that will be required between vehicles and basemap storage.

At the end of his presentation, Eric fielded several questions from the audience:

- Are the proving grounds doing overlapping research? The WI proving grounds has no dedicated funding. Others do. Regarding overlap - they are located throughout the country. So, some things do not overlap. There is no coordinated oversight, only informal cooperation. There are also independent efforts going on.
- Should the focus be on both motor vehicle detection/sensing/data processing as well as smart roads/infrastructure? Yes. Both are evolving at the same time.
• Are big automakers ready to step up and take on liability? An AV crash becomes the car’s fault, not the driver’s. There is ongoing discussion on this matter. Carmakers have signaled a willingness to take it on, but the new push may be for automakers to pass liability along to device manufacturers.
• Will there be AV only road networks? Yes, it’s coming. Early on, full AV will be allowed on a very controlled network. Ultimately, there could be a specialized network with no controlled intersections.
• How will the basemaps work? Must the AV manufacturers purchase them? That is TBD. In small-scale systems currently in operation, the operators are creating their own.
• Are there socioeconomic impacts with AV/CV? Could cost of ownership become a barrier to mobility? That conversation is evolving. There are some schools of thought that people in general will no longer own vehicles.
• There is some fear in urban planning circles about AV - could it change how society interacts? More congestion due to circling, etc.
• Security: how and where will data be stored? Would government be involved? Or private entities? Probably some of both.

Thanks to Eric Nutt for an excellent presentation!

ITE 2017 Midwestern and Great Lakes District Student Leadership Summit – September 15th - 17th, 2017
By Hannah Silber, UW-Madison ITE Student Chapter President

In September, members of the UW-Madison ITE student chapter were able to attend the second Student Leadership Summit held at Purdue University. The student chapter departed Madison Friday to arrive at Purdue in time for a welcome reception that evening and take part in the scavenger hunt. Saturday morning, half of the students attended each of the sessions in order to gain insights on the materials presented in both. During Session 1B (Communication with Diverse Audiences) students gained valuable information on effective presentation skills especially for conveying research efforts to non-engineers or those not familiar with the specific area your research may be related to. Since the UW ITE students are involved in the Wisconsin Traffic Operations and Safety (TOPS) Lab, this was of great importance as we often represent the lab during community events and tours and must find ways to present our research efforts in an understandable, relatable, and meaningful way.

Session 2A was also of great interest to UW students as our lab is currently working heavily on connected and autonomous vehicle (CV/AV) research efforts. Part of the TOPS Lab research group is currently working on
testing an autonomous golf cart around campus and the lab as a whole is teaming with other firms working on CV/AV sensor technology. Dr. Peeta’s presentation shed light into the impacts of CV/AV on society and some of the challenges facing the future of this research as well as implementation.

Being a student chapter made primarily of women engineering students as well as primarily non-US citizens, the Women and Minorities panel was a great opportunity for students to hear from industry professionals. Similarly, the Young Leaders Panel was relevant to the goals of our student chapter as many of the students are aiming to become leaders in the field especially related to CV/AV research as well as safety and human factors.
Saturday evening, students attended the banquet dinner during which they heard a presentation from Rick Conner and Michael Cline who gave the keynote address for the symposium. The banquet was a great opportunity to dine with fellow attendees in a more formal setting while hearing from industry professionals. On the concluding day, Sunday, students attended a workshop geared toward coaching students and guided mentoring techniques. Finally, students heard from Shawn Leight, who our chapter knows well from previous ITE events as well as involvement in TRB, during the closing session before heading back to Wisconsin. The SLS was another great opportunity to meet students from participating universities and gain valuable information on current research efforts and challenge areas in the field of transportation engineering. The UW-Madison ITE chapter was thrilled to participate and looks forward to attending the 3rd annual Midwest/Great Lakes SLS next year!

**UW-Madison / UW-Platteville Student Chapters Night – October 11, 2017**

By Kelly Greuel

On Wednesday, October 11th, 2017, the student chapter from UW-Madison hosted this year’s UW-Madison / UW-Platteville student appreciation night at the Thirsty Goat in Fitchburg, WI. This event provided a great opportunity for students to network with professionals.

The meeting began with presentations from the two student chapters. Hannah Silber, the UW-Madison ITE student chapter president discussed past student activities including their attendance and participation in the Transportation Research Board (TRB) annual meeting in Washington D.C. in January 2017. Paige Jelinek, the UW-Platteville’s student chapter president and several other board members presented on their past and future events including their semester project of partnering with the City of Platteville on installing bike sensors at an intersection near campus.
Following the student chapter updates, we enjoyed a presentation from Dan Tyler from WisDOT. He presented on Roadway Reconfigurations. The “traditional” design in the past has been to build roadways from the inside out. Some of the new goals have been to think more about efficiency in our design to help solve problems with limited resources. We have a tendency to think we are being “innovative” when we are still following “traditional” design and fundamentally still doing the same thing.

One way to improve a corridor is to consider a road diet. In the past, this has sometimes been viewed as a negative design improvement by the public. An important aspect of every design is public input. How roadway design concepts are presented to the public can make a big difference in their perception of the improvement. For example, using the term “reconfiguration” vs “road diet” can lead to a different view by citizens. Studies have shown that four-lane undivided corridors have the highest crash rate. This configuration causes a lot of confusion, crash potential, and multiple threat crashes. The two-way left-turn lane design can reduce conflict points significantly in comparison to the four-lane undivided typical section. Overall, this can be a low-cost solution and many times can be implemented without major construction activities.

Also at the meeting, Ben Rouleau was (at last!) presented with the 2016 Young Professional award. Ben won the award based on his essay discussing critical issues that public and/or private agencies will face regarding Connected and Automated Vehicles.

ITE Wisconsin Section Annual Meeting – December 13, 2017
By Jeff Held

The Wisconsin Section held our annual meeting on December 13 at the Delafield Brewhaus. Brian Porter opened the meeting telling the group it was an honor to serve as this year’s section president. He thanked the executive board and all the committee volunteers. The group then proceeded with self-introductions, per our tradition.

Allan Pacada gave the treasurer’s report for October 1 through November 30. The checking account had a starting balance of $14,421.26 and an ending balance of $14,377.31. The savings account had a starting balance of $15,450.37 and an ending balance of $15,451.65. The ending balance in both accounts total was $29,828.96. Yang followed up with a membership report for October 11 through December 12. There were five new members or renewals. International members should have already received renewal notices. Affiliate members can renew on our website.
Next, Kelly Greuel provided the executive board election results. **Jess Billmeyer has been elected as Member Director. Joyce Murphy has been elected as Affiliate Director Year 1.** Special guest and ITE International President Shawn Leight proceeded to swear in the 2018 board members.

Brian recognized two outgoing officers. Erin Schoon is wrapping up her stint as Affiliate Director Year 2. Stephan Hoffman is the outgoing past president. Stephan started with ITE when we was a co-op in the early 1990’s. He encouraged everyone to go back to the office and invite someone along to a meeting. It may be the start of a long and rewarding experience with the institute.

Stephan remained at the podium to present the 2017 Young Professional award. The criteria state the applicant must be under 35, active in the field of transportation, and must complete a short essay. The 2018 theme was: Do you think too much emphasis is being placed on cutting edge technologies, or is that appropriate? Are there other things we should be putting an emphasis on? The award committee consisted of Jeff Roemer, Jeff Knudson, and Stephan. Congratulations to the 2018 winner, Michael D’Amico, P.E. Michael is a graduate of UW-Platteville with a BS in Civil Engineering, he earned his Masters degree in Civil Engineering from UW Madison, and he works for AECOM in Madison.

Stephan also presented the Distinguished Service award. This award recognizes outstanding contributions to transportation leadership, key roles on challenging projects, and/or notable contribution to the profession. The committee consisted of Stephan, Ken Voight,
Rebecca Szymkowski, and Rich Coakley. Congratulations to Jess Billmeyer as this year’s winner. Jess was unable to attend the meeting so he will be recognized at a future event.

Yang Tao presented the Harvey Shebesta Award. This $2,000 scholarship honors Harvey, a legend of the WI Section and our first section president. The committee consisted of Yang, Brian Porter, and John Bruggeman. We received a number of high quality applicants. This year’s winner is Mary Sizemore, from Marquette University. She has shown continued strong interest in her student chapter, including serving as this year’s chapter president. She has maintained high academic standards while completing a summer internship each year, and is currently a co-op with raSmith. Mary is considering graduate school for a Masters degree with a focus on transit.

Brian followed Yang with recognition and certificates of appreciation for the section’s committee chairs. These include:
- Section Meetings Committee Chair - Kait Sanford
- Section Administrator - John Bruggeman
- Traffic Engineering Workshop Committee Chair - John Bieberitz
- Social Events Committee Chair - Stacey Pierce
- Young Professional Award and Distinguished Service Award Committee Chair - Stephan Hoffman
- Harvey Shebesta Committee Chair - Yang Tao
- Ken Voight Award, Martin Breuning Award, and Nominating Committee Chair - Rich Coakley
- SimCap Users Group - Jess Billmeyer

John Davis provided the ITE International and Midwestern District updates. John is the MWITE representative to the International Board, entering his third and final year in that role. John recapped the MWITE Annual Conference that our section hosted in Madison in June, where nearly 300 attendees participated. The International meeting in Toronto in August saw 1,400 professionals attend, including 45 from MWITE. The Midwest Student Leadership summit was held at Purdue University in October. 120 students from 26 schools were there. Nine of the ten ITE Districts were represented. Only the International District (outside North America) was absent. The 2018 Student Leadership Summit will be held at the University of Minnesota Twin Cities.

The ITE International budget will end with a positive balance this year, a significant improvement over recent years. We are approaching 15,000 members, and there was 87% retention in 2017. Notice recently went out for two Meet the VP Candidates opportunities, both on January 30. At 11:00 AM, there will be a virtual town hall. At 1:00 PM, there will be a Facebook live event. Finally, John reminded the group that the 2018
International Meeting and Exhibit will be in Minneapolis, MN. It is also the MWITE and Great Lakes District annual meeting. The goal is to achieve 2,000 attendees.

John “Tex” Mick presented on the new ITE Endowment Fund. In 2016 MWITE decided to set up the endowment. Tex chaired it in 2017. The first email went out December 12 to 1,700 members. Tex noted that the Western District has raised $500,000 in for their endowment in the last 10 years. He asked that everyone please consider donating, and to remember that it is tax deductible.

After the annual awards and recognitions, John Davis hosted the Fourth Annual Wisconsin Professional Traffic Bowl. Teams Spanwire, The Last ITE Jedis, Making Headway, and the Young and the Rest of Us participated in the Professional Traffic Bowl as a part of the Section’s 2017 Annual Dinner program. Thirty-two members participated in the competition of traffic/transportation knowledge and trivia.

The categories for this year’s first round were:

- The Straight and nARROW
- ITE in Wisconsin
- Team Nicknames in Wisconsin
- Wisconsin Transportation Planning
- MUSIC and TRANSPORT

The final clue’s topic was “Visual Vocabulary”. Most every clue was answered correctly by one of the four teams!

The winning team was Making Headway with a final score of 1801 and answering the final clue correctly! The members of Making Headway were: Alex Cowan, Michael DeAmico, Amanda DeAmico, Ben Rouleau, Kelly Greuel, Adam Walter, Andres Gomez-Gonzalez, and Mary Greuel. They each won a special Wisconsin Traffic Bowl mug. It has been reported that the mug has become the envy of many upon seeing it! Spanwire was second with 1799 points and the Jedis avoided being last with 1400. The Young and the Rest of Us finished fourth with 200 points.

Judges were Stephan Hoffman, John Mick, and Shawn Leight. Diego Silva was timer, and John Davis organized the game and served as moderator. Everyone had a wonderful time and enjoyed the evening.
The last event of the evening was the drawing of a winner for the 50/50 raffle. The WI Section presented the raffle to raise money for supporting student activities in Wisconsin. John “Tex” Mick was the winner. Thanks to all who participated and helped us raise more than $200 for local students.

Upcoming Events

January 7-11, 2018  2018 TRB Annual Meeting  
                    Washington, D.C.

January 17, 2018   ITE Wisconsin Section Meeting, Public Service Appreciation Luncheon  
                    Madison, WI

March 7, 2018      UW-Milwaukee/Marquette University Student Night and Martin Bruening Award  
                    UW-Milwaukee Campus

April, 2018        Traffic Engineering Workshop and Transportation Planning Forum  
                    Pewaukee, WI

May, 2018          ITE Wisconsin Section Meeting  
                    Green Bay, WI

August 20-23, 2018 2018 ITE Annual Meeting and Exhibit and Midwestern District Annual Meeting  
                    Minneapolis, MN

Do you have some information or a transportation haiku to share? The ITE Newsletter is an excellent medium for reaching section members. If you would like something published in the upcoming newsletter, please contact the 2017 Wisconsin Section Member Director, Jeff Held at (608) 251-4843 or jeff.held@strand.com.
ITE WI Section Sponsors - THANK YOU!

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January 1, 2018

Dear Voting Member:

The future of the Institute of Transportation Engineers (ITE) and the direction and course of its programs and activities are greatly influenced by the leaders you elect to represent you. The ITE Nominating Committee has nominated the following candidates for the offices of International President and International Vice President for 2018:

For International President:
  Bruce Belmore, P.Eng., PTOE, AVS (F)

For International Vice President:
  Jason Crawford, P.E. (F)
  Randy McCourt, P.E., PTOE (F)

The Election Ballot will open on February 14, 2018 at 12:01 a.m. ET and will close at noon ET on Thursday, March 15, 2018. Written consent to hold office, if elected, has been received from each candidate. The publication of this notice complies with Article V of the ITE Constitution.

I encourage you to become familiar with the qualifications and visions of the candidates and exercise your right to shape ITE's future by casting your vote to select the 2018 ITE International President and International Vice President. The enclosed flyer has a brief resume and statement from each of the candidates. You can learn more by visiting the candidate websites at www.ite.org/candidates and by attending either the virtual Town Hall on January 30, 2018 at 12:00 p.m. or the Facebook live event at 2:00 p.m. ET.

Please note, the length and time frame of the 2018 International President and Vice President campaign and balloting period has changed from previous years as a result of the Constitutional Amendments passed in 2017. New campaign conduct rules, for the candidates and ITE members, have been established by the Nominations Committee and are available on the ITE website at www.ite.org/candidates. I encourage all members to take a few minutes to become familiar with these new time frames and rules. With the early election of candidates, members will be provided with increased electronic and virtual candidate information. In lieu of campaigning at District and Section meetings, the election will conclude in time for the successful candidates to attend these meetings as International President-elect and Vice President-elect.

Once you have decided for whom you wish to vote, you may vote either by e-ballot or by mail. To vote by e-ballot starting February 14, 2018, 12:01 a.m. ET, eligible voters will be sent an e-mail with a personalized URL enabling them to vote. You must cast your e-ballot no later than noon ET on March 15, 2018. You will receive an e-mail confirmation of your vote. If you wish to vote using a mail ballot, you must request a ballot, in writing, no later than February 18, 2018 by e-mailing Marianne Saglam at msaglam@ite.org. Your ballot must be received at ITE no later than noon ET on March 15, 2018.

Your vote will remain confidential. The election results will be announced on the ITE website on March 20, 2018 and in the April 2018 issue of ITE Journal.

Sincerely,

Jeffrey F. Paniati, P.E.
ITE Executive Director and CEO
Like you, I am passionate about transportation and ITE. My passion has guided me for 26 years to develop a strong, proven leadership record through ITE Student Chapter, Section, District, and most recently, my International Board of Direction service completed in 2017. I am also a proud, inaugural LeadershipITE graduate.

My service to ITE has been through listening, collaborating, promoting fairness, and mentoring, focused towards serving both the needs of our members today and the next generation of transportation professionals. I was fortunate to serve on the ITE International Board of Direction at a transformational and transitional time that included hiring a new Executive Director, improving member communication, developing and passing constitutional amendments, releasing major publications, and developing partnerships with other associations.

I wish to continue my service to you, our membership, by working to complete the many initiatives under way and building on those successes into the future. To accomplish my vision, I am embracing four themes to LEAD our association.

**Leadership** – I will build on the success of LeadershipITE and Student Leadership Summits by delivering leadership training locally through Districts and Sections. I will advance efforts to educate and encourage our District and Section leaders on how to be an active voice for local transportation issues. Lastly, I will work to establish a strategic vision panel to advise the International Board on issues expected to impact our profession over the next 10 to 15 years.

**Engagement** – I will seek ways to engage our members at all organizational levels to both realize and seize the value of ITE membership. Being a volunteer-driven association, we need to improve the way we match passionate and energetic members with volunteer opportunities. Finally, we should work to expand our global membership by re-engaging our former student chapter members now back home in countries outside North America.

**Alignment** – I value the strength and connections that our vibrant sections and chapters offer. At the same time, we must ensure that our association’s overall strategic direction is reflected in District/Section/Chapter initiatives and activities. I intend to increase our efforts to introduce and persuade all professionals that influence and impact transportation to join and be active in our association and to proudly represent their profession. We can improve information sharing between headquarters and its districts and sections to facilitate member recruitment and follow-up.

**Diversity** – I welcome ideas that challenge the norm and offer different perspectives. I believe we must attract and include in our leadership ranks greater professional, ethnic, and gender diversity that better reflects our general membership. I actively sought to remove barriers impeding membership growth through constitutional amendments and I will continue building on these efforts to grow the ITE membership and help ensure it represents the diversity of our strong, passionate community of transportation professionals.

I greatly value my ITE membership experience and network. I thank my mentors for their encouragement and support that ignited my desire to serve.

Please join me as we work together to serve, to LEAD, and to move our profession forward.
FOR INTERNATIONAL VICE PRESIDENT

My journey with ITE has been a road traveled for more than 40 years. The people I have met have inspired me personally and professionally to serve others and share industry knowledge both nationally and internationally. My commitment is that I will serve as an ambassador to ITE—an active listener to our members’ needs, seek feedback, and hold the dignity of our profession to the highest standard.

Vision: To advance our volunteer members’ careers through meaningful ITE experiences in leadership, partnerships, and technical expertise.

Our members are why we exist and the nucleus in which we serve. We are dawning a new era in the transportation profession. Our industry has radically evolved in ITE’s 90 years. Each transformation has been exciting, allowing us to implement our expertise while playing a pivotal role in making a difference in our communities. My quest to serve as ITE International Vice President is focused serving the needs of students, public agencies, active and retired members, and international partners through:

1. MEMBER DEVELOPMENT: Deliver high value learning and networking experiences through engagement, action, and implementation. My primary goal is to facilitate a balance of listening to our membership with the need for action and implementation to advance the 21st century transportation experience. This includes such topics as advances in trip/parking generation, greater access to MUTCD best practices, before/after studies, and understanding of transportation equity.

2. INDUSTRY OUTREACH: Today, we are challenged as a profession to work collaboratively to help identify the future of transportation. This requires us to go further in developing partnerships with partner organizations. As smarter mobility evolves, we must work together as a unified transportation profession between public, private, industry, vendors, and academic experts.

3. LEADERSHIP ADVANCEMENT: With emerging voices and disruptive technology, it’s critical for ITE leadership to manage change affecting our members and their careers. This means an ITE that serves as a meaningful resource to our members by staying at the forefront of emerging technology; providing mentorship and guidance to our members; active involvement with students studying transportation engineering; and fostering career advancement. We are the ITE that is invested and committed to giving back to each member and our industry.

You will find more on each of these topics on my website www.Randy4ITE.com with platforms to share your thoughts, ideas, and opinions on how we can deliver high value to our membership and their employers.

There is nothing I, and our members, love more than waking up to new challenges, such as vision zero, autonomous vehicles, or complete streets. These are the opportunities that the transportation industry creates for us daily. As mobility experts, we can affect this change. As ITE International Vice President, I will seek active engagement from our members to ensure we are delivering on the future that transportation innovation has for our communities.

This is an exciting time in our industry as it is changing at a record-setting pace. Join me in the dream of a new transportation future that involves you.
Who am I?

I am a devoted transportation professional with more than 25 years of experience and I am passionate about ITE. Every day through my work, I strive to make our communities a better place to live, work, and play. I am in a great position to positively impact the future of ITE. I have served ITE at the Section, District, and International levels. My involvement includes recently completing a three-year term on the International Board of Direction. From this experience, I have become familiar with the issues, challenges, and opportunities facing ITE. Further, I believe in giving back to the engineering community as an adjunct professor at the University of Regina. I intend to build upon the hard work and initiatives already started, and continue to develop ITE as a leading organization in operating and delivering services to members.

Goals.

I will focus on the following five areas:

1. Communication – we need to reflect how members like to communicate and receive information today. Whether it's through ITE Community, social media platforms, or cloud-based document sharing, we need to ensure that information is timely, relevant, and readily accessible by our members in a broad range of formats.

2. Collaboration – we need to work more closely with other transportation organizations to cooperatively develop technical resource material. These other organizations bring different perspectives and skills. By sharing knowledge and resources, we can produce technical reference documents faster, at a shared cost, and with full recognition of our members' contributions.

3. Knowledge – we need to look at new funding mechanisms for producing technical documents and better ways to recognize the contribution of our many outstanding volunteers. We also need to streamline the approval and release of technical documents so that valuable resource materials are in our members' hands quicker.

4. Growth – we need to grow our membership to remain a healthy, vibrant organization. Key to this growth and our long-term stability is developing new student chapters and encouraging highly active sections. We also need to start new sections outside of North America where there is growing interest in ITE membership. This allows us to share more ideas and experiences from around the world.

5. Member development – we need to develop the skills of members, including technical skills, soft skills, and leadership skills. We need well-rounded transportation professionals in our industry; ITE can lead through both online training and face-to-face opportunities for skills growth.

Here’s an Idea.

I would like to see members who are unable to attend the Annual Meeting and Exhibit in person be able to access technical presentations online through a video-on-demand system. We have the ability to broadcast the presentations—potentially reaching nearly 15,000 members with meeting content rather than just the 1,000 or so who currently attend. More members would gain needed continuing education credits and ITE would reach a broader audience with conference content.

I have the desire to see ITE grow and succeed. Simply, I have something to contribute and am in a position to serve.