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Defining your Leadership Role

I have always been intrigued by the topic of leadership and the various types of leadership styles that exist. Some of the better known styles of leadership are democratic, strategic, transformational, team-oriented, facilitative—and the list goes on. Sometimes it is a bold, single-minded individual that is needed to move an organization forward. Other times, it is a leader who thinks of him or herself as a tireless servant of the organization, with a role that encourages others to follow suit. And then, there is the collaborator who brings people of different viewpoints together with a common goal.

At its essence, a leader’s job is to inspire—to see that you believe in a goal and work at achieving it. I learned very early on in my professional career to distinguish between a manager and a leader. One of my first employers needlessly railed against clients, raising his voice at them or at staff, and intentionally intimidated those around him. Is this leadership? I hope not. It taught me some valuable lessons, however, about how one should treat other people in business and life. I also learned that others around you must have trust in your abilities in order for them to consider you a leader. Trust is developed by making commitments and then delivering on what you have promised.

We are at a turning point in the history of ITE. We are seeing our membership numbers rebound after some difficult economic times. There have been significant efforts to change our organizational structure through the ONE ITE initiative that will help us future-proof the organization. We are also producing strong technical products at an increasingly faster pace.

We started with this change around 3 years ago with the development of a new Strategic Plan. We have also delivered on promises to change how we operate. ITE is leading the way as the rate of change in our industry is escalating. We are seeing non-traditional companies change how we do our jobs amidst burgeoning mobility choices. We need to collaborate with other organizations and with industry to remain relevant and achieve success.

ITE also needs to have breadth in our purpose. We need to look beyond the direct role of our organization and really think about our role in society. Areas such as STEM, mentorship, a diverse and inclusive organization, and emphasis on professional ethics should all be integral to our purpose. We need to clearly state what kind of organization we want to be, and then walk-the-talk.

This is where each member has the opportunity to play an important role. ITE provides you an ability to collaborate on important initiatives that improve the public’s safety and quality of life, impact the environment, and increase access to mobility for a broad audience. Whatever your interest, I hope that you follow your passion and that ITE can help you achieve a leadership role in your life, community, and career.

In this issue you will read about the incoming class of LeadershipITE, whose contributions to the profession are fundamental to the industry’s future; an article on storytelling by Shelley Row, which demonstrates the power of a simple narrative; and finally, an inspiring member profile on Emily B. Blount, the first female transportation engineer in the state of North Carolina.

As ITE President, I am looking forward to the promise of a new year, one in which we focus on the diverse work of our committees and councils, continuing the implementation of ONE ITE initiatives that will reshape our organization and improve member engagement, and launching the new Mobility as a Service Institute Initiative. This will all happen through your support and active participation.

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

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

President’s Message

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Mobility as a Service

At the October ITE Board of Direction meeting, Mobility as a Service was identified as the newest Institute Initiative, joining Vision Zero, Connected and Automated Vehicles, Smart Communities, and Transportation and Health. These initiatives have helped ITE volunteers and staff identify needed products and services for our members and positioned ITE at the leading edge of our profession.

Our newest initiative emerged from a Board discussion prompted by the delivery of a first-ever Developing Trends report from the Coordinating Council. This report, available on ITE Community, identified key trends and opportunities in our industry, some of which were focused on a particular area of practice, and others that were more cross-cutting. Many thanks to Eric Rensel, Coordinating Council Vice Chair for spearheading this effort, and to all of the Councils and Committee members that contributed. It demonstrated the important role that our Councils and Committees play in helping the Board set the future direction for our organization.

As I look out my office window at ITE Headquarters, I feel like I am at the epicenter of the Mobility as a Service movement. From my vantage point I can see a docked bike station, dockless bikes, electric scooters, transportation network company pick-up and drop-offs, traditional taxis and buses, and travelers coming in and out of two different Metro stations. And, yes, there are plenty of cars and lots of pedestrians, too.

The options available to me as a traveler are many and for most I can access trip planning, availability, arrival, and payment information via my smartphone. While the wide range of just-in-time travel options benefit me as a traveler, they certainly create new challenges for the city officials and transportation professionals who are trying to manage and integrate these options.

There are a host of transportation planning, design and operations, safety, system integration, accessibility, and equity questions to be considered. Many of these questions are ones that ITE and its members can and should address—either independently or with our partners. This is at the heart of our new Mobility as a Service initiative.

An early example of the types of products we hope to produce is our recently released Curbside Management Practitioners Guide. This leading edge product developed by our Complete Streets Council (many thanks to the Fehr and Peers team, particularly Steve Davis and Meghan Mitman, for their support) together with our staff provides a first ever examination of emerging practices with regard to managing curbspace in a Mobility as a Service environment.

Next month, ITE will release ITE Parking Generation, 5th Edition in conjunction with the National Parking Association’s upcoming release of an updated version of Shared Parking. Our February issue of ITE Journal will be a special issue focused on parking—a changing part of our profession and one that is being directly impacted by Mobility as a Service.

This is an exciting time to be a transportation professional and an ITE member. We are in a transformational era with significant challenges and opportunities before us. ITE continues to position itself at the center of these issues and is striving to provide the needed resources and tools for our members to succeed.

Please email me at jpaniati@ite.org and engage with me in discussion through ITE Community and on Twitter at @JeffPaniatiITE.

Jeffrey F. Paniati, P.E. (F)
Executive Director and Chief Executive Officer

Jeffrey F. Paniati, P.E. (F)
Executive Director and Chief Executive Officer
Bruce Belmore, P.Eng., PTOE, AVS (F)

International President

Bruce Belmore is passionate about transportation and strives daily to make our communities a better place to live, work, and play. As the director of Western Canada Transportation Planning with WSP, Bruce is regularly involved in projects and trying to innovate with transportation solutions. With 30 years of experience in the transportation industry, Bruce has had the pleasure of undertaking a broad range of projects to improve mobility and safety. He is proud to have recently completed the traffic and parking management plan for Mosaic Football Stadium in Regina, SK, Canada where there has been an emphasis on changing public travel demand behavior.

Bruce holds a Professional Traffic Operations Engineer (PTOE) designation and is certified as an Associate Value Specialist (AVS). Through his AVS certification, he has applied value engineering principles to many different types of transportation projects where trade-offs in transportation functionality are being assessed. Bruce has also spent six years as an adjunct professor instructing in Engineering Law and Ethics at the University of Regina, and he believes there is a strong need to mentor those entering the transportation industry. He has had the pleasure of working with nearly 1,000 undergraduate engineers on their future role in society and their obligation to protect public safety. Bruce has served ITE as the Canadian District President, as a Director on the International Board of Direction, and most recently as ITE International Vice President. He is proud to serve as the 2019 ITE International President.

Ransford S. McCourt, P.E., PTOE (F)

International Vice President

Randy McCourt has been actively involved in transportation engineering and planning as a Principal of DKS Associates for more than 39 years. He has helped advance key transportation projects in the west including the Embarcadero Freeway replacement; Alaskan Way Viaduct Partnership; light rail projects in Portland, Seattle, San Francisco, Sacramento, Dallas, and San Diego; and active traffic management technology on I-5, I-90, SR 520, OR 217, and I-80. Randy helped manage one of the first Transportation System Plans in Oregon that addressed all modes of travel that was approved at local, regional, and state levels. He is a graduate of Oregon State University (civil engineering) and the University of California, Berkeley (transportation engineering). Randy has been engaged in the Institute of Transportation Engineers his entire career, having served at all levels including technical committees, councils, Sections (San Francisco Bay Area, Oregon), Western District, International Board, and now as International Vice President. Randy has authored numerous ITE publications and papers including Parking Generation, and chapters of the Traffic Engineering Handbook and Traffic Control Devices Handbook. He has been involved with the National Committee on Uniform Traffic Control Devices since 2007 and has chaired and participated in several task force activities in several areas, including dynamic message signs, LED, BRT, parking signs, site roadways open to public travel, and most recently, the speed limit task force.

Michael P. Sanderson, P.E., PTOE, LEED AP (F)

Immediate Past International President

Michael Sanderson is president and chief executive officer of Sanderson Stewart. Recognized in 2014 as America’s Small Business of the Year by the U.S. Chamber of Commerce, and recognized numerous times by the Zweig Group as one of the Best Firms to Work For in the Architecture/Engineering industry, Sanderson Stewart is an award-winning multi-disciplinary community planning, engineering, and design firm with employees in Montana, Colorado, Idaho, and North Dakota. Michael is an ITE Fellow and has served in many ITE leadership roles, formerly serving as president of the Montana Chapter, Intermountain Section, and Western District, and as an international director before his election to ITE’s Executive Committee in 2016. Michael was the organizer and founding chair of LeadershipITE, ITE’s premier leadership development program. Michael earned his bachelor of science and master of science in civil engineering from Montana State University, a master of business administration from the University of Montana, and has studied executive management and leadership at the Harvard Business School. Michael lives in Billings, Montana with his wife, Sara, and two children, Quinn Rose and North Henry.
Michael Salatti, P.E., PTOE (F)  
**Northeastern District**

Michael Salatti is a senior vice president and director of the transportation services department at Greenman-Pedersen, Inc. (GPI) in Babylon, New York, USA. Mike’s background includes extensive experience in both intelligent transportation systems, traffic engineering, and transportation planning. He is a highly regarded, well-known transportation professional who has managed projects for large public agencies such as the New York State Department of Transportation, New York City Department of Transportation, and Port Authority of New York & New Jersey. Mike has been with GPI for more than 37 years and his talented transportation services group has since grown to a diverse 40-person team that provides: traffic engineering, planning and safety studies; simulation modeling and visualization services; signals and ITS; and operations support and technology services including, asset management, GIS, and programming. Mike is a registered professional engineer in New York, New Jersey, Illinois, and Florida and a certified Professional Traffic Operations Engineer. He has served as an adjunct faculty member at Hofstra University’s School of Engineering and Applied Science since 2010. Mike has been a dedicated member of ITE since 1980. He has served in a variety of positions, which include many committee chairs; executive positions such as President of the Met Section executive board and Chairman of the Northeastern District executive committee; and as a member of nine local arrangements committees (LACs) for annual meetings. During his tenure as MET Section president, Mike’s contributions included creation of the Professional Development Committee, adoption of the Section’s policy on Professional Development Hours, and the Annual Student Career Fair. Mike currently serves as the Met Section’s first District Administrator, where he guided the creation of the Met Section Corporation for tax and liability purposes in 2008. Mike has been a recipient of the Met Section’s and the Northeastern District’s highest awards for outstanding service. Aside from his professional endeavors, Mike resides on Long Island, New York, with his wife, Say, and is fully involved with his five children, stepson, and four grandchildren.

Jeff Riegner, P.E., AICP, PTOE (F)  
**Mid-Colonial District**

Jeff Riegner is vice president of Whitman, Requardt & Associates, LLP in Wilmington, Delaware and manager of the firm’s Delaware Valley transportation practice. He is a professional engineer in several states, an AICP-certified planner, and a Professional Traffic Operations Engineer with 27 years of transportation and land use consulting experience, mostly for public-sector clients. Jeff’s background ranges from large-scale planning and NEPA studies to design of transportation facilities for walking, bicycling, riding transit, and driving. He has particular interest and expertise in Complete Streets and active transportation, serving as a workshop instructor and steering committee member for the National Complete Streets Coalition. He is also the founding co-chair of the Delaware Valley Chapter of the Association of Pedestrian and Bicycle Professionals.

As an ITE member for nearly 30 years, Jeff has served in a number of roles. He has been a member of the Pedestrian and Bicycle Council (now part of the Complete Streets Council) for many years, including serving as Chair from 2011–2013 and Vice Chair from 2008–2010. For his technical council work, he received the ITE Coordinating Council Outstanding Volunteer Award in 2017. Jeff was also on the Mid-Colonial District Board from 2014–2017 and has contributed to many District and Mid-Atlantic Section meetings as a committee member, speaker, or moderator.

Jeff earned his bachelor’s degree in civil engineering from the University of Delaware and a master’s degree in engineering from the University of California at Berkeley. He and his wife, Jennifer, live in Newark, Delaware. They have three sons: Chris and Andy are at college and John is at home.

Scott Knebel, P.E. (M)  
**Great Lakes District**

Scott Knebel serves as the surface transportation group manager for the three Ohio offices of Midwest-based firm Crawford, Murphy & Tilly (CMT). As both a project manager and engineer, Scott has more than 26 years of planning and design experience developing safety and traffic operation improvements. He leverages national best practices and emerging safety research, facilitated by organizations such as ITE, to deliver innovative solutions that are both practical and effective. Scott is recognized as an industry leader in innovative traffic safety countermeasures and traffic operations, having been responsible for more than 300 safety-related projects. He is a champion of the value ITE brings in fostering relationships and sharing information critical to the profession, and his career has been influenced by mentors including Bob Wert—an early member of the Ohio ITE section. He has served ITE in various leadership roles, including President of the Ohio Section, the Great Lakes District Board, and has been recognized by the Ohio Section with the Young Member and President award. Scott earned a bachelor of engineering from the University of Dayton (Go Flyers) and is a registered Professional Engineer in Ohio. He has also served on the University of Dayton School of Engineering advisory council. Scott and his wife Karen have three daughters, two of whom are attending The Ohio State University (Go Buckeyes).
Kristi M. Sebastian, P.E., PTOE (M)
Midwestern District
Kristi Sebastian is a dedicated transportation manager who has worked for transportation agencies her entire career. Over the last 15 years, Kristi has served as the traffic engineer for Dakota County, Minnesota overseeing the operation of the traffic area. Past experience includes working for the Wisconsin Department of Transportation as a traffic engineer and as a graduate engineer for the Illinois Department of Transportation.

At Dakota County, Kristi is involved in complex transportation projects both through managing projects and providing technical expertise to improve mobility and safety. Kristi is part of the Minnesota Towards Zero Deaths leadership team representing the Minnesota County Engineers Association.

Kristi has been active in ITE serving on both the North Central Section of ITE and the Midwestern Board. As a Director on the International Board of Direction representing the Midwestern District, she looks forward to working collaboratively on the new challenges facing ITE and our profession, and is honored to have the opportunity to give back to this organization that has been a great part of her career.

Kirsten Tynch, P.E., PTOE, LEED AP BD+C, ENV SP (F)
Southern District
Kirsten Tynch serves as the Virginia Beach Managing Director for VHB, a 1,400-person engineering consulting firm headquartered in Watertown, Massachusetts, USA, with 24 offices along the East Coast. In her role, she oversees all operations of the firm's Virginia Beach, Virginia, USA office. In addition, she manages numerous traffic engineering and roadway design projects for private, municipal, state, and federal clients.

Kirsten has more than 25 years of experience in transportation engineering and is a registered engineer in seven states and the District of Columbia. She earned her bachelor and master of science in civil engineering from the University of Virginia, and is certified as a Professional Traffic Operations Engineer, a LEED professional, and an Envision™ Sustainability Professional (ENV SP) by the Institute of Sustainable Infrastructure.

Active in ITE since 1993, Kirsten is a Past President for the Southern District of ITE (SDITE) and Virginia Section of ITE (VASITE). Kirsten also served as one of the Local Arrangement Committee Chairs for the Southern District Annual Meeting in 2010. For her work with VASITE, she has been awarded VASITE's Young Member Award, Outstanding Individual Activity Award, and the Distinguished Service Award. She has also been awarded SDITE's Joseph M. Thomas Young Member Award. Kirsten is an alumna of the LeadershipITE Program. She currently serves on ITE's Family Program Subcommittee and is the Awards Chair for the Pedestrian and Bicycle Standing Committee. Kirsten has been married to her husband, Jack, for 12 years and has two sons, Logan and Callen.

Karen Aspelin, P.E., PTOE (F)
Western District
Karen Aspelin is an owner and principal of MaxGreen Transportation Engineers, LLC, in Colorado Springs, Colorado, USA. She graduated with a bachelor's degree in civil engineering from the University of Virginia and with a master's degree in civil engineering from Texas A&M University. She is a licensed professional engineer in Colorado, New Mexico, Idaho, Texas, Arizona, and Hawaii, and took and passed the first Professional Traffic Operations Engineer (PTOE) exam offered in 1999. Karen has been actively involved with ITE since 1994. She is a past President of the New Mexico section and the Western District, and she served as the Technical Committee Chair of the Western District for nine years. She is an ITE Fellow. Karen also serves on the board of the American Society of Civil Engineers Southern Colorado Branch and is an Assistant Scoutmaster in her son's Boy Scout troop.

Cathy Leong, P.E. (F)
Western District
Cathy Leong is an Associate Director of the Traffic/Transportation Engineering Group at Wilson Okamoto Corporation in Honolulu, Hawaii, USA. Wilson Okamoto Corporation is a local, multi-disciplinary firm that provides civil engineering, traffic and transportation engineering, and land use/environmental planning services. Cathy graduated with a bachelor's degree in civil engineering from the University of Hawaii at Manoa and then earned a master's degree in civil engineering from the University of California, Berkeley. She is an ITE Fellow and a licensed engineer in Hawaii with more than 20 years of traffic engineering experience.

Cathy first joined ITE in 1995 as a student member and has been actively involved ever since. She's a Past President of the Hawaii Section, served as the Student Endowment Fund Chair for the Western District for six years, and completed her term as Western District President in 2016. In addition, she was the Local Arrangements Committee Chair for the 2006 Western District Annual Meeting in Hawaii and has volunteered again to Co-Chair the LAC for the upcoming 2020 Western District Annual Meeting in Hawaii. Cathy has received several awards over the years for her contributions to ITE including the Western District Young Professional Achievement Award in 2008 and the Western District Individual Achievement Award in 2012.

Cathy lives in Honolulu, Hawaii with her husband Garrett and son Tyler.
Carlos A. Ortiz, P.E., T.E., PTOE (M)

Carlos Ortiz is the chief operating officer and principal at ADVANTEC Consulting Engineers, Inc. (ADVANTEC). Carlos has 29 years of experience, exclusively in the field of intelligent transportation systems, connected/automated vehicles, smart cities, and traffic engineering. He has extensive experience managing projects and programs for numerous agencies throughout California, Arizona, and Washington. At ADVANTEC, Carlos manages the daily operations and regional projects related to smart cities, connected/automated vehicles, big data, and ITS.

In addition to serving on the ITE International Board of Directors starting in 2018, Carlos also serves on ITE’s Transportation Systems Management and Operations (TSM&O) Council, Transportation Consultants Council, and he serves as the Co-Chair of ITE’s Advocacy Committee. He served as President of ITE Western District and on ITE’s Strategic Initiatives Committee. Carlos also served as President of ITE Southern California Section, ITE Riverside-San-Bernardino Section, Orange County Transportation Engineers Council, and American Society of Civil Engineers (ASCE) Young Member Forum, Orange County Chapter. Carlos also serves on the Board at ITS California, where he serves as the Southern California Section Chair, and Partnership Chair for ITS California. He is also a member of ASCE and the American Public Works Association.

Carlos graduated with a bachelor of science in civil engineering from California State Polytechnic University, Pomona and he serves on the Industry Advisory Committee at the university. Carlos holds a civil engineering license in the states of California, Arizona, and Washington (in process). He is also registered as a Traffic Engineer (T.E.) in the State of California; and he is certified as a Professional Traffic Operations Engineer. Carlos served in the Boys Scouts during his childhood in Ecuador, South America, and he is fluent in Spanish.

Jen Malzer, M.Sc., P.Eng. (M)

Jen Malzer works in the livable streets division of the City of Calgary. As a transportation engineer, her current focus is on supporting pedestrians, reimagining traffic calming, and integrating tactical urbanism principles throughout the entire organization. Jen is also exploring new ways municipalities can engage with community members of all ages for fast, meaningful change using shared decision making. She was awarded the Sustainable Urban Transportation award for this work in 2017 by the Transportation Association of Canada.

Jen is a long-time ITE member and has proudly served ITE at the District, Section, and Student Chapter levels. She is also a graduate of the 2018 class of LeadershipITE where her group explored the future of ITE Trip Generation Manual. She is also the current Co-Chair of the Women of ITE Sub-Committee.

Donald (Don) J. McKenzie, CEng (NZ), P.E. (F)

Don McKenzie is the Northern Region Group Manager for Stantec New Zealand where he is responsible for the direction and management of the traffic engineering and transport team numbering more than 100 transportation professionals: Don is a Chartered Professional Engineer in New Zealand and has been a member of ITE since 2003. He provides technical and professional leadership for the Stantec team in the Northern Region of New Zealand, bringing more than 25 years of experience in transportation planning, traffic engineering design, road safety assessment, and transportation impact assessment. He regularly provides expert witness testimony before local and regional planning hearings. Don is active in an industry advisory role with the University of Auckland and delivers an annual guest lecture at the University. He was National Administrator of the Transportation Technical Group of the New Zealand Institution of Professional Engineers (Engineers New Zealand) for six years and is a regular contributor to the group’s activities both locally and nationally. Don has been the New Zealand representative on the ITE Australian New Zealand Section Executive Committee since 2008 and has contributed to numerous ITE sub-committees and working groups on matters including person and vehicle trip generation, roundabout design, ITE’s strategic initiatives working group, and the Nominations Committee.

Dale Picha, P.E., PTOE (M)

Dale Picha is the transportation operations manager for the 12-county Texas Department of Transportation (TxDOT) San Antonio District, overseeing all of the traffic engineering and traffic management system functions for those counties. He has worked in the transportation field for 22 years, including with the Texas A&M Transportation Institute (TTI) and with both the City of Bryan, TX, USA and City of College Station, TX, USA.
INTERNATIONAL DIRECTORS

Dale thoroughly enjoys working in the public sector as a traffic engineer, especially as it relates to the communication and interaction on a daily basis with his staff, citizens, elected officials, emergency responders, planners, engineers, contractors, the media, and vendors in solving transportation problems. He also enjoys working with and mentoring young professionals in the transportation field.

Dale has served in leadership roles in both the Brazos Valley and South Texas Sections of ITE, and more recently, as the TexITE District Secretary-Treasurer, Vice President, and President in 2014, 2015, and 2016, respectively. He has co-chaired two Local Arrangement Committees for past TexITE District meetings, and has recently completed two executive-level leadership programs with TxDOT.

Dale is a graduate of Texas A&M University, with bachelor and master of science degrees in civil engineering. He is a licensed Professional Engineer in Texas, and a Professional Traffic Operations Engineer. Outside of work, Dale enjoys traveling, running, biking, gardening, and other outdoor activities with his wife Tracy and daughter Louise.

Daniel (Dan) J. Beaty, AICP (F)
Florida District

Daniel (Dan) Beaty is a chief transportation planner at the HNTB Corporation with 25 years of experience in the areas of urban and regional transportation planning and travel demand modeling. His focus has been on travel demand modeling including model development and validation, preparation and forecasting of socioeconomic data, development of long-range transportation plans, and modeling for planning, preliminary design, and design projects. Dan has been a member of ITE for more than 23 years. He began his involvement with the local Big Bend Chapter having served on the board in all positions. He continues to be active with the local chapter in reviewing applications for scholarships. Dan served on the Florida Section and District 10 boards as President, Vice President, and Secretary and has been the FSITE Representative to District 10. He ran the Student Traffic Bowl for the District for five years and has received numerous FSITE/District 10 Awards for service. Dan has served on numerous ITE committees and he currently is the Chair of the ONE ITE Task Force. His recent focus has been on students and helping them to develop and get involved in ITE. Dan and his wife Kim of 24 years, live in Tallahassee with their two girls and dog Jacee. Dan enjoys playing wood bat baseball and golfing.

EX-OFFICIO MEMBERS

Jason Crawford, P.E. (F)
Coordinating Council Chair

Jason Crawford is the Research Engineer and Division Head for the Research & Implementation Division in the Transportation Operations Group at the Texas A&M Transportation Institute (TTI). He manages business operations and development in the Arlington, Dallas, Houston, and Waco, Texas offices.

Over his 28-year career at TTI he has developed a diverse research portfolio. He works in the areas of transportation/air quality, metropolitan and statewide transportation planning, traffic monitoring, traffic operations, managed lanes, safety, work zones, construction, design-build and concessions, cash flow forecasting, and mobility coordination. He is currently the mobility coordinator for the Texas Department of Transportation’s I-30/SH 360 Interchange Project. In this role he coordinates and liaisons construction impacts with adjacent businesses, four major entertainment venues, an international airport, a transit district, two TxDOT districts, the metropolitan planning organization, and two cities.

Jason served ITE as the Greater Fort Worth Section President, Texas District President, and most recently as the Texas District Director to the International Board of Direction. He is a Leadership ITE graduate from the inaugural class of 2014. He is looking forward to serving in the role as ITE Coordinating Council Chair.

Abbas Mohaddes, P.E. (F)
Industry Council Chair

Abbas is president and COO of Econolite, an industry leader in traffic management products and services. He has more than 30 years of experience in the application of technology in transportation systems, including traffic management, communication, traveler information, systems integration, transit, and connected and automated vehicles. He is a recognized expert in ITS, and has completed more than 70 publications and presentations at industry organizations around the world.

After serving the City of Dallas, Texas as a traffic engineer, and several years of consulting practice, he co-founded Meyer, Mohaddes Associates in 1991 in Los Angeles, a firm focused on application of technology in traffic management and systems planning, which later merged with Iteris. He is the former CEO of Iteris, where he led the transformation and substantial growth of the company into a software-based traffic management information technology organization through organic growth and acquisition.

He is a founding member and past chairman of ITS America, past chair of the ITS America Leadership Circle, member of the Transportation Research Board (TRB), past member of the TRB Executive Committee, and vice chair of the board of trustees of the Mineta Transportation Institute. He is a fellow, and Chair of the Industry Council for ITE and member of the University of California Irvine, Chancellor’s CEO Roundtable. He is an executive committee member of CATS, founded by AASHTO, ITSA, and ITE, focused on connected and automated vehicle activities.
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INTRODUCING THE LEADERSHIPITE 2019 CLASS

This year marks the sixth incoming class of LeadershipITE scholars, the institute’s premier leadership development program. ITE is pleased to welcome the following 21 LeadershipITE members who will embark on a professional development journey unlike any other in the industry. Through the intensive program, scholars will have the opportunity to deepen their knowledge of the transportation profession and advance their leadership skills by participating in workshops, conferences, webinars, and a wealth of other professional development activities, ultimately graduating at the Joint ITE and Texas District Annual Meeting and Exhibit in Austin, TX, July 21–24, 2019. Please join us in congratulating this year’s accomplished LeadershipITE class.

Stephen Bolt, P.E. is the deputy street superintendent at the City of Charlotte, North Carolina. Prior to his current position, he worked for the North Carolina Department of Transportation. His work focuses on long-term system sustainability as well as ongoing maintenance. He is the section director for the ITE North Carolina Section and the Young Member section lead for the ITE Southern District. He is a professional engineer and received his bachelor’s degree from the University of North Carolina at Charlotte.

Lu Ding, P.E., PTOE is a senior transportation engineer at the New Jersey Sports and Exposition Authority. She has more than 12 years of diverse experience in traffic and transportation engineering, intelligent transportation systems (ITS), and land development. She received a bachelor’s degree in civil engineering from Tsinghua University, Beijing, China and a master’s degree in transportation engineering from Rutgers University, NJ. Prior to her current position in the public sector, Lu has 10 years of experience working in private consulting firms. Her previous employers include YU Associates and Eng-Wong, Taub & Associates. Lu has been an active member of the ITE Met Section of NY and NJ for many years and serves as the secretary on the 2019 executive board.

Claudio A. Figueroa, E.I.T. is a traffic analyst with VHB in Raleigh, NC. Originally from Santo Domingo, Dominican Republic, Claudio obtained a bachelor of science in civil engineering from University of Puerto Rico – Mayaguez (URPM), and a master of science in civil engineering from Purdue University. He has been involved with ITE for more than 10 years and has held multiple leadership positions, including president of the UPRM student chapter, social committee member in Indiana ITE and most recently, operations committee chair for the ITE North Carolina Section, where he was awarded the New Member Award. At VHB, Claudio develops traffic forecasts for proposed transportation improvement projects, performing traffic operational analysis (especially for roundabouts), conducting feasibility studies, and building complex microsimulation models using multiple platforms. Outside of the office, Claudio and his wife Diana are photography enthusiasts who love capturing moments of their family, especially their one-year-old daughter, Mila Sofia.

Douglas S. Halpert, P.E. received a bachelor of science in civil and environmental engineering from Northeastern University in Boston, MA. As an undergraduate, he performed three, six-month co-operative periods of working in both the public and private sectors where he gained practical work experience. He is currently a project engineer at Greenman-Pedersen, Inc. and is a registered professional engineer in state of Massachusetts and New Hampshire. Douglas has been an active member of ITE for more than 10 years and served as president of the Northeastern University ITE student chapter. He currently serves as treasurer for the Massachusetts state chapter and continuing education chair for the New England section. Most recently, at the New England ITE Annual Meeting in Warwick, RI, he was awarded the 2018 Emerging Professional Award.

Joshua S. Harris, P.E., PTOE received a bachelor’s degree in civil engineering from Valparaiso University and is a civil engineer at Willett, Hofmann & Associates. He previously worked for CivilTech Engineering and Clark Dietz. Since his graduation in 2007, Josh has been involved with the Illinois Section of ITE and has served as a house and special events committee member, technical event development committee member, student affairs director, technical group director, treasurer, and secretary. He served as a planning co-chair for the 2016 Midwestern/Great Lakes Districts Joint Conference and received the Illinois Section of ITE Outstanding Member Award in 2016.

Najmeh Jami, P.E. is a transportation engineer with Stantec in New York City. Prior to joining Stantec, Najmeh worked for KCI Technologies, Inc. (formerly RPM Transportation Consultants) in Nashville, TN as a design engineer. Najmeh has worked on a variety of transportation projects including various traffic impact studies, multimodal mobility studies, and roadway safety projects. She obtained a bachelor of science in civil and surveying engineering from Amirkabir University of Technology in Tehran, Iran and a master of science degree in civil engineering-transportation from University of Memphis. Najmeh joined ITE as a student member and served on the ITE Tennessee Section Technical Committee and helps to organize TSITE-sponsored webinars.
ITE Awards Legacy Program Scholarships

The ITE Legacy Program was established in October 2016 to help advance ITE’s mission of “shaping the future of the profession and transportation” by supporting the growth of its future leaders. Through the generous donations of individuals and organizations, as well as a scholarship endowed by Gorove-Slade, ITE was able to offer scholarships for the first time to three LeadershipITE scholars from the class of 2018. These generous gifts allow qualified ITE members in need of financial support the opportunity to participate in this valuable program.

Now in the program’s second year, ITE would like to recognize the following members of the LeadershipITE 2019 class who are recipients of the Legacy Program scholarships:

Fred Gorove Memorial Scholarship Recipient:

Yung Koprowski, P.E., PTOE is honored to be selected as the Gorove Slade scholarship recipient for the 2019 LeadershipITE program. As a new entrepreneur, Yung also hopes to inspire others in the program to take the next steps in their career advancement. Yung received a bachelor of science degree in civil engineering from Arizona State University and is a past WTS Scholarship Recipient. She is a registered professional engineer in the state of Arizona and Professional Traffic Operations Engineer. After more than ten years serving Arizona communities, Yung formed her own engineering firm, Y2K Engineering, in February 2017 to serve as a role model for other women. Her professional experience is focused on traffic engineering and transportation planning, specifically in safety, intelligent transportation systems (ITS), traffic operations, and active transportation (walking, biking, transit). She has actively managed, participated in, and successfully completed numerous studies and designs involving various government agencies in Arizona. She is a past president of ITS Arizona and the American Society of Highway Engineers (ASHE) Phoenix Sonoran section. In 2016, the American Society of Civil Engineers recognized Yung as a New Face of Civil Engineering Professional Honoree. She is the current Secretary of the Arizona Section of ITE and the Charter President of Habitat for Humanity Central Arizona Young Professionals Group.

Danielle Joyce, PTP became involved with ITE in 2008 as the Events Committee chair of the ITE Met Section. Shortly after relocating to Florida in 2012, she was elected to the Tampa Bay Chapter Board and is the incoming 2019 past president. She will also serve on the ONE ITE Task Force to assist with the transition of Chapter to Section status. She received her bachelor’s in civil engineering from West Virginia University and is a Professional Transportation Planner. Prior to joining HNTB as the Traffic Section Manager in Tampa, she held multiple positions at Greenman-Pedersen, Inc. throughout 12 years, the most recent being traffic services director. She is very passionate about safety and currently serves on the Community Traffic Safety Team and the Bike/Walk Tampa Bay Coalition. In 2017, she was recognized with the FDOT Travel Choice Award in Leadership as well as the John R. Freeman – Florida Section ITE Transportation Professional of the Year.

Todd Knox, P.E., PTOE has a bachelor of science in civil engineering from the University of Wisconsin-Platteville and a master of science in civil engineering from Iowa State University. He has worked as a traffic engineer at Snyder & Associates, Inc. in Ankeny, IA, since 2005 and was previously a research assistant at Iowa State University. At Iowa State, he held various ITE student chapter board roles including chapter president. Since graduating, he has held several positions as a member of five LACs for MOVITE/MWITE meetings held in Iowa, including treasurer and chair. Knox was also on the chapter board for the Central Iowa Younger Member Group of ASCE and held the office of chapter president. Knox was an inaugural chapter board member for the Iowa Central Chapter of ITE and served as president in 2017.

Meera Kopp, P.Eng. has a bachelor of science in civil engineering from the University of Calgary. She began her career with Bunt & Associates Engineering where she worked on a variety of comprehensive traffic and parking impact assessments. Meera currently works for the City of Calgary’s Transportation Design Division where she focuses on active modes infrastructure and roadway design. Meera first became involved with ITE as a student member in university and was part of the Local Arrangements Committee for the 2013 CITEx Conference in Calgary as the volunteer coordinator. Meera was elected to the ITE Executive Committee in December 2013 for the Southern Alberta Section, and is currently the section’s president, having also served as publicity coordinator, treasurer, and vice president. Meera is an active long-term volunteer for the Kids Cancer Care Foundation of Alberta, where she helps with camp and community programs, as well as fundraising events. In addition to her professional career and volunteer commitments, Meera is mom to two-year-old boy and girl twins, Dylan and lyla.
Taylor Lochrane, Ph.D., P.E. is a technical manager with the Federal Highway Administration, U.S. Department of Transportation. Dr. Lochrane is part of the Enabling Technologies Team in the Office of Operations Research and Development at Turner-Fairbank Highway Research Center. He is the technical manager for the Cooperative Automation Research Program, leading various projects in the area of cooperative automated driving systems (CADS). Lochrane leads a team of engineers in the development of the Cooperative Automation Research Mobility Applications (CARMA) platform, which supports testing and evaluation of CADS. His main technical area of specialty is on automated vehicle platooning. He also supports technology development for emerging technologies that will support and enable vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communications capabilities. He has a bachelor of science, master of science, and Ph.D. in civil engineering from the University of Central Florida.

Chris Maddox, P.E., PTOE, IMSA TS 1 is an ITS/traffic engineer for AECOM where he works on Georgia DOT’s Regional Traffic Operations Program focusing on traffic signal and ITS equipment operations and maintenance. He has been involved with ITE for more than nine years, and recently served as the Chair for the Georgia Section’s annual Summer Seminar Conference. He is a graduate of Georgia Tech where he received both his bachelor’s and master’s degrees in civil engineering. Chris and his wife live in Woodstock, GA where they enjoy spending summers boating and wakeboarding on Lake Allatoona.

Patrick O’Connor, P.E., PTOE is a graduate of Purdue University (BSCE, 2002). He previously worked in Dallas, TX, USA and Tampa, FL, USA and now finds himself and family “back home again” in Indianapolis, IN, USA. Patrick is a project engineer for American Structurepoint, Inc. specializing in traffic operations and serving as the District Administrator for the ITE Great Lakes District. Patrick’s past service to ITE includes president of the Tampa Bay ITE Chapter and numerous local arrangement committees, including the 2018 International Meeting. Patrick was awarded Young Engineer of the Year (2011) by the Florida Section, which recognizes outstanding contributions to the Section and to the transportation profession. A member of the International Municipal Signal Association, he also holds the Traffic Signal Level 3 Senior Field Technician certification.

Mariya (Mars) Otten-Andrew, P.Eng., PTOE, MIEAust CPEng works for WSP as the transportation planning manager for Alberta, Canada. She graduated from Griffith University, Gold Coast, Australia with an honors degree in civil engineering in 1997 and joined the Queensland Department of Main Roads. Mars moved to London, UK in 2001 and worked for various consultancies including JMP Consulting and Buro Happold. She also worked with Mouchel Parkman in Dublin before returning to Australia with VDM Consulting. Mars is currently the vice chair for the ITE Canadian District Technical Liaison Committee. Before moving to Canada in 2013, she was the Gold Coast Coordinator for the Australian Institute of Traffic Planning and Management.

Kenneth Perkins, P.E., PTOE is a transportation engineer with Volkert, Inc. Prior to joining Volkert, Kenneth worked as a design engineer for KCI Technologies and as a traffic engineer for RPM Transportation Consultants, where his focus was on traffic signal design, roundabout design, roadway, and intersection improvements designs. He holds a bachelor of science in civil engineering from Tennessee State University. Kenneth also obtained a master of engineering in civil engineering with a concentration in transportation engineering from Tennessee State University. Kenneth is actively involved in the ITE Tennessee Section and serves as the student chapter liaison for Tennessee State University. He is also currently the vice president of the Nashville Chapter of ASCE.

If you are interested in applying for one of the prestigious ITE Legacy Program scholarships next year, the applications will be due to ITE Headquarters, along with the LeadershipITE applications, in mid-September 2019. Scholarship recipients are selected by the ITE Legacy Program Oversight Committee based on an individual’s applications and letters of support from employers and mentors that describe why they deserve this honor. Visit the LeadershipITE page on the ITE website for details at https://www.ite.org/professional-and-career-development/leadershipte/. If you have questions or need more information, contact leadership@ite.org.
Legacy Fund Scholarship Recipient:

Zaida E. Rico-Rolón, P.E., Ph.D. is a professional engineer registered at the Department of State of Puerto Rico. She has a bachelor’s degree in civil engineering from the University of Puerto Rico - Mayagüez Campus (UPRM), a master’s degree in civil and environmental engineering from the University of Wisconsin, as well as a Ph.D. in civil engineering from UPRM.

Zaida has more than 19 years of experience in transportation related engineering work, including her current position as senior professional transportation engineer at CMA Architects & Engineers LLC. Past employers include the Puerto Rico Highway and Transportation Authority, the Metropolitan Bus Authority of Puerto Rico, the Puerto Rico Department of Transportation and Public Works, the Puerto Rico Traffic Safety Commission, the Municipality of San Juan, and the Polytechnic University of Puerto Rico.

Zaida is the current president and former treasurer of the Puerto Rico Section of ITE. She was a director at the San Juan Chapter of the College of Engineers and Land Surveyors of Puerto Rico and president of the Puerto Rico Chapter of Women’s Transportation Seminar. While a student, she was secretary of the ITE-TSSA Student Chapter at UW-Madison, and president and treasurer of the ITE Student Chapter at UPRM. She is a two-time holder of the Dwight D. Eisenhower Transportation Fellowship, and was awarded the Ada Pressman Memorial Scholarship from the Society of Women Engineers.

Jeff Preston, P.E. is an associate transportation engineer with Stantec in Minneapolis, MN, USA. A licensed professional engineer, he has spent the past 17 years in Stantec’s transportation group delivering preliminary and final design projects for Municipal, County, and state DOT clients. He earned a bachelor’s degree in civil engineering from Iowa State University in 1997. He has enjoyed being active in ITE since 2001 and is currently serving on the North Central Section ITE Board as President for 2019. Outside the office, Jeff enjoys following the local sports teams, coaching, traveling, and daily adventures with his family.

Lindsay Saner, P.E., PTOE is a project manager at Kimley-Horn in Las Vegas, Nevada, USA with 10 years of experience in transportation engineering/planning. She also spent four years in convention/conference planning with the Western Veterinary Conference. A native of Michigan’s Upper Peninsula, Lindsay received her bachelor and master of science degrees in civil engineering from Michigan Technological University in 2003 and 2004, respectively, and has resided in Las Vegas for more than 14 years. Active in ITE since college, she currently serves the Nevada Chapter as Past President, and was the Local Arrangements Committee Chair for the Western District Annual Meeting in Las Vegas in 2015. She is also a Charter Member of the Nevada Chapter of WTS International.

Madhuri Seera, P.Eng., P.E., PTOE is a senior transportation engineer with the City of Calgary, AB, Canada. In her role, Madhuri provides technical expertise on complex citywide projects such as the Green Line. As a project manager, she delivers long-term planning projects and strategies. She has an undergraduate degree in civil engineering from JNTU University in India and a master’s degree in transportation engineering from University of Nevada Las Vegas. She previously worked as a traffic safety engineer for the City of Phoenix, AZ, USA as a supervisor of traffic control and the parking division at City of Regina, SK, Canada and as a consultant at PB (now WSP), Las Vegas, and ATKINS, Phoenix. When not working, she loves to travel with her husband Ravi Seera (Manager, Traffic, City of Calgary) and their two boys, 9-year-old Ishaan and 5-year-old Yuvaan. Madhuri has been a member of ITE since 2004. She was vice president of the ITE Student Chapter at University of Nevada Las Vegas. She was a member of the Arizona ITE conference committee during her time in Phoenix. She has co-chaired the ITE/IMSA Spring Conference in 2011 and served as the ITE conference chair for the same conference in 2012. She has continued her contributions as her career moved from the United States to Canada. She was the program director for the CITE Saskatchewan Section in 2014 and part of the local arrangements committee for CITE 2015 annual conference in Regina.

Donate to the ITE Legacy Fund

The ITE Legacy Fund supports the development of the next generation of leaders in ITE and the transportation profession, including:

- Supporting students participating in ITE Student Leadership Summits;
- Funding District Rising Star participation at the ITE Annual Meeting and Exhibit; and
- Enhancing and providing scholarships to the LeadershipITE program.

Donations to the ITE Legacy Fund can be made via your membership renewal. This renewal notice provides you with the easiest and quickest way to contribute. For other ways to contribute, please contact Colleen Agan at cagan@ite.org or 202-785-0060 ext 127.

Thank you for helping ITE create the future leaders in transportation.
Honoring the Best and Brightest in Transportation.


The ITE Awards Program recognizes outstanding achievements in the transportation profession. Nominations are currently being accepted. We want to hear about your or a colleague’s contribution to our profession.

Tyler Wiles, P.E., PTOE, LEED-AP is a traffic engineer and group manager for HR Green, Inc. in Johnston, Iowa, USA. Tyler has nearly 12 years of practical traffic and transportation experience while working in Arizona and Iowa. His experience includes a variety of traffic engineering sub-disciplines including, intelligent transportation system planning and design, traffic signals, signing and pavement marking, roadway lighting, traffic operations and studies, asset management/GIS data collection and construction phasing. Tyler will be the president for the ITE Central Iowa Chapter in 2019 and has served as the Iowa State Director for the Missouri Valley Section of ITE (MOVITE) Board of Directors. Tyler is also the MOVITE Fall 2019 Annual Meeting Local Arrangements Committee chair. Outside of ITE, Tyler has served as the Consultant Director for the ITS Heartland Board of Directors. He received his bachelor of science in civil engineering from Iowa State University and his master of business administration from the University of Iowa.

Lihua (Emily) Zhang has a master of science in transportation planning and highway engineering from New York University. She currently works as a senior transportation engineer at the TransCore New York City office, leading and providing technical support to several intelligent transportation systems projects. Recently, she has been working on New York City (NYC) central transit signal priority deployment and providing support to NYC Traffic Control Systems, which manages 12,600+ citywide signalized intersections. Ms. Zhang also co-chairs the ITE Met Section of NY and NJ Local Arrangements. Her previous experiences also include traffic planning, signal timing design, urban planning, and architecture design. itej
YOUR ITE COUNCILS: AN OVERVIEW OF THE ITE COUNCILS IN 2019

What do ITE councils provide for members?
The ITE Councils represent the practical and technical engine of ITE. Councils focus on developing and delivering diverse technical value to all members and providing both volunteer and leadership opportunities to members regardless of their career stage. Council members shape ITE technical priorities, support the ITE Board’s strategic initiatives, and liaison with partner organizations within the United States, Canada, and other countries. Additionally, councils develop technical products and content in the form of ITE Journal articles, webinars, sponsored conference sessions, informational reports, ITE Community discussions, blogs, newsletters, and much more. All this technical material is developed by council volunteers with assistance from ITE staff and external stakeholders.

How are the councils structured?
The ITE Councils represent nine communities of members with common focus areas. Three employer-type councils and six technical councils develop and disseminate a broad range of informational content for all ITE members. The employer-type councils are the Public Agency Council, the Transportation Consultants Council, and the Transportation Education Council. The technical councils focus on six areas of technical interest: complete streets, traffic engineering, transportation forensics and risk management, transportation planning, transportation safety, and transportation systems management and operations. Councils are led by an Executive Committee guiding the direction and activities of the council and standing committees that focus or work on specific areas of interest. The ITE Coordinating Council is comprised of the individual council chairs, and provides executive oversight, coordination, and collaboration for council activities and policy.

What are some current council initiatives?
Developing Trends report – Last year, the Coordinating Council published the first Developing Trends Facing the Transportation Profession: A Thought Leadership Report. This collaborative report developed with direct input from all councils identified 23 topics that would be important to ITE members in the near-term. Councils are using these topics to develop their 2019 action plans for council products to provide value to ITE members.

Mobility as a Service – At its October meeting, the International Board of Direction approved Mobility as a Service (MaaS) as a new Institute Initiative and the 2019 focus area for the Coordinating Council. The Coordinating Council will be collaborating with ITE districts throughout 2019 to provide a session on the district meeting program for an introductory seminar on the topic and to seek ITE member feedback in the form of questions, professional expertise, and forward thinking.

How can I get involved?
Council membership – Membership is free and participation is welcome from all ITE members. Simply log into the ITE Community and subscribe to the councils in which you are interested. It’s easy! You will have immediate access to a wide range of information, discussions, and resources that the councils develop. Councils communicate through ITE Community to share meeting/conference call notice and agendas, sub-committee/task force member solicitations, and other council communications. Once you sign up, you will be able to monitor initiatives, join the conversation, and contribute your talents.

Council meetings – Councils hold two in-person meetings (during the annual Transportation Research Board meeting in January, and the ITE Annual Meeting in summer) and conference call meetings throughout the year. These meetings are great opportunities to hear about current transportation issues, take advantage of focused webinars, offer experiences and opinions, or advance an information gap or emerging topic ITE should be pursuing. The Council meetings are open to all members. At in-person meetings just pull up a chair and start collaborating. For virtual meetings, contact the council leadership and request attendance information for the next call.

Volunteering – Each council has a broad range of activities led by volunteers and offer opportunities to play a role in writing the future of the profession. Interested in volunteering? The council page on the ITE website provides a link to typical volunteer opportunities available within the council. Simply contact the council chair to share time, knowledge, talents, and skills.

Where can I learn more?
Visit the ITE website at www.ite.org/technical-resources/councils/ to find out more. This page will link you to the Coordinating Council and the individual councils to learn more about each of them. The contact information for council chairs can also be found there. The ITE Membership Directory allows you to search for members serving on the specific council executive committees. Reach out to any of the executive committee members, Jason Crawford, Coordinating Council Chair—or the Coordinating Council Vice-Chair, Eric Rensel—would be happy to answer any questions you may have.
PEOPLE IN THE PROFESSION

Deborah Hersman has been named chief safety officer for Waymo, which launched the first autonomous ridesharing service in the United States in early December. Hersman served as chairwoman of the National Transportation Safety Board for the Obama White House and spent the last four years as CEO of the National Safety Council. As Waymo’s chief safety officer, she will focus on the safe operations of the driverless passenger vehicles. Formerly known as the Google Self-Driving Car Project and a subsidiary of Alphabet, Waymo conducted service tests in the Phoenix area using driverless minivans for a limited number of riders before officially launching its app-based service.

Member Updates

Jose M. Rivera Jr., P.E. (F) has joined Jacobs as the Northeast Region Traffic Lead. As the former Chief Traffic Engineer with the Port Authority of New York & New Jersey, Jose has tremendous credentials working on some of the most complex transportation infrastructure projects in the world. In his new role, Jose will provide traffic solutions to a variety of clients in the Northeast, advise on worldwide projects (as part of the Jacobs Global Solutions & Technology Group), and mentor staff.

Jose has more than 35 years of traffic engineering experience, specializing in planning, design, safety, construction, and operations for a wide range of facilities including airports, bridges, tunnels, and marine, bus, and train terminals. Prior to his recent retirement from the Port Authority, he managed a staff of more than 50 traffic engineers. His project experience has included new terminals and roadways at the airports, most recently with the LGA Redevelopment Program and JFK Visioning; the implementation of the E-ZPass and ITS deployments at all Port Authority facilities; master planning for a new Port Authority Bus Terminal; the raising of the roadway at the Bayonne Bridge; and the construction of a new Goethals Bridge. He was also instrumental in the deployment of a comprehensive asset management system for traffic assets.

Jose is an active member of the National Committee on Uniform Traffic Control Devices, serving on the Guide Sign and Motorist Information technical sub-committee. He is also a Fellow of ITE and a member of the American Society of Civil Engineers.

John M. Teague (M), owner and principal engineer of J.M. Teague Engineering and Planning (JMTE) of Waynesville, NC, USA, announces the addition of three new staff members at the firm: Andrew Bowen, planning director; William Thompsen, transportation specialist; and Anna Sexton, transportation planner.

Founded in 2010, JMTE is a transportation and traffic engineering and planning firm based in Waynesville, NC, USA that offers more than 20 transportation- and traffic-related services, with a portfolio that includes projects throughout the Southeast.

New Members

ITE welcomes the following new members who recently joined our community of transportation professionals.

Sarah Abel (M), Institute of Transportation Engineers, Washington, DC, USA
John Adams (M), City of Plano, Texas, Plano, TX, USA
Javed Alam (M), New York City DOT, New York, NY, USA
Byron Lee Bacher (M), Paradigm Traffic System, Houston, TX, USA

Jordan Richard Beans (M), HNTB, Columbus, OH, USA
Joshil Bhutpuria, E.I.T. (M), Austin Transportation Department, Austin, TX, USA
Nikolaus Carcha (M), GHD Inc., Fresno, CA, USA
Justin Carter, E.I. (M), City of Memphis, TN-Engineering, Memphis, TN, USA
Kenny K.C. Chan, E.I.T. (M), City of Toronto, Toronto, ON, Canada
Russell Chen (M), County of Santa Cruz, Santa Cruz, CA, USA
Vin Chung (M), City of Port Moody, BC, Port Moody, BC, Canada
Richard D’Andre (M), Maser Consulting, PA, Valhalla, NY, USA
Ravi Dhamrat (M), Austin Transportation Department, Austin, TX, USA
Lisa Dykstra (M), RS&H, Fort Lauderdale, FL, USA
Joe Eichsteadt (M), Wisconsin Rapids, WI, USA
Guangnan Feng (M), 407 ETR, Woodbridge, ON, Canada
Jason Flick (M), Johnson, Mirmiran & Thompson, Lake Mary, FL, USA
Georganna Gillette (M), Space Coast TPO, Viera, FL, USA
Jonathan W. Grimm (M), OHH Advisors, Columbus, OH, USA
Julio Guzman (M), City of Philadelphia, Philadelphia, PA, USA
Tyler Hensz (M), Titanium Transportation Group Inc., Bolton, ON, Canada
Brandon Hess (M), HNTB Corporation, Harrisburg, PA, USA
Jenna Hills (M), DKS Associates, Salem, OR, USA
William Huang (M), Toole Design Group, LLC, Boston, MA, USA
Bryan Igarta (M), Visalia, CA, USA
David Jahosky (M), Government Services Group, Inc., Tallahassee, FL, USA

Letters in parentheses after individuals’ names indicate ITE membership status: S—Student Member; IA—Institute Affiliate; M—Member, F—Fellow, and H—Honorary Member. Information reported here is based on news releases and other sources. If you have news of yourself or the profession that you would like considered for publication, please send it to Holly Stowell, ITE Journal, 1627 Eye Street, NW, Suite 600, Washington, DC 20006 USA, hstowell@ite.org.
learned

Christina Jasso (M), City of Garland, Garland, TX, USA
Joan Jenkins (M), Austin Transportation Department, Austin, TX, USA
Stephen Judd (M), City of Port Moody, BC, Port Moody, BC, Canada
Peter C. Kavcic (M), City of London, London, ON, Canada
Kim Law (M), City of Port Moody, BC, Port Moody, BC, Canada
Bradley Lyon, P.E., PTOE (M), Sebago Technologies, South Portland, ME, USA
Sean MacLeod (M), Austin Transportation Department, Austin, TX, USA
Walter Magill (M), Four Points Surveying and Engineering, Steamboat Springs, CO, USA
Nicholas Mazza (M), Cranmer Engineering, Shrewsbury, NJ, USA
Mehdi Mohades (M), Iteris, Westlake Hills, TX, USA
Edgardo Montenegro, E.I.T. (M), Austin Transportation Department, Austin, TX, USA
Francisco Morales, E.I.T. (M), Alachua County, Gainesville, FL, USA
Serge Nepo (M), LKB Inc., Syosset, NY, USA
Hyunsoo Noh (M), Pima Association of Governments, Tucson, AZ, USA
Jacquelyn Oriold, BA, BEd., MMED (M), City of Calgary, Alberta, Calgary, AB, Canada
Aric M. Otzelberger (M), City of Westminster, Colorado, Westminster, CO, USA
Jared Penrod (M), Provo City Engineering, Provo, UT, USA
Yubrani Pinch (M), Walter P Moore, Houston, TX, USA
Eric Pogue (M), Jacobs, Centennial, CO, USA
Javier Ponce, P.E. (M), Florida Dept. of Transportation, Tallahassee, FL, USA
Ryan Rindt (M), Kansas Department of Transportation, Topeka, KS, USA
Kyla Rodgers (M), The Municipal Infrastructure Group, Vaughan, ON, Canada

Adrian Rodriguez (M), City of Newport Beach, Newport Beach, CA, USA
Charles Saunders (M), City of Philadelphia, Philadelphia, PA, USA
Shawn Scherer, E.I.T. (M), City of Omaha, Omaha, NE, USA
Nicole Scott (M), Sebago Technics, South Portland, ME, USA
Elizabeth Stuber, P.E. (M), Louisville Metro Government, Louisville, KY, USA
Jenifer Talana (M), San Diego County, San Diego, CA, USA
Zachary Tiang (M), VHB, Providence, RI, USA
Ned Tramp, P.E. (M), City of Omaha, Omaha, NE, USA

Omar Venzor (M), Urban Engineers Group Inc., Dallas, TX, USA
James Vorosmarti (M), Tetra Tech, Marlborough, MA, USA
Jared Wall, P.E. (M), Austin Transportation Department, Austin, TX, USA

Obituaries
ITE recently learned of the passing of a member. We recognize his contributions to ITE and the profession, and we send condolences to his family.

Delbert W. Gerdes, P.E. (M) of West St. Paul, MN, USA, passed away on November 7, 2018. itej

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www.ite.org January 2019 21
New On-Demand Webinars

**Best of Minneapolis: Speeding Up the Slowdown — Strategies for More Intelligent Speed Management in Urban and Suburban Communities**
This webinar, originally delivered as one of ITE’s most popular technical sessions at the 2018 ITE Annual Meeting and Exhibit in Minneapolis, focuses on new approaches to speed management, and how slower speeds can reduce fatalities and improve community livability. Several projects from medium and large cities around the Midwest showcased the project development process for previously high-risk corridors, and the session concluded with a broader discussion on intelligent speed limit setting and how to leverage all available tools and resources.

**Optimizing Lane Widths: Data Driven and Performance Based Approach**
The transportation profession is in the midst of game-changing movement in the planning and design of safe and efficient roadways. Local and state agencies are shifting towards performance-based, data-driven decision making and solutions that require a transparent assessment of trade-offs between performance measures—namely safety, operations, environmental impacts and life-cycle cost. Flexibility is not only needed; it is a necessity for designing roadways for all modes. The webinar will provide an overview of national guidance and highlight implementation by states and local agencies of flexible lane widths on projects.

Upcoming Live Webinars

**Road Users**
Thursday, January 17

**Traffic Flow Characteristics for Uninterrupted Flow Facilities**
Thursday, January 24

**Denver’s Mobility Choice Blueprint**
Tuesday, January 29

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Professional Development Record Keeping System is Updated

The Professional Development Record Keeping System now accepts uploaded PDFs to each record. In addition, certificates can be included in your account. The login now matches the rest of the ITE.org site.
NEWS

ITE and IEEE ITS Society Hold First Joint Symposium

As part of the 21st IEEE Intelligent Transportation Systems Society’s (ITSS) Annual Conference on Intelligent Transportation Systems (ITS), ITE helped organize and convene a joint Symposium titled “Where Rubber Meets the Road: Linking Research and Practice.” This session brought together leading ITS researchers with practitioners to facilitate exchanges on opportunities and challenges in deploying advanced ITS technologies. Jeff Paniati, ITE CEO; Jeff Lindley, ITE CTO; Carlos Ortiz, ITE International Board Member; Eric Rensel, ITE Coordinating Council Vice-Chair; Shauna Hallmark, University of Iowa and Ed Seymour, Texas A&M Transportation Institute all participated representing ITE.

In addition to the Symposium, Jeff Lindley delivered a presentation on the history of ITS as part of a celebration of the 25th anniversary of the founding of the IEEE ITSS and Jeff Paniati presented on AV safety policy and participated in a panel discussion in a special session titled “Solving the Autonomous Vehicle Safety Assurance Challenge” organized by Intel.

Mobility as a Service

At its October meeting, the ITE International Board of Directors advanced a Mobility as a Service (MaaS) initiative to complement the existing Institute Initiatives on Vision Zero, Smart Communities, Connected and Automated Vehicles, and Transportation and Health.

This new MaaS initiative will bring increased attention from ITE’s technical councils and committees with regard to the opportunities and challenges created by the wide-range of transportation options now available, particularly in metropolitan areas. ITE President Bruce Belmore will be establishing a new MaaS Steering Committee with representation from a diverse set of industry representatives to identify an action agenda for this new Institute Initiative. Individuals or organizations interested in being part of this effort should contact Jeff Lindley, ITE Chief Technical Officer, at jilindley@ite.org. For more information on MaaS and the other Institute Initiatives, visit ITE.org.

ITE Membership Now 15,500 Members Strong

In 2018, ITE continued its resurgence, growing our membership to more than 15,500 transportation professionals, our largest membership since 2010, and repositioning the organization at the forefront of our profession. Read more about what ITE accomplished in 2018 by visiting https://bit.ly/2RPvVex.

ITE’s Open House Reception for Students

January 14, 2019
ITE Headquarters
Washington, DC, USA

If you are planning to attend the Transportation Research Board (TRB) meeting in January, please make sure to attend the 2019 ITE Annual Open House Reception for Students on Monday, January 14th from 6:00-8:00 p.m ET. This event is a great opportunity to meet with other ITE student members and those pursuing careers in transportation. You will learn more about ITE from our leadership and staff and find out how we can help you succeed in launching a dynamic career. ITE encourages student members and non-members to attend—an interest in transportation is all that is required.

Dress is business casual. Encourage your friends to attend and we can’t wait to meet you! RSVP at https://www.surveymonkey.com/r/WVL9QZW.
STEM Contest Winner
ITE’s STEM sub-committee has named the ITE student chapters of Florida A&M University (FAMU) and Florida State University (FSU) the winner of this year’s STEM competition for its project, “Hands-On STEM Transportation Activities on Traffic Safety.” In collaboration with FAMU-FSU College of Engineering, the ITE FAMU-FSU student chapter conducted hands-on STEM transportation activities to increase awareness of K–12 students from the FAMU Developmental Research School on traffic safety-related issues.

Five activities for students were planned, including traffic safety computer games, driving simulators that demonstrated the importance of wearing a seatbelt, safe driving practices around big trucks, and safety actions to take in rollover accidents. The combination of indoor and activities were conducted at the FAMU-FSU College of Engineering in Tallahassee, FL on November 30, 2018.

The ITE STEM sub-committee developed the competition among its Sections and Chapters to encourage members to engage in STEM-related classroom activities for K–12 as a way to celebrate National STEM month in November each year. The winner received a $500 award, which can be donated or used to develop additional K–12 STEM activities. Check out the February issue of ITE Journal for more information on all four entries in the competition.

As a community of transportation professionals, ITE has continued to offer its members the tools they need to succeed in their jobs and careers.

Throughout 2018, ITE:
Helped you find solutions through the development and expansion of products and services in the six focus areas of Vision Zero, Smart Communities, Connected and Automated Vehicles (CV/AV), Transportation and Public Health, Modernizing Trip Generation, and Expanding ITE’s Global Reach and offered more than 50 webinars on key topics.

Grew your career by launching the Road Safety Professional Certification program and the Matson and Hammond Mentoring program, as well as hosting two virtual career fairs.

Created connections through the more than 7,000 discussions on ITE Community and fostering more opportunities for volunteer leadership.

Made your voice heard by developing a position statement on the continued development, testing, and deployment of CV/AV and successfully advocating on behalf of the transportation industry on the decision by the FHWA to terminate Interim Approval for Rectangular Rapid Flashing Beacons (RRFBs).

Go to www.ite.org and click on Pay Dues. Questions? Contact membership@ite.org or call +1-202-785-0060.

We look forward to 2019 and hope you continue to be part of our community!
ITE Recognized in STEM Podcast
ITE was recognized in the Maryland STEM Festival Podcast. Adam Greenstein, P.E., PTOE (M) was interviewed by Phil Rogofsky, director of the Maryland STEM Festival. Adam, who is Baltimore Area Director for WDCSITE, discussed ITE as an organization, its initiatives and goals to better the transportation industry, and outreach at the national, regional, and local levels to engage students in STEM careers, specifically transportation. A recording of the podcast can be downloaded from http://marylandstemfestival.libsyn.com/website.

Multimodal Transportation Impact Assessment (MTIA) Website Launches
ITE is in the process of updating the Recommended Practice on Transportation Impact Analyses for Site Development and re-branding it as a Recommended Practice on Multimodal Transportation Impact Assessments for Site Development (MTIA). The update is proposed to address emerging industry considerations including planned transportation infrastructure and a greater focus on multimodal measures of effectiveness. For more information and to find out how to get involved, visit www.ite.org and click on Technical Resources. itej

WHERE IN THE WORLD?
Can you guess the location of the “Where in the World?” photo in this issue? The answer is on page 50. Feel free to send in your own photos to hstowell@ite.org. Good luck! itej

Need to estimate traffic volumes for multiple land use developments?

OTISS Pro looks up the data and does the calculations for you!

OTISS Pro, an add-on to the ITETripGen app*, provides advanced analysis tools to estimate traffic volumes for multiple land use developments. OTISS Pro retrieves query results for multiple land uses and generates a trip summary report that takes into account the appropriate reductions based on ITE recommended practice.

To try OTISS Pro free for 7 days:
visit itetripgen.org > log in and select OTISS Pro from the add-on menu

*The ITETripGen app is only available with the purchase of a standard or electronic bundle of the ITE Trip Generation Manual, 10th Edition.
The National Rural ITS and ITS Arizona Annual Conference and Exhibit in Fort McDowell, AZ, USA brought together more than 450 transportation professionals with an abiding interest in technology applications for rural and small communities and the intelligent transportation systems (ITS) community from across Arizona, the United States, and Canada. The event, held October 21–24, 2018, was designed to provide participants with the tools necessary to effectively plan and deploy ITS technologies within their own jurisdictions.

Plenary sessions offered attendees the chance to reflect on the current state of the profession, and inspired them to create innovative solutions to the obstacles faced by practitioners. In his opening remarks, ITE President Michael Sanderson P.E., PTOE, LEED AP (F), connected the role of rural ITS implementation to ITE’s overarching initiatives of Vision Zero, Smart Communities, and Transportation and Health. National Rural ITS Chair Steve Albert posthumously recognized Bill Legg, senior principal with WSP and long-time state ITS operations engineer for Washington State Department of Transportation, for his significant contributions to the advancement of rural ITS in professional practice.

In the opening plenary session, Arizona Department of Transportation (ADOT) Director John Halikowski discussed his agency’s priority on safety throughout the entire transportation system with a particular focus on rural areas. He touched on how ADOT is preparing for a future that includes Connected and Automated Vehicles (CAV) and the specific technology-based, safety-focused systems being deployed, along with other ITS elements to improve mobility.

The technical sessions highlighted a wide cross-section of ITS-related topics, including the U.S. Department of Transportation ITS Joint Program Office connected vehicle pilot project in Wyoming, Utah’s smart work zone system implementation, active traffic and queue management, as well as rural applications of adaptive signal control.

ITS Arizona celebrated their 25th anniversary at the conference by recognizing all of those who have contributed to its current success and will help propel it into the future. The tours and workshops—including the Smart Drive Test Bed tour, Developing A Plan for Deploying a Connected Vehicle Environment, and Smarter Work Zones workshops—provided attendees with hands-on learning and tools to apply new strategies and innovations.

As the conference ended, Maricopa County Department of Transportation Director Jennifer Toth, P.E. (M) facilitated a conversation with William T. Panos, director and chief executive officer of Wyoming Department of Transportation, about the implications of advanced technology on the future of transportation safety, system management, and public agency operations. Panos observed that being successful in today’s legislative environment means knowing the core issues that will motivate funding. In his agency’s case, for example, it was economic losses due to crashes closing I-80.

Jennifer Toth added that this viewpoint “Places our role as leaders in the transportation profession in context by putting the core issue of what a transportation agency is—a science organization—at the forefront and fundamentally understanding what motivates financial resources to solve problems.”

ITE extends thanks to the U.S. Department of Transportation ITS Joint Program Office for their support and all of the sponsors and exhibitors who helped make the conference a success. The presentations from the meeting are available on the National Rural ITS website: www.nationalruralitsconference.org/event/2018-fortmcdowell-az.

The 2019 National Rural ITS program will take place July 21–24 as part of the Joint ITE International and Texas District Annual Meeting and Exhibit in Austin, TX, USA. It is expected to attract more than 250 participants with an interest in ITS and its applications in rural areas. The program will include workshops, tours, and opportunities for networking and learning about the latest developments in ITS technology and its applications in rural areas.
From the leader in parking generation for more than 30 years comes Parking Generation Manual, 5th Edition.

The Institute of Transportation Engineers brings you a modernized, updated, and expanded version that will differentiate the levels of parking demand observed at rural, general urban/suburban, dense multi-use urban, and center city core sites.

Similar to Trip Generation Manual, Parking Generation Manual, 5th Edition will be available in hard-copy, electronic, and a cloud-based app in order to cater to the format that works best for users. The web-based app (ITEParkGen) enables a user to produce parking generation data plots and statistics for the complete database as well as filtering by year and location.

The ITEParkGen web-based app is only available when you purchase Parking Generation Manual, 5th Edition

All Electronic (pdf+app)
Member Price: $245
Non-member Price: $395

Electronic (pdf+app) + Printed Copy
Member Price: $345
Non-member price: $495

Volume discounts of 25 percent for purchasing 6 or more copies.
UNDERSTANDING THE CAV INSTITUTE INITIATIVE

Steve Kuciemba (M), Chair, AV/CV Steering Committee, National ITS Practice Leader, WSP

It comes as no surprise that ITE’s Initiative on connected and automated Vehicles (CAV) is happening at a pivotal time in transportation. Multi-disciplinary dialogue is a key enabler in making sure ITE’s voice can be heard in terms of development, testing, and implementation of CAV technology and services.

As chair of ITE’s CV/AV Steering Committee, I’m proud to help lead that conversation, and having input such as that developed by the Advocacy Committee will ultimately stimulate thinking with regard to the role of the transportation professional in an automated and connected world.

Over the last two years our CV/AV Steering Committee has focused on facilitating the dialogue and ensuring that ITE’s views are represented as the federal government seeks input on CAV guidance. Just as importantly, we are committed to keeping ITE’s diverse membership informed of the latest CAV developments and opportunities for engagement.

Over the past year we have responded to external needs including:

- Federal Highway Administration’s (FHWA) Request for Information on Automated Driving System Impacts on Highway Infrastructure,
- Federal Communications Commission’s Phase 1 Spectrum Sharing Report,
- U.S. Department of Transportation’s (USDOT) Request for Comment on its recently released AV 3.0 guidance.

We have also ensured that ITE was represented at:

- USDOT’s Listening Session on Automated Vehicles, and

While we have regularly posted information on these efforts on ITE Community, you can find all of ITE’s responses on the CAV page of the ITE website.

In addition to representing ITE externally, our committee has contributed to several internal efforts designed to engage and educate ITE members. For example, we played a key role in preparation of the Building Smarter Communities through Better Transportation Workshop at the 2018 ITE Annual Meeting in Minneapolis. This workshop provided a comprehensive update on connected vehicle research, an interactive conversation between private sector providers and public sector attendees on automated vehicle readiness, and an FHWA-led conversation on highway automation as part of the FHWA National Dialogue on Highway Automation efforts.
Throughout all of these efforts our goal has been to ensure that ITE maintains a relevant and recognized position in this emerging CAV world. We have emphasized the important role that infrastructure owners and operators will play in the deployment of CAV, advocated for vehicle to infrastructure connectivity in achieving CAV safety and mobility goals, and championed increased collaboration between the public and private sector stakeholders. You can see these thoughts vividly reflected in the recent update to ITE’s position on CAV, which our Steering Committee helped shape.

As we move forward into 2019, we will continue to be ITE’s external voice on CAV issues, as well as maintain our internal efforts to educate and inform ITE members on the initiative. In 2019 our CV/AV Steering Committee will also be establishing two new work groups to support these efforts. The first will focus on increasing CAV-related outreach and communications, with ITE membership as the target audience. The second will explore the role of infrastructure owners and operators in planning, designing, managing, and operating in a CAV-focused world. Through this dialogue, we hope to identify opportunities for public agencies to enhance CAV effectiveness and to ensure that CAV provides the promised benefits for all citizens, while also providing an avenue for private companies to garner feedback from our membership on issues that are critical to achieving those objectives. If you are interested in participating in either of these new work groups please reach out to me at steve.kuciamba@wsp.com. [itej]

**THE ROLE OF THE TRANSPORTATION PROFESSIONAL IN THE AUTOMATED FUTURE**

*Andy Swisher, P.E. (M), ITE Advocacy Committee, Senior Traffic Engineer, HR Green, Inc.*

About a year ago I attended the national conference for another professional society. While working my company’s booth in the exhibit hall of that conference, I was approached by an individual. We exchanged pleasantries, and I introduced myself as a traffic engineer. He then asked what my career plans would be in five years when traffic engineers are out of work and looking for new employment. While the conversation had a sarcastic tone, it was a familiar topic. In fact, I have been approached by younger engineers asking the similar question, “Will I still have a job as a traffic engineer in five years?”

At the Joint ITE International and Midwestern/Great Lakes Districts Annual Meeting and Exhibit in August 2018, the Advocacy Committee hosted a meeting of ITE leadership from across ITE to discuss this topic. Individuals from the International Board of Direction (IBOD), District/Section Board representatives, and chairs from each of ITE’s Technical Councils and Committees were invited to participate in a discussion with the potential to shape ITE’s future.

During the discussion the group brought to light the myriad related topics that will be impacted with the projected connected and autonomous vehicles (CAV) future envisioned by the masses. These topics included pedestrian and urban design, transportation equity, Transportation Systems Management and Operations (TSMO), and curbside management policy. Throughout the conversation, it was noted that there are many “future thought leaders” pushing information—right or wrong—with predictions for the future of transportation. This conversation boiled down to two primary questions: What are the facts, and what is ITE’s position? Can ITE be the factual voice on this topic just like it is on other transportation related topics?

It is obvious to all that our Community of Transportation Professionals who make up the membership of ITE are not the only disciplines dancing in the CAV ballroom. Electrical engineers, software designers, urban planners, data analysts, robotics engineers, systems engineers, and mechanical engineers are all disciplines involved in various aspects of attaining the autonomous future. In addition to this list, there are the elected officials melding public policy and insurance industries working to identify possible new business models that all have a stake in the game.

Can ITE partner and collaborate with these other disciplines to provide a consistent and professional message that supports the advancement of these future technologies in a responsible manner?

The group concluded that issues and challenges identified are really all about people. Our partnerships and combined memberships seek to enable infrastructure to support the heavily laden technological future. Our student chapters seek to produce graduates with the skills needed in the future workforce. Our elected officials need trusted sources of information. This input along with other issues and thoughts is being considered by our Coordinating Council and our IBOD to develop a position for our membership, one that ultimately follows and advocates on our role in the automated future. [itej]
When you ask Emily B. Blount, P.E. (F) what it was like to become the first female in North Carolina (NC) to register as a professional engineer, she answers that she didn’t feel that she was different from her peers. She was just doing the job she loved, and having fun while doing it. After obtaining her civil engineering degree with a specialization in traffic engineering from NC State University, she went on to work at the newly-formed Traffic Engineering department at the NC Department of Transportation (NCDOT), and became an active member of ITE’s Southern District and ITE North Carolina Section. After a career that spanned four decades and raising two children with her husband Sam Blount Jr.—a mechanical engineer—she retired and embarked upon traveling the world to see the engineering feats of other civilizations.

ITE JOURNAL: What inspired you to get into transportation engineering, especially at a time when there were so few women in the profession?

EB: It was something I had always wanted to do. As a little girl I would go out with my dad as he was inspecting things, he was an assistant division engineer at NCDOT when I was growing up. He had worked for the railroad before, and then they got him into doing roads; he was also doing a lot of bridges. If I was out of school for the day he’d say, ‘I’m going to go out and look at the bridge,’ and I’d go with him. I thought it was absolutely great. He was quiet but attentive, and would explain things to me.

Even though I was the first [female P.E.], I had no idea. I didn’t think, ‘Oh boy I’m going to be first.’ I just went because I wanted to study engineering. When I graduated, one of my professors was sent to help NCDOT on the Eisenhower-funded interstate projects, and they established the traffic engineering section of the agency. There were a few of us that were already trained up and ready to do these programs. We got in and started working really hard—North Carolina had the reputation of having the best roads in the country.

ITEJ: With your 40-year long career, you bring a unique perspective to the industry. What advice would you have to other women pursuing careers in transportation engineering?

EB: You have to be willing to have some laughter. When I was at N.C. State, the head of the engineering department asked if I had taken a typing course. I said, ‘No sir—typing is not something I want to get into.’ He said, “Oh, I would love to have a secretary that had an engineering degree.’ He was serious. When he was writing papers and doing research, they were using a lot of terminology that the secretaries would have a hard time with. I wasn’t offended—I thought it was funny as all get out. Some of the first engineers that were women would be very offended if someone made a remark like that, and it wasn’t going to bother me at all. Back in those days when I would go to the national ITE meeting, I’d be the only woman member. I was just one of the people in the meeting listening to what was going on. I considered myself an equal. Of course I’m tickled to death when I go to the local ITE meetings. There’s a big crowd of women now with engineering degrees and traffic and transportation. Here we are—but I didn’t ever feel strange about it. I never felt out of place. I just went, and I did—and I had a good time doing it.

ITEJ: When you retired from transportation engineering you decided to travel the world. What are some of your most memorable moments from those journeys?

EB: After I retired in 1995 I traveled around the world to see the engineering, buildings, roads, and the transportation infrastructure around the world. I’ve been overseas 15 or 16 times, and I’ve been to about 40 countries. I have seen some of the most fascinating engineering from ancient civilizations. When I was in Egypt, I saw the pyramids (and I was riding a very feisty camel at the time). My last trip was Morocco. Before, that I went to see the tallest building in the world in Dubai. I have ridden on high-speed rails in Japan, climbed on the Great Wall of China, and traveled in places where there are no roads—where travel is done by elephant, camel, or hot-air balloons. I really have had a wonderful life.
ITE’s Newest Honorary Member Ken Voigt, P.E. (F)

The highest recognition of notable and outstanding professional achievement ITE presents to an individual is election to ITE Honorary Membership. Since 1933 when the first Honorary Member was selected, only 83 individuals have been honored this way. Throughout his 50-year career, Ken has completed hundreds of high-profile projects ranging from urban pedestrian/bicycle enhancements to large, complex corridor management projects that involved capacity improvements and ITS applications. He has demonstrated the utmost dedication and insight when solving clients’ traffic problems, thanks to his common-sense approach to balancing mobility needs of all users to traffic management operation. Before joining Ayres Associates, he was employed with HNTB, DAAR Engineering, Wisconsin Department of Transportation, and the Southeastern Wisconsin Regional Planning Commission.

Ken is an ITE past International President and has served as a leader on every level within ITE, advocating for new programs and enhancing the value of membership. While Ken International President, he was instrumental in initiating the Collegiate Traffic Bowl, the Journal of Transportation of the Institute of Transportation Engineers, and making ITE logo wear available to members.

Ken has continued his active participation and leadership in ITE, including his service on the Transportation Consultants Council, Sustainability Task Force, Complete Streets Council Executive Committee, and the Traffic Bowl Committee. Most recently Ken has helped develop ITE’s new Strategic Initiatives Plan, the updated Professional Transportation Planner Certification exam and our new Diversity Scholars scholarship program. Beyond ITE, he has contributed to the transportation engineering and planning community through his election as a national board member for the Congress for the New Urbanism (CNU), president of the CNU Wisconsin Chapter, and executive director of the Great Lakes Transportation Enterprise Institute.

Ken has served for 35 years as an adjunct professor at both the University of Wisconsin (UW) in Milwaukee and the University of Wisconsin in Madison, teaching undergraduate, graduate, and continuing education courses in traffic engineering, transportation planning, and environmental impacts. He currently serves on the University of Wisconsin Civil Engineering Advisory Committee. It is often said that there are very few traffic engineers practicing in Wisconsin that have not had Ken as a teacher during their time in college or later in their professional careers. Ken has been recognized with Distinguished Service awards from both the Wisconsin Section and Midwestern District of ITE and ITS Wisconsin, the Burton W. Marsh Award for Distinguished Service to ITE, and the Distinguished Alumni Award of the University of Wisconsin-Milwaukee. The Wisconsin Section has established the Ken Voigt Annual Meeting Scholarship for a first time attendee to the ITE Annual Meeting. In 2002, Ken was honored to be selected as an Olympic Torch runner for the Salt Lake City winter games. Ken and his wife Sue’s commitment to the profession includes establishment of transportation engineering diversity scholarships at both the UW-Milwaukee and UW-Madison campuses.

His volunteer activities and leadership have extended beyond ITE into his favorite pastime of soccer, where he served as a founder of the 2,000 member Brookfield Youth Soccer Club, officer, and leader at both the local and state levels of youth soccer in Wisconsin. Ken was inducted into the Wisconsin Soccer Hall of Fame in 2003, and designed/raised funds for the construction of a 60-acre city soccer park in Brookfield, Wisconsin, which bears the Voigt name.

Congratulations to Ken for receiving this tremendous honor! itej
Getting to Know ITE’s Technical Program Division

ITE members benefit from the work conducted behind the scenes by the ITE Technical Programs Division at ITE Headquarters in Washington, DC, USA, often without knowing it. This monthly column seeks to better inform our members of the technical products, services, and partnerships that are being developed, facilitated, and supported by ITE Technical Programs Division staff.

Development of ITE Recommended Practices
One of the important technical tasks performed by volunteers and supported by ITE staff is the development of ITE Recommended Practices (RPs). These RPs cover technical issues where ITE is considered the authoritative voice and are used as voluntary industry standards. For this reason, ITE uses a very detailed—and sometimes very long—process to develop, review, and adopt RPs, providing ample opportunity for input from both transportation professionals and the general public to ensure that all interests are fairly represented. The process includes formation of a Technical Committee to develop the draft RP, appointment of a Review Panel to serve as an independent peer review body to assess the technical adequacy of the RP and the quality of the process used to develop it, and assistance from ITE technical staff. Three current examples illustrate the different aspects of this process.

1. Guidelines for Determining Traffic Signal Change and Clearance Intervals RP has been under development and review for the last several years. The goal of the proposed recommended practice is to create a consensus methodology for calculating and evaluating traffic signal change and clearance intervals that can be uniformly and consistently implemented by transportation agencies. The proposed RP was most recently available with Notice of Intent to Adopt in the ITE Journal September 2018 issue. RPs which reach this stage are considered ready for adoption by the International Board of Direction unless appeals are received. In the case of this RP, several appeals were received on or before the October 16, 2018 due date, and ITE HQ staff and the Technical Committee are currently working on resolving the issues raised by these appeals.

2. Preemption of Traffic Signals Near Railroad Crossings RP, an update to a previous RP incorporating updated reference material, has cleared the Review Panel and Technical Committee has just recently completed their revisions in response to these comments. The report is nearing publication as a proposed RP—look for this action to take place in early 2019.

3. Work is progressing on the development of a new Multimodal Transportation Impact Assessment (MTIA) for Site Development RP, which will provide a significant update to a 2010 RP in order to address emerging industry considerations, which include both alternative approaches for public and private sector contributions to planned transportation infrastructure and services, as well as a greater focus on multimodal measures of effectiveness. If you were in Minneapolis in August, you are already aware that the Technical Committee that is developing the draft of this new RP has been hard at work soliciting member input. Look for publication of their work as a proposed RP later in 2019.

Development of relevant and technically sound RPs is at the core of the technical value that ITE provides both to its members and to the transportation profession as a whole. They would not be possible without the service of dedicated subject matter expert volunteers to serve on Technical Committees and Review Panels. While the process of developing or updating an RP can be a lengthy one—and even seem unnecessarily deliberative at times—the steps are designed to ensure that the final product can best serve the needs of all members of the transportation community and the traveling public. ITEJ

community.ite.org

ITE Headquarters
Institute of Transportation Engineers
@ITEHQ
Transportation Research Board Releases Recommendations for Interstate Modernization

The infrastructure of the U.S. interstate highway system has aged well beyond its intended limits, leaving it unsuited for the demands of new technologies, severe weather events, and expanding metropolitan areas. To this end, Congress recently asked the National Academies of Sciences, Engineering, and Medicine’s Transportation Research Board (TRB) to conduct a study that would present viable recommendations for policy decisions around improving the system, as well as inform current and future federal investments. The result of those efforts is Renewing the National Commitment to the Interstate Highway System, released by TRB on December 6 at the National Academy of Sciences in Washington, D.C.

The report outlines five key recommendations that TRB says would help modernize the U.S. interstate highway system and increase its overall resilience. Those include Congress legislating an Interstate Highway System Renewal and Modernization Program (RAMP); increasing the federal fuel tax to a level commensurate with the federal share of the RAMP investment; employing new federal and state funding mechanisms such as the imposition of tolls or per-mile charges on interstate highway system users; lifting the ban on tolling of existing general-purpose interstate highways; and directing USDOT and FHWA to develop criteria for such system rightsizing using a consultative process that involves states, local jurisdictions, highway users, and the general public.

“The committee’s conclusion is that the interstate highways are surpassing their design life already,” said Norman Augustine, former chairman and CEO of Lockheed Martin Corporation and chair of the committee that conducted the study. “They do not connect with some cities that have seen surges in population and economic growth, they’re increasingly costly to maintain, they’re likely to endure continually expanding traffic loads—particularly truck loads—they’re about to confront a revolution in technology, and they’re largely funded by an inadequate and unsustainable revenue mechanism.”

TRB appointed a panel of 14 experts from a diverse set of disciplines to conduct the study. They conducted public outreach sessions across the industry on a number of topics and had analysis completed by outside experts to support its findings and recommendations. The study was conducted pursuant to Section 6021 of the Fixing America’s Surface Transportation Act of 2015, which called on the Transportation Research Board, a program unit of the National Academies of Sciences, Engineering, and Medicine to lead the study effort.

Read the report and view a webcast of the release event at http://interstate.trb.org

$1.5 Billion Awarded for U.S. Department of Transportation BUILD Grants

The U.S. Department of Transportation (USDOT) announced the awarding of more than $1.5 billion in funding for this year’s BUILD (Better Utilizing Investments to Leverage Development) Grants, which will go toward infrastructure improvement projects around the United States.

DOT Secretary Elaine Chao announces the BUILD Grant winners with members of Congress and local officials in December.

Speaking at the agency’s headquarters in Washington, DC on December 11, DOT Secretary Elaine Chao emphasized the importance of the grants for modernizing and improving transportation infrastructure in both rural and urban communities. “The BUILD program supports infrastructure improvements that advance the goals of safety, improve the quality of life, environmental protection, state of good repair, economic competitiveness, and innovation, and that’s what these projects collectively achieve,” she said.

Chao added that in fiscal year 2018, Congress tripled the grant money from $500 million to $1.5 billion for the BUILD program. DOT received 851 applications that sought more than $11 billion in funding. Ultimately grants were awarded to 91 projects in 49 states and the District of Columbia.

This year marks an increase in funding for road projects through the BUILD grants. Historically, 40 percent of the funds have gone to road-related projects; in this round, road projects made up 69 percent of the grant money. Other funds will be directed toward improving America’s transit, railways, and ports.
Physical Activity Guidelines for Americans, 2nd Edition Released

On November 12, 2018, the U.S. Department of Health and Human Services released the Physical Activity Guidelines for Americans, 2nd edition, which outlines the amounts and types of physical activity needed to maintain or improve overall health and reduce the risk of chronic disease. The document also highlights new benefits of physical activity and tested strategies that can be used to get all Americans more active.

What’s New in the Guidelines?
- Guidance for preschool-aged children (3–5 years)
- Evidence for even more health benefits of physical activity
- Discussion of sedentary behavior
- Tested strategies for physical activity promotion
- Removal of bout length requirement - every little bit counts!

Additionally, the Move Your Way campaign resources are designed to help explain the guidelines to consumers. These resources include interactive tools, fact sheets, videos, and graphics that are available for communities, health professionals, and others to promote the health benefits of meeting the new recommendations, along with tips for how to help people become more active. Find the resources here: https://health.gov/paguidelines/moveyourway/.

Parking Guidance Sensors from IPsens Chosen for FDOT’s T-Pass Program

IPsens, a cloud-based parking and transportation management solutions provider, announces that its technology has been selected to manage the Florida Department of Transportation (FDOT) T-Pass Program in South Florida. The program uses parking guidance sensors installed in truck stop and rest area parking spaces to monitor individual space availability, then communicates that information to truck drivers via roadside signage. When drivers become fatigued or approach their mandated rest-time, they can access the system via a designated app and locate the closest available parking space.

The introduction of the T-Pass program is the culmination of a six-year effort on the part of the State of Florida, IPsens, and scholars from Florida International University and the University of Florida to create, test, and implement a sensor program for Florida’s highways. FDOT plans to continue their roll out the program statewide in the coming months. For more information visit www.ispens.net.

Traffic and Planning Design Named a Top Business of 2018

Traffic Planning and Design, Inc. (TPD) of Pottstown, PA, USA was named a 2018 Business of the Year in the 101+ employee category by Lehigh Valley Business. TPD, established in 1989, has expanded to 10 office locations throughout Pennsylvania, New Jersey, Maryland, and North Carolina. TPD provides transportation engineering services to a diverse range of public and private sector clients throughout the eastern United States.

This year, the firm also made Inc. magazine’s Inc. 5,000 list of the fastest-growing private companies in America, the Zweig Group’s Best Civil Engineering Firms to Work list (a national ranking) as well as Engineering News Record’s list of Top Design Firms in the Mid-Atlantic Region. Also, for the second year in a row, TPD was named the #4 Best Place to Work in PA (medium size category).

NEW PRODUCT

New Ride Service in Arizona Links Areas to Mass Transit

A new app that connects passengers to mass transit systems in areas lacking transportation options is now available to residents in parts of Tucson and Vail, AZ, USA. The Adaptive Mobility with Reliability and Efficiency ride project (AMORE) app is free to Android and iPhone users, and allows passengers who sign up to have access to rides almost immediately to anywhere in the service area. AMORE can also pair people with nearby passengers in the general area to lower prices. The project was fueled by a Federal Transit Administration grant and sponsored by the Regional Transportation Authority. For more information, visit www.amoretucson.com.

Product reports are based on information and literature provided by the manufacturer/distributor. Publication herein does not constitute endorsement of the product by ITE. If you have a new product announcement you would like considered for publication, please send to Holly Stowell at hstowell@ite.org. When contacting a manufacturer/distributor for more information, please mention that you learned about the product in ITE Journal.
2019 EVENTS

2019 ITE ANNUAL OPEN HOUSE RECEPTION FOR STUDENTS
January 14, 2019 | 6:00–8:00 p.m.
ITE Headquarters | Washington, DC, USA

JOINT SOUTHERN AND MID-COLONIAL DISTRICT ANNUAL MEETING
March 31–April 3, 2019 | Arlington, VA, USA

GREAT LAKES DISTRICT ANNUAL MEETING
April 15–16, 2019 | Downtown Indianapolis, IN, USA

ITE NORTHEASTERN DISTRICT ANNUAL MEETING
May 8–10, 2019 | New Haven, CT, USA

ITE INTERMOUNTAIN SECTION MEETING
May 16–18, 2019 | Jackson Hole, WY, USA

CANADIAN DISTRICT ANNUAL MEETING
June 2–5, 2019 | Ottawa, ON, Canada

MIDWESTERN DISTRICT ANNUAL MEETING
June 19–21, 2019 | St. Louis, MO, USA

WESTERN DISTRICT ANNUAL MEETING
June 23–26, 2019 | Monterey, CA, USA

JOINT ITE INTERNATIONAL AND TEXAS DISTRICT ANNUAL MEETING AND EXHIBIT
July 21–24, 2019
Hilton Austin and Hilton Garden Inn | Austin, TX, USA

Transportation Transformed.
July 21 – 24, 2019
Austin, TX, USA

For more information visit www.ite.org and click on Events/Meetings

Austin 19
Annual Meeting and Exhibit
July 21–24

www.ite.org January 2019 35
Once upon a time... When we think of storytelling, we think of fairy tales, fables, and parables. Stories are as old as humanity itself. They surround us in books, movies, commercials...and in compelling presentations. There’s a reason that Budweiser spends millions to tell a one-minute story that centers around puppies and ponies—not facts and figures. Stories are memorable and compelling. And, stories create connection.
Every day as transportation professionals, we plan, design, build, and operate transportation systems that impact real lives in real ways. Stories of those real lives are all around us, yet we often miss the opportunity afforded to us through the power of stories to humanize transportation and sell our programs. Stories can be used in a proposal, client briefing, conference session, public hearing, legislative/council presentation, or to sell the boss on your project. Instead, we lead with facts and figures that come off as boring (best case) or clueless (worst case). Stories are the antidote.

To skillfully use stories, the first step—the only one we have room to discuss here—is to learn the three characteristics of effective stories. Stories:
- have a structure,
- make a point, and
- they leverage emotion.

Take, for example, this story that was told at a reverse-pitch training session for the Texas Innovation Alliance. The team pitched their fictional multimodal app project to City staff.

Meet Robert. Robert lives in Austin and commutes to work by bike. Robert knows all the routes between his house and office. He knows exactly when to leave home to be at work on time. He does it every day. Until one day when something goes wrong. There’s an unexpected work zone, a utility repair or special event closure. When that happens, it takes Robert 30 minutes and seven apps to find a new route.

It doesn’t have to be this way. We have the partners and the skills to gather and integrate data to create a seamless, accessible app to support bikers, walkers, and others. But we can’t do it without you, City of Austin. If you agree, we will partner with you so that Robert and the other 11,000 Roberts who bike to work have peace of mind knowing that they get to work on time every day.

Let’s dissect this story.

**Story Structure**

Stories have a defined structure. Once you know the structure, you’ll see it in everything from Cinderella, Talladega Nights, that Budweiser commercial, and The Grinch (which you may have recently seen!). The story structure can be seen in Figure 1.

Stories start with today’s current state (every day Robert biked to work). Then a problem happens (until one day Robert encounters a work zone and it takes seven apps and 30 minutes to find a new route). The journey ensues, which includes struggles or actions to address the problem. (It doesn’t have to be this way. We can gather and integrate data). The turning point is the “aha moment” where we come to a new realization or a big decision (We can’t do it without you, City of Austin). Next are the implementation actions (gathering and integrating data). This results in a new, better state (there’s a new multimodal app that improves travel for bikers).

**Stories Make a Point**

To make your point in an effective and memorable way, let the story carry the message.

Let’s say you are under pressure from the City Council to complete a complex project quickly, but you are concerned about the implications of racing through the work. You want to encourage the Council to be patient, and help them see why it’s best to wait. Consider using this story:

Recently, I was at a conference in a large hotel. The meeting rooms were on the second floor and I was headed to the elevator to go downstairs to Starbucks. In front of me was a man and small boy. The boy, about 3 years-old, in jeans, with curly brown hair, skipped along in front of his dad. As they approached the elevator, the dad grabbed his hand and playfully swung him onto the top step of the elevator. The boy squealed with glee! As they rode down, the boy leaned forward—a lot—in anticipation of leaning off the bottom of the elevator. I held my breath, envisioning the sharp teeth of the elevator against soft, baby skin. I needn’t have worried. The dad reached down, held his hand and said, “Not yet. Wait for it.” At the bottom of the elevator, the dad once again swung him safely off and he scampered away. City Council, we understand the desire to finish this project quickly, but our analysis indicates that an accelerated approach could compromise the safety of residents and visitors. We respectfully ask that you “wait for it” and trust that we are doing our best to deliver promptly and safely.

**Stories Use Emotion**

Could you see the little boy in your mind? Maybe you swung your child or maybe a parent swung you on an elevator. There’s something in the story that connects to almost anyone. It captures your attention and your heart—and it communicates a relevant point. The more vivid and relatable your stories, the more memorable. After all, the brain is designed to process stories and visual images.
Rather than tell a compelling story that people relate to, we often focus on data. We say, “This project will increase throughput by 15 percent” or “Once we retine the signals in the corridor, delay will be reduced by 10 percent.” Can you hear (and feel) the difference? The numbers come across as cold and impersonal. Plus, most people can’t relate to “throughput” or “delay.” You miss the opportunity to connect.

Don’t misunderstand. You want statistics for credibility, but statistics aren’t the story. Statistics support the story. Numbers are more likely to stick in your mind when they are woven into the story. Test yourself. Remember Robert in Austin? How long and how many apps did it take him to find a new route? Did you remember 30 minutes and seven apps? The likelihood of retention goes up with the use of stories.

Think about one of your projects. What is the everyday, real-life problem your project solves for people? What difference does the solution make in their life? Rather than use traffic engineering terms, use human being terms. What does increased throughput mean to their daily life? Review the story structure. How is their life in the future different from today? Listen to the stories people tell you about why the results of your project matter to them. Maybe they arrive at their daughter’s soccer game in time to see her big play. That matters to people. Use those stories to communicate your project, connect with people, and be memorable.

Shelley Row, P.E., PTOE, CSP (F) is a transportation engineer, former U.S. Department of Transportation Intelligent Transportation Systems Joint Program Office Director, and former ITE staff member. An Inc. magazine top 100 leadership speaker, Shelley is one of eight engineers who is a Certified Speaking Professional (CSP). Shelley’s work focuses on developing insightful leaders who can see beyond data. Her work enhances decision-making, motivation, teaming, communication, and presentation skills. Shelley combines executive experience, interviews with 77 executives, and neuroscience to bring these skills to you. Her work was featured in Forbes, Fast Company, HuffPost Business and SmartBlog on Leadership. She studied with the NeuroLeadership Institute and is certified with the International Coach Federation. She is the President of the National Speakers Association Washington, DC chapter. She is the author of four books including, Think Less, Live More. Lessons from a Recovering Over-Thinker. Learn more at www.shelleyrow.com and follow her on Twitter @ShelleyRow. She is an ITE Fellow.

what makes a smart intersection?

True mobility insights.

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iteris.com/spm
By Joseph E. Hummer, Ph.D., P.E., Michael P. Reese, P.E., CPM, and Bailey Harden, P.E.

A problem faced frequently by the North Carolina Department of Transportation (NCDOT) and likely many other highway agencies is a proposal by a planner or developer to add a fourth leg to an existing three-legged intersection. This problem also arises occasionally for the NCDOT when designing a quadrant roadway intersection\(^1\) when the most convenient place for the new connector roadway is opposite an existing minor street. When a three-legged intersection is converted into a four-legged intersection, the signal at the intersection must also be converted from three critical phases and five total phases to four critical phases and eight total phases.
The additional critical phase means a longer signal cycle, which adds delay to all existing movements. The extra critical phase also means the loss of progression potential on the major street, as the portion of the cycle devoted to the major street through movement declines. In addition, the new signal with four critical phases could now have the longest cycle length of any along the main street corridor, which means that progression can only be achieved by lengthening the cycles at all other signals in the system, adding delay to those intersections. North Carolina law holds that development deserves reasonable access onto the state highway system, but the price that motorists pay in terms of lost mobility in exchange for that access in the case of a new fourth leg at an intersection is a steep one.

When someone asks for a three-leg to four-leg conversion, the NCDOT will usually search for some feasible alternative to retain decent mobility on the major street. Other alternatives in these cases include widening the existing legs, installing a roundabout, restricting the fourth leg to right-to-right and right-out movements, creating an offset intersection, creating a superstreet intersection, creating a median U-turn intersection, or creating a continuous flow intersection. However, most of these alternatives require extra right of way, and some of them redirect access from the new fourth leg too severely. The NCDOT has struggled to find feasible alternatives in these cases, and has often ended up adding the four-critical-phase signal to the detriment of major street traffic.

**Seven-Phase Signal**

Recently the NCDOT has been investigating a promising new alternative for the problem described above. The idea is to construct the fourth leg and allow all movements onto or off of it except the outbound through movement. Figure 1 shows the NCDOT signal phase numbering scheme. In this application, the new fourth leg of the intersection is at the bottom of the diagram, serving northbound traffic. With this alternative, the signal at the intersection would include phases 1 through 7 but not phase 8; we refer to this as a seven-phase signal. Right turns from the new fourth leg (northbound right turns in Figure 1) would be served during phase 1. Drivers wishing to complete a northbound through movement would turn left or right at the intersection and then execute a U-turn, or will have to find another route through the street network.

The key to the mobility impacts of a seven-phase signal is that the signal has just three critical phases. To have just three critical phases, phase 7 must remain critical, dominating the combination of phases 3 and 4. If three critical phases are possible, major street traffic should experience virtually no change in timing and no extra delay, the progression potential of the main street will remain as it was, and the cycle will not get longer.

The idea for the seven-phase signal was developed independently by the authors and by another North Carolina engineering team. A seven-phase signal is not currently used anywhere, as far as the authors know. While the idea of keeping the number of phases as low as possible has a long tradition in traffic engineering, the authors have never seen a paper or presentation featuring a seven-phase signal. Searches of on-line databases did not reveal any papers on this idea. Given the apparent lack of literature, the purpose of this paper is to introduce the idea of the seven-phase signal to the profession, to show the potential, and to spark further development and eventual implementation.

**Location Criteria**

Criteria for locations at which a seven-phase signal make sense include where:

1. There is an existing three-legged intersection,  
2. There is a proposal to add a fourth leg to the intersection,  
3. The through demand from the fourth leg (Phase 8) can be reasonably accommodated by a turn onto the major street then a U-turn or by another route through the street network,  
4. Phase 7 dominates the combination of phases 3 and 4,  
5. The right turn demand from the fourth leg can be accommodated during phase 1 without detrimental impact to the signal operation,  
6. The pedestrian demand crossing the leg with phases 1 and 6 (the east leg on Figure 1) can be diverted to the west leg or elsewhere without major impacts, and  
7. There are no emergency response vehicles departing from the new fourth leg.
A quick calculation with a turning movement demand forecast should reveal whether criteria 4 and 5 are met at any particular location. The pedestrian criterion is because the major street leg with phase 1 and 6 usually cannot have a crosswalk. Unless the agency creates a dedicated pedestrian phase or converts phase 7 into a permissive phase, there is no signal phase during which pedestrians can cross the major street leg with phase 1 and 6. The emergency response criterion is because of the island likely needed on the fourth leg to prohibit the through movement, as well as the difficulties for emergency vehicles getting around that island.

**Design and Traffic Control Devices**

Although the NCDOT has not constructed an intersection with a seven-phase signal, it appears that the construction can be done without novel devices, will not be costly, and will require little additional right of way compared to an eight-phase signal. Our design and traffic control device suggestions for the seven-phase signal are guided by three example intersections in Maryland, USA that have minor street through movement prohibitions and have operated well for years by all accounts provided to us. The three intersections include Democracy Boulevard at Fernwood Road in North Bethesda, as shown in Figure 2, MD-355 (Rockville Pike) at Edson Lane in North Bethesda, and MD-45 (York Road) at Galloway Avenue in Cockeysville.

The authors recommend islands to separate the left turn and right turn traffic streams on the fourth leg of the intersection as shown in Figure 2. The other North Bethesda location also has such islands, which help guide drivers into a turn lane and reduce the potential for illegal through movements.

The North Bethesda locations with islands have overhead left turn only or right turn only (R3-5 in the 2009 *Manual on Uniform Traffic Control Devices*) lane use signs on the near-side and the far-side of the major street. They do not have any signs telling drivers not to go straight. The North Bethesda locations also have lane use pavement markings instructing drivers on the proper turn to make from each lane. Meanwhile, the responsible agency signed the one-lane Cockeysville location with a lane use sign indicating left or right turn only and a far-side overhead no through movement sign (R3-27). In North Carolina, overhead near-side and far-side left turn and right turn lane use signs will likely be used, as well as lane use pavement markings, in combination with at least one overhead no through movement sign.

All three Maryland locations have crosswalks on one side of the minor street. At those locations, the responsible agency did not post any signs or marking telling pedestrians not to cross the approach where there is no crosswalk. In North Carolina at seven-phase signals a similar treatment will likely be used, as it is not the department’s custom to sign or mark where pedestrians should not cross unless there is a demonstrated issue.

When NCDOT installs seven-phase signals, standard signal displays will likely be used for phases 1–2 and 4–7. For phase 3 and for the right turn from the new fourth leg, arrow displays will likely be used since there will be no movements conflicting with those phases.

**Example**

The following example illustrates the operational potential of a seven-phase signal in a location meeting the criteria above. The study intersection was an existing three-legged intersection between an east-west four-lane major street with an annual average daily traffic (AADT) of about 30,000 vehicles per day (vpd) and a two-lane street coming from the north with an AADT of about 15,000 vpd. The p.m. peak hour was the most problematic; in that peak hour most of the traffic from the minor road turned left. A development proposed on the south side of the major street would add a fourth leg. Table 1 shows p.m. peak-hour estimated demands and numbers of lanes analyzed at the intersection with eight-phase and seven-phase signals. It is apparent that a seven-phase signal was a good possibility at this location, as the sum of the northbound through and right turn demands was smaller than the westbound left turn demand and the sum of the northbound left turn and southbound through and right turn demands was far smaller than the southbound left turn demand.

Table 1 also shows delay results from Synchro using typical NCDOT defaults including protected left turns, and no right turns on red. Results for the eight-phase signal show considerable delay, and several movements were expected to operate at level of service (LOS) E or F. Especially concerning is the eastbound left turn movement which was estimated to average 160 seconds per vehicle of control delay. Meanwhile, results for the seven-phase signal show...
a decrease in delay on every movement except the southbound through and right. All movements were expected to operate at LOS D or better except the eastbound left turn.

For the northbound through vehicles rerouted due to the seven-phase signal, their best alternative would be to turn right and make a U-turn at the next median crossing about 1,200 feet away. At a free-flow speed of 45 mph, it takes about 36 seconds to travel the round trip 2,400 feet. Adding the northbound right control delay from Table 1 and the control delay from that U-turn movement (65 seconds (s) on average) to the travel time provides a total time of 149 s, which is not ideal. However, there are only 17 vehicles making that move in the peak hour, so the overall effect is not large and does not come close to offsetting the delay savings from eliminating the eighth phase.

The study intersection was analyzed as part of a 1.4-mile corridor including four additional signalized intersections. As expected, the optimized cycle length in the Synchro analysis for the corridor was shorter for the seven-phase signal than the eight-phase signal (120 versus 145 seconds). As a result of the shorter cycle length, some of the other signals in the network experienced an increase in overall delay (up to about a 7-second increase), and others a decrease in delay (up to about a 6-second decrease). Table 2 shows the average of 10 SimTraffic runs and reveals that the travel time along the corridor and queuing at the study intersection would be improved with the seven-phase signal.

### Conclusion

The NCDOT and other agencies have struggled to accommodate traffic demands when a planning organization or developer proposes to add a fourth leg to an existing three-legged intersection. There are many alternatives in this situation, but most are costly or impactful or do not provide sufficient levels of access to and from the minor street. In some of these cases, using a seven-phase signal that eliminates the minor street through movement seems viable. A seven-phase signal only works at intersections meeting certain criteria, but such cases likely happen occasionally in growing states like North Carolina. Examples of intersections where minor street through movements have been prohibited are found in Maryland and show that the design features and traffic control devices to implement the seven-phase signal are not costly or burdensome. The example above reinforced that eliminating a critical phase at a signal will reduce the cycle length, will bring delay benefits at the intersection with the seven-phase signal and sometimes at other intersections along the major street corridor, and will enhance the progression potential along the corridor.

There are several aspects of the idea that need further development before seven-phase signals are fully accepted into the traffic engineering toolbox. First, the profession could use data on the extent of driver and pedestrian understanding and compliance with different traffic control devices. Second, the profession needs examples to be proposed and built to gauge the level of business and politician acceptance of the idea. Finally, prohibiting phase 8 at certain times of the day and allowing it at other times is an attractive idea that deserves exploration, especially in an era with more connected and autonomous vehicles on the roadways.

### References


Joe Hummer, Ph.D., P.E. is state traffic management engineer with the Mobility and Safety Division of the North Carolina Department of Transportation. He specializes in alternative intersection and interchange design and operation. Joe started researching alternative designs in 1990 and has invented several new designs. His two-part series on alternative designs published in ITE Journal in 1998 helped create momentum in the area. He has his B.S. and M.S. in civil engineering from Michigan State University and a Ph.D. in civil engineering from Purdue University. Joe is currently the Secretary of the North Carolina Section of ITE.

Michael P. Reese, P.E., CPM received his bachelor of science degree in civil engineering from North Carolina State University and joined the NCDOT Mobility and Safety Division, where he has worked for more than 20 years in the congestion management/traffic analysis section, design section, traffic control/pavement marking section, signals and geometric section, and construction units. He has spent the last 15 years serving as regional engineer, project engineer, and access review engineer in the NCDOT Congestion Management Section. Since 2007, he has instructed statewide Site Development and Highway Access training, through NC State University. He currently serves on the International ITE Public Agency Council Executive Board and has served in leadership positions in the North Carolina Section and Southern District of ITE.

Bailey Harden, P.E. is a traffic engineer at NCDOT. She has more than four years of experience in transportation and traffic engineering, focusing on capacity analysis and traffic safety. She graduated from the University of Alabama in 2013 with a bachelor of science in civil engineering. Bailey is enthusiastic about finding specific traffic solutions for unique locations that balance safety and mobility.

Improving Our World One Project at a Time

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The Use of Intelligent Transportation Systems in Risk and Emergency Management for Road Transport Planning and Operation

Ioannis Benekos, Ph.D., Stergios Mavromatis, Ph.D., Alexandra Laiou, and George Yannis

Road transport quality is critical to a country’s overall development and sustainable growth. Managing road transportation networks is challenging due to uncertainties induced from related activities, such as agency management, program development, project delivery, maintenance, and operational aspects.
As transportation agencies aim at optimizing their investment performance, it is incumbent for many of them to develop explicit enterprise risk management strategies, methods, and tools as there are always risks that may impact the achievement of the desired performance level.

Transport and mobility management strategies must increase safety and reduce costs to support their sustainability and trustworthiness. Intelligent transportation systems (ITS) assisting these adaptations may lead to additional resource savings and further advance the safety performance of the roadway.

The paper aims at demonstrating the necessity for ITS support during risk and emergency roadway management. Furthermore, it provides a source of references from practice that demonstrate the key role of ITS in risk and emergency management, in enabling traffic authorities for coordinated, effective, and efficient actions for addressing such situations. An overview of basic aspects of risk and emergency management is provided.

**Risk Management and Emergency Management Interrelation**

ISO 31000 Risk Management – Principles and Guidelines includes the following definitions for risk and risk management:

Risk is defined as the effect of uncertainty on objectives, while risk management is comprised of coordinated activities to direct and control an organization with regard to risk. Moreover, risk management addresses both negative risks (i.e. threats) and positive risks, namely missed opportunities, and aims at reducing the probability of occurrence of a hazard, reducing its impact (consequences), or both. When it comes to opportunities, the previous sentence applies with the term enhancing instead of reducing.

Risk management is closely interconnected to emergency management and business continuity management—however, key differences are exhibited, and are outlined below.

Business continuity is related to the ability of an authority or organization to continue its operations at the required level of service in case of an emergency situation (e.g. a major disaster). It addresses negative risks that may adversely affect the operation of an organization, and is rather focused on the recovery process after an emergency occurs.

Emergency management involves both addressing a risk through appropriate plans and ensuring the continuity of the operation of an organization, service, or network. The concept of emergency management includes business continuity management but does not include risk management, since the latter addresses both positive and negative risks. This relationship is shown in Figure 1. Furthermore, emergencies can involve extraordinary situations (e.g. major natural disasters) for which conventional risk management may prove insufficient.

The emergency management process has three main stages, related to the evolution of the incident in time: preparedness, response, and recovery. In some risk management manuals, prevention is also mentioned as an additional stage, before the stage of response. Coordination and cooperation of all stakeholders in all stages of the process is vital for effectively addressing any emergency situation.

**Risk Management Process and Emergency Management Plans**

Effective transport and mobility management strategies may greatly improve safety and cost reduction in road transport systems and thereby support their sustainability. Combined with recent technological advances, this may lead to additional resource savings and further advance their reliability.

The rapid and steady technological breakthrough development of ITS during the last decade translates into demonstrated added value when these are applied to road traffic risk and emergency management. Modern ITS, by processing and sharing information, are able to address safety, mobility, and environmental impacts by preventing accidents, reducing traffic congestions, and decreasing emissions, respectively. However, in order for ITS deployment to be effective at the country level, stakeholders need to have in-depth knowledge of both social and economic aspects. Support from thoroughly designed programs operators of traffic management centers (TMC) is also essential.

In risk management, ITS enables traffic authorities to coordinate and act more efficiently in case of planned or unexpected emergency situations. Moreover, ITS applications are able to forecast adverse-impact events on roadway services that are unlikely to occur. Australia and Spain provide good examples on ITS practice for data acquisition and dissemination in order to inform and protect the public from natural disasters.
In Australia, road closures due to natural disasters such as wild fires, strong winds, and flooding are quite common. In the State of Victoria, Australia a series of tools and actions have been implemented to allow for availability of relevant information and access to the public, including:

- A manned 24-hour telephone service for road closure information to be fed from the emergency services to VicRoads (the competent road network coordinating agency).
- An Emergency Incident Control Center that collects road closure information, and coordinates tactical response in case of major emergencies.
- Data collection systems using mobile data networks are able to be operated from Incident Control or Emergency Operations Centers (EOCs).
- Multiple platforms (e.g. website, mobile phone applications) for the public to access the information.
- Emergency management broadcast announcements.
- Supplementary actions such as information databases, website and mobile phone applications development, staff training, and implementation of new procedures.

In forest fire management in Spain, road users are informed about their state and related road closures or traffic disruption through approximately 2,100 variable message signs (VMS) along 11,000 km of the road network. Hourly radio/TV broadcasts communicate to the public relevant information and recommendations obtained from Traffic Control Centers. ITS have also been used in managing potential energy supply shortages or disruption. In 2011, due to the high increase in the price of petroleum, a new law was put in force aiming at reducing petrol consumption and dependency without disturbing the national economy and mobility. Speed limits on highways were reduced by 10 km/h to achieve a reduction in petrol consumption for transport. ITS was a contributing factor in implementing and enforcing the new speed limits through speed control applications, provision of information to the public concerning the new limits via VMS, and automatic generation of speed reports that ensured fining the offenders.

According to the guidelines outlined by various bodies (e.g. Project Management Institute, NCHRP, and FHWA), the following steps are suggested for effective risk management:

- **Context Analysis.** Activate and coordinate public authorities within the legal framework by forming a coordination task group aimed at identifying stakeholders and objectives.
- **Identification.** Identify the risks that may affect objectives, report on their characteristics and on all related consequences (e.g. budget-related, impacted areas, and assets).
- **Analysis.** Define the risk in terms of impact and probability and review the effectiveness and the efficiency of existing control systems and technical procedures.
- **Evaluation.** Compare the risk level obtained from the analysis with the agency’s established risk thresholds and tolerances.
- **Treatment.** Consider risk response options and potential resulting risk modification while accounting for related costs and benefits.
- **Monitoring and Review.** Follow the risk management process and report on its performance in addressing the risks and on the effectiveness of the risk treatment plans.
- **Communication.** Analyze and deliver information pertaining to the stakeholder’s competence field in a cooperative way for the benefit of the community.

Transportation systems management and operations (TSMO) guidance produced by the American Association of State Highway and Transportation Officials (AASHTO) rely on ITS and must eventually support the risk management process. By implementing risk treatment options during transportation design, construction and operation, some hazards may no longer apply, but new hazards may be revealed. Therefore, the aforementioned risk management process is iterative.

Emergency traffic management plans (TMPs) are valuable tools in terms of optimizing resources, ensuring both mobility and security concerns are met, and achieving effective communication among stakeholders when required. The TMPs primary objectives are:

- quick evacuation of users, and
- fast, safe, and effective access of rescue services to the impact area.

TMPs have been developed for Moto-GPs events hosted in Spain every year that attract a large number of fans from various countries in a short period (1–3 days). In order to ensure road safety and emergency management, the relevant TMPs have specific objectives and include a detailed description of actions to be undertaken. Specific adverse scenarios are considered including the preventive massive evacuation of the circuit site, the evacuation of casualties, the access of emergency vehicles into the circuit, management of incidents and prevention of secondary incidents, and traffic enforcement. Appropriate measures for these scenarios are also identified in the TMPs.

A special TMP for cases of massive traffic demand has also been developed in Spain. The TMP concerns the dissemination of appropriate information and road assistance to vehicles on two main routes, where heavy traffic occurs during the summer period. The TMP includes information about rest area locations, information sites and relevant informative messages provided via VMS. A respective protocol ensures exchange of information among several authorities for the implementation of the TMP.

When substantial risks are identified, a Strategic Scenario for Crisis Management must be produced. Strategic Scenarios, include risk analyses and description of operational measures for
risk management. They also include TMPs designed to address extreme cases (e.g. terrorist attacks, adverse weather situations, nuclear accidents, etc.). An iterative and cooperative approach is encouraged that consists of the following stages:

- **Stage I: Data and Definitions**
  - Characteristics of the affected area (geographical, climatological, road network)
  - Global system of traffic management (traffic level, performance measures, action strategies)
  - Stakeholders (identity, coordination)
  - Live information system (data collection and analysis, information points, messages to information points, recommendations for users)
  - User care and attention system

- **Stage II: Decision Tables**
  - Scenes tables
  - Measures tables
  - Operating tables

- **Stage III: Validation by the Competent Authorities**

- **Stage IV: Computerization**

- **Stage V: Implementation and Periodic View**

### TMCs and ITS Contribution in Risk and Emergency Management

A number of road agencies, in their effort to improve mobility and satisfy increasing transport demand, have introduced the use of electronic devices on roads and TMCs. The evolution of ITS during the last decade has made interaction possible between roads, TMCs, and vehicles.

TMCs consist of a core traffic and mobility management body and hold a key role in road risk and emergency management. In this context, TMCs are focused on collecting data from road ITS; and analyzing, processing, and disseminating data to stakeholders.

An efficient TMC design should facilitate management of traffic operation and be interconnected with other systems (e.g. traffic counters, variable message signs (VMS), etc.) or authorities (e.g. traffic police, road experts, etc.) in order to inform, monitor, control, and enforce compliance by road users. Aiming at improving emergency management, TMCs adopt measures that can be broadly classified into preventive and operational.

Preventive measures are taken before risks occur in order to avoid negative effects and are classified as follows:

- Direct measures to prevent undesired situations
- Measures to prevent a specific threat (medium – short term)
- Measures aiming at minimizing the consequences from an impending threat

From the operational perspective of TMCs, effective implementation of emergency management includes:

- Information and data exchange among involved agencies
- Control and monitoring through air-drones or CCTVs
- Real time information for access control to enable evacuation events
- VMS for reliable and updated on-trip information
- Information on safe and less congested routes
- Dynamic traffic restrictions
- Emergency service routes
- Special measures to increase capacity (e.g. additional lanes)

On modern highways, TMCs supported by ITS are capable of further improving the road network management, the reliability of the provided information, travel decisions, congestion, and road safety.

In terms of emergency management, the use of ITS can fit in the following categories:

- ITS for incident detection, e.g. CCTV cameras, traffic counters, vehicle speed, and over-height detectors.
- ITS for emergency management, e.g. information systems [pre-trip (e.g. smartphone applications) and on-trip (e.g. VMS)], and support systems (e.g. e-Call, Traffic Police).

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However, effective decision-making basically relies on the
availability and the quality of the integrated ITS data, such as:
- Weather forecasts
- Traffic forecasts
- Speed management
- Automatic traffic enforcement
- Vehicle to vehicle (V2V) communication
- Vehicle to infrastructure (V2I) communication

Several successful examples of effective ITS utilization in risk
and emergency management for safe road operations are available. An
element is the area of Westgate Bridge in the State of Victoria,
Australia, where the strong winds are continuously monitored
to minimize the risk of incidents. When various pre-determined
thresholds in terms of wind speed are met, the vehicle speed-limit
on the bridge is lowered via VMS. Moreover, for wind speeds over
certain limits (100 km/h) the number of lanes over the bridge
is reduced, or the bridge may even be closed to traffic (120 km/h). In
such cases, an overhead lane display, upstream from the incident,
designates merge arrows or lane closure symbols respectively.

Fusion Centers have also been created in Australia to provide
interdisciplinary expertise and coordinate the information
exchange between the TMCs, which are permanent structures,
and EOCs that may be created as the situation dictates. Improved
situational awareness in conjunction with real-time analysis assists
law and homeland security enforcement and civil protection.

Conclusions and Recommendations
This paper examined the potential support ITS provides in risk
and emergency management during road transport planning and
operation.

Efficiency during risk and emergency management is a basic
prerequisite for a reliable and safe road transport system. Improved
situational awareness due to ITS integration in emergency
management may further support it by inducing more effective
decision-making.

ITS offers advanced capabilities for information dissemina-
tion and communication. The combined support from ITS and
TMCs to road users particularly during the last decade has been
considerable. Improvements in managing road networks as well as
advances in certain control aspects related to the reliability of the
provided information, to better-justified travel decision-making,
to the limitation of congestion, and to improved road safety, have
been achieved.

Emergency TMPs and related Strategic Scenarios are essential
tools for optimizing resources and coordinating actions among
stakeholders when required.

Further research is needed in order to introduce guidelines on
ITS deployment for risk and emergency traffic management in regard
to optimizing its reliability, supporting real-time up-to-date user
guidance, improving operational levels, and increasing road safety. 

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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 2020:

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

For International Vice President:
Lynn A. LaMunyon, P.E., PTOE, IMSA II (F)
Alyssa A. Reynolds Rodriguez, P.E., PTOE (F)

The Election Ballot will open on February 13, 2019 at 12:00 noon ET and will close at noon ET on March 14, 2019. 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 2020 ITE International President and International Vice President. The enclosed flyer has a brief statement from each of the candidates. You can learn more by visiting www.ite.org/about-ite/2019-candidates-for-international-board/.

Look for question and answer conversations with the International Vice President candidates which will be posted to the ITE Community in the days leading up to the election.

Once you have decided for whom you wish to vote, you will cast your e-ballot by entering your specific login data (a unique link to vote will be sent to eligible members via e-mail when the election opens on February 13). You must cast your e-ballot no later than noon ET on March 14, 2019. You will receive an e-mail confirmation of your vote.

Your vote will remain confidential. The election results will be announced on the ITE website on March 19, 2019 and in the April 2019 issue of ITE Journal.

Sincerely,

Jeffrey F. Paniati, P.E.
ITE Executive Director and CEO
Lynn A. LaMunyon, P.E., PTOE, IMSA II (F)

Senior Principal, Maser Consulting Hamilton, New Jersey, USA
llamunyon@maserconsulting.com

ITE has been one of the most important elements in my career as a transportation professional. Whether providing me with tools to improve my technical abilities, opportunities to hone my leadership skills, or the ability to develop an international network, ITE has profoundly shaped my career. Now, with over 33 years of active ITE participation, I am excited by this opportunity to further serve our membership.

**My vision of ITE is a globally relevant and inclusive organization of transportation professionals.**

**Momentum** – Over the last few years, many significant initiatives have been introduced and it is important to capitalize on this momentum. ONE ITE is taking the organization in the right direction through unification and standardization across the globe. The efforts with STEM outreach currently underway are a great start to steer young talent to the transportation profession. Our Councils are working collaboratively, both with each other and other organizations, to deliver better and more timely products to our membership. As an organization with thousands of members, we now need to maximize these efforts into further member engagement.

**Inclusion** – We’ve come a long way from a time when our organization consisted primarily of traffic engineers from the U.S. With our industry undergoing a paradigm shift, we all know how critical it is to bring professionals from all sectors and demographics to the table as we make our transportation decisions. This not only means efforts to include different industry sectors such as technology disciplines or healthcare professionals, but also opening these discussions to include emerging professionals and the global community.

**Leadership** – I have passionately served ITE since 1985 including more than 30 leadership positions throughout the Section, District, and International level. My service has been highlighted by my term as the Northeastern District representative to the International Board of Direction (2008–2010), as well as my current position as Chair of the Traffic Engineering Council. Knowing where you’ve been helps pave the path to where you are going, and each of these positions has helped me become the person I am today. Growth is vital to any successful organization, and changes are necessary to meet the needs of our members.

ITE has been a place where I have forged lifelong friendships. I have interacted with many wonderful people across the world. The willingness of people to devote their time to volunteer positions is remarkable. It is our duty to ensure that their efforts provide the maximum output. It is on this foundation that we continue to build an amazing ITE for the future.

Alyssa A. Reynolds Rodriguez, P.E., PTOE (F)

City Traffic Engineer, City of Henderson Henderson, Nevada, USA
Alyssa.rodriguez@cityofhenderson.com

ITE is poised for growth. We’ve experienced significant change over the last 4 years, and now it’s time to capitalize on the strong base our leaders have established. The following elements are the recipe for sustainable expansion.

**Foster our Legacy** – We need to nurture the energy, diversity, and enthusiasm seen within the student chapters and facilitate student transition into full membership. Our duty is to create an environment where current leaders help develop future leaders and where opportunity is distributed across the Institute.

**Embrace Diversity** – Variety in experience, opinion, and thought generates well rounded, whole ideas that support our goal of transportation for all. In addition, we need to create products that are useful to a diverse local and international membership and in a format they prefer. For instance, YouTube tutorials and Ted Talk style presentations, in support of our current webinar materials, may appeal to a broad range of members.

**Create Opportunity** – ITE is most valuable to those who fully partake in what the Institute has to offer. This can be achieved by offering numerous and varied volunteer opportunities with a duration range that matches the availability of our members. Delivering products in a timely fashion shows participants that their efforts are immediately valuable and useful.

**Sponsor and Encourage** – It’s not enough to get people to a conference or a luncheon, they must feel welcome and want to return for the next event. That requires leaders to encourage event attendee participation, actively match members with projects, and sponsor promising individuals for roles in the organization. Reaching even just a few people can have a large effect on long-term participation.

From professional development to the creation of life-long friendships, ITE has been the catalyst for so much personal growth and opportunity. I’ve been fortunate to serve in elected positions at the student, chapter, section, district, and international levels and to work in academia, consulting, and public service. That offers a perspective into ITE membership of all types. Now it is my turn to give back to the Institute.