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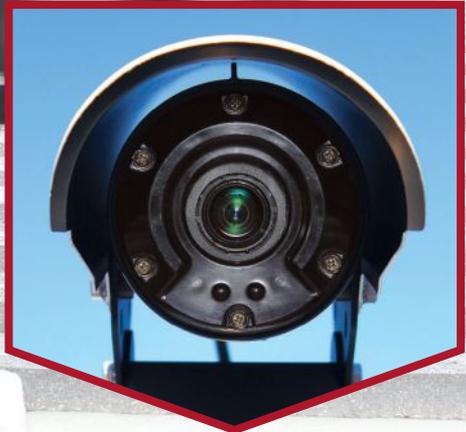


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ITE Out Front

Leadership is important to any organization, and ITE has a long history of strong leadership. Since our founding in 1930, ITE has provided safety, access, and mobility solutions for our communities. ITE has been instrumental in connecting people with resources and opportunity and in growing our economies. We have been here since the replacement of the horse and buggy with the horseless carriage, and we have provided strong and invaluable leadership in the development, implementation, and operation of transportation systems that have moved our communities forward. ITE has pioneered and put into practice innovations that save thousands of lives every year.

Today, transportation needs and tools are changing at a rapid rate. Transportation professionals are working in new ways to improve the livability, sustainably, and resilience of our communities. We are reinventing our streets to be great places for all users and to enable active and healthy transportation choices. Private sector companies are developing new “Smart City” technologies and business models that are changing how we travel in profound ways. Self-driving vehicles will soon present new opportunities, as well as new challenges. Although the pace of change may be unique, ITE has adapted to a changing world throughout our existence. ITE will continue to provide strong leadership in the transportation industry moving into the future.

This month, many of our leaders will begin service on a large number of Chapter, Section, District, and International boards, committees, and councils. All told, roughly 1,000 ITE members volunteer their time and talents every year to the betterment of ITE, the profession, and their communities. I offer my deepest gratitude and appreciation for their service. We do important work, and we do it very well working together.

Over the past few years I have had a chance to get to know many of ITE’s leaders. These are amazing people who make a positive difference every single day. We are fortunate to have so many great leaders in our organization.

The gift of having so many great leaders in ITE provides incredible opportunities for leadership training and mentoring. There are several ways to take advantage of these opportunities. First, volunteer. Volunteer to be on a Chapter or Section Board, participate in a Local Arrangements Committee for an upcoming meeting, or participate in one of ITE’s technical councils. You will find yourself working alongside of and networking with amazing leaders. Second, participate in a local mentoring program. If your Section or District does not currently have a mentoring program, ask your leadership to consider developing one. We are launching a new committee this month to provide support for such programs. Third, consider participation in the *LeadershipITE* program. January 2017 marks the program’s fourth year, and its alumni are doing amazing things throughout the profession. Finally, join us at the Joint ITE/Canadian ITE (CITE) 2017 Annual Meeting and Exhibit this summer, July 30–August 2, 2017, in Toronto, Ontario, Canada. This meeting will have a strong technical program as well as many opportunities to network with some of ITE’s great leaders.

Our communities need strong transportation leaders today more than ever before. It is important that ITE members are involved in our communities and ensure that transportation decisions are made for the benefit of all people. I look forward to working with you over the next year to ensure that ITE is “Out Front” of important issues and making a positive difference. Please never hesitate to contact me with your ideas and suggestions about how we can work together to make this an even better organization. And again, thank you for all that you do.

Shawn Leight, P.E., PTOE, PTP (F)
ITE International President



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ITE Leading the Way

This month, as we kick off the New Year, we are recognizing the many types and levels of leadership that are involved in making ITE an organization that is recognized, relevant, value-added, and connected. As ITE members, we all have opportunities to lead on many levels. Whether we are in management and supervisory positions, recognized technical experts in our field, or serving in volunteer roles that require us to motivate and inspire others to collaborate and contribute, we lead daily through our actions and involvement.

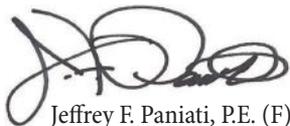
Coming from a technical background means that, for many, the skillset we enter the workforce with does not always naturally translate into the skills needed for leadership. While technical skills focus on connections to facts, leadership skills focus on connections to people. ITE recognizes the importance of developing leadership skills in conjunction with technical skills and offers many different types of opportunities for their development. From our *LeadershipITE* program, now kicking off its fourth year, to our emerging mentorship programs and growing Student Leadership Summits, ITE is working to shape leaders for roles within ITE as well as the individual workplaces and communities we serve.

At the core of leadership is communication. We have been working hard to communicate with and engage leaders at all levels of our organization. In 2016 we initiated new ways to engage and support our Section, District, Chapter, and Student Chapter leaders, through more frequent communication and opportunities to connect during webinars, leadership calls, and Annual Meeting sessions. We will continue these efforts in 2017. During 2017 we will also increase our support for our Coordinating Council leadership. The Councils and Committees that make up the Coordinating Council are the technical engine of ITE. We want to work with the Coordinating Council leadership to enhance the value and reach of their efforts.

As an organization, ITE is making strides to become more visible as a leader in the industry. We are stepping out to make our collective voice heard on topics such as Vision Zero, Smart Cities, and Public Health. We are demonstrating our leadership by responding to the U.S. Department of Transportation on national policies and initiatives. We are leading internal and external task forces that are preparing the way for Automated and Connected Vehicles by addressing implementation, standards, and cyber security issues. The *ITE Talks Transportation* podcast series featuring Thought Leaders in Transportation is another way we are sharing new ways of thinking that will move the profession forward.

I thank all of our members who take the time to lead within ITE, whether through our International, District, Section, or Chapter boards, student chapters, councils, committees, or project teams. We all have the opportunity to develop our leadership skills and to use those skills to advance our profession and better serve our communities. I encourage our members to explore new opportunities to lead and to take full advantage of all the benefits ITE has to offer in developing and honing leadership skills.

As always, I welcome your feedback at jpaniati@ite.org, through ITE Community, and on Twitter at [@JeffPaniatiITE](https://twitter.com/JeffPaniatiITE).



Jeffrey F. Paniati, P.E. (F)
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Joint ITE/CITE 2017 Annual Meeting and Exhibit

The Joint ITE/CITE 2017 Annual Meeting and Exhibit is the showcase event for the transportation industry. This conference will offer a multitude of professional development opportunities and educational experiences.

Transportation professionals from around the world will convene to discuss the critical topics of today as well as to enjoy peer-to-peer conversation and networking. This event is a platform for transportation experts from both the public and private sector to share their expertise and insights with the transportation industry and for attendees to gain valuable access to professional development.

This year's theme—**"Transportation for All: Putting New Ideas into Practice"**—focuses on the need for a multifaceted approach to transportation. This event will showcase the visionary, forward-thinking ideas of tomorrow while also providing the in-depth insight on practical "how-to" professionals need to do their jobs today.

Located in the City of Toronto, this meeting will deliver a truly international experience. A multicultural and diverse city, Toronto is the perfect backdrop to gain a strong understanding of the demands of various population segments. Toronto also represents a truly multimodal and transit-oriented approach to creating healthy, livable communities.

Annual Meeting and Exhibit Snapshot

Attendance: More than 1,000 transportation professionals representing the public and private sector from around the world will attend this event.

Program Highlights:

- More than 26 technical sessions focused on critical topics, including safety (Vision Zero), technology, mobility, traffic engineering and operations, transit-oriented development, smart cities, intelligent transportation systems, complete streets, automated and connected vehicles, and more.
- Strong level of engagement between presenters and the audience.
- Networking and sharing of insights and knowledge.
- "Get Out and Experience" technical tours provide a first-hand look at issues being discussed.

Special Events:

- TransportationCamp - an unstructured conference connecting all types of transportation professionals and provides each attendee with an opportunity to voice his/her viewpoint on how we build healthy, livable communities.
- ITE Collegiate Traffic Bowl Grand Championship: An annual, Jeopardy-style competition among ITE student chapter teams.
- ITE/CITE Awards Luncheon: Recognition and celebrating the best of the best in the transportation industry.

Exhibitors:

50-70 exhibitors showcasing products, services, and technologies across a wide spectrum of transportation sectors.



For more information, visit
www.ite.org/annualmeeting.
Join our online discussion by
using hashtag #itetoronto2017.



Joint ITE/CITE 2017 Annual
Meeting and Exhibit
July 30-August 2, 2017
Sheraton City Centre
Toronto, Ontario, Canada

ITE International Board of Direction

EXECUTIVE COMMITTEE

Shawn J. Leight, P.E., PTOE, PTP (F)

International President



Shawn Leight has a true passion for ITE and for the transportation profession. Shawn's vision for ITE is an institute that is "Out Front": a thought leader in transportation issues; the go-to place for transportation information; a resource for community decision makers; and a dominant provider of networking and

professional development opportunities. Shawn believes that ITE can accomplish this vision through strong programs in information, collaborative innovation, and advocacy.

Shawn is the vice president and a principal owner of CBB Transportation Engineers + Planners. His expertise is in the development of multimodal solutions that "make transportation work." He has played a key role in innovative projects such as the reconstruction of I-64 in St. Louis, Missouri, USA (AASHTO's 2010 America's Best Transportation Project) as well as in several "Great Streets" projects. He is an adjunct professor of transportation engineering and planning at Washington University in St. Louis, where he has taught since 2003. Shawn's work has been featured on KMOX and St. Louis Public Radio as well as in *St. Louis Magazine* and the *River Front Times*. He obtained his bachelor of science from the United States Military Academy at West Point and his master of science from the University of Wisconsin at Madison. Follow Shawn on Twitter @TranspoShawn.

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

International Vice 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 United States Chamber of Commerce, and 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 engineering, planning, and

community development services consultancy with employees in Montana, North Dakota, Idaho, and Colorado.

Michael is an ITE Fellow and has served in numerous ITE leadership roles, formerly serving as president of the Montana Chapter, Intermountain Section, and Western District, and as an international director. He currently serves on the executive committee of the Transportation Consultants Council, and he is the past chair of *LeadershipITE*.

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 leadership at the Harvard Business School. Michael lives in Billings, Montana with his wife, Sara, and two children, Quinn Rose and North Henry.

Paula Flores (Benway) (F)

Immediate Past International President



Paula has more than 30 years of transportation planning and traffic engineering experience and recently joined the Alta Planning + Design team. She has extensive experience in managing and performing a variety of transportation planning and traffic engineering projects with focus in creating transportation choices in urban

environments. Paula's work and project success can be attributed to her strong level of commitment, collaboration, and creativity to address challenges and create innovative solutions. Paula has served as an ITE officer at the Section, District, and International levels including on the International Board of Direction, Chair of the Parking Council, and most recently as the ITE International President. Paula also serves on the Board of Directors for the Florida Cycling Foundation.

INTERNATIONAL DIRECTORS

Michael (Mike) J. 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 (ITS), 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 (NYSDOT), New York City Department of Transportation (NYCDOT), and Port Authority of New York & New Jersey. Mike has been with GPI for 35 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 intelligent transportation systems (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 serves as an adjunct faculty member at Hofstra University's School of Engineering.

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 two grandchildren.

Abraham (Abi) Lerner, P.E. (M)

Mid-Colonial District



Abraham (Abi) Lerner has been an active member of ITE since the start of his professional career in 1987. He served on the Board of Directors of the ITE Mid-Colonial District from 2011–2015. He currently works as associate manager for special project development at the Virginia Department of Transportation (VDOT). In this role, he is responsible for coordinating the planning and implementation of

all transportation and land development projects associated with the Tysons revitalization program. He also manages large multimodal corridor studies

which require quick implementation. Prior to VDOT, he was the deputy director of transportation for the City of Alexandria, Virginia, USA. Prior to working for the City of Alexandria, he worked as a consultant in transportation planning and transportation engineering for 24 years. Abi has a bachelor of business administration in engineering management, a bachelor of science in civil engineering, and a master of science in community and regional planning from the University of Texas at Austin.

Hardik R. Shah, P.E., PTOE (M)

Great Lakes District



Hardik Shah is a Director of Development at American Structurepoint, Inc., a 400 employee A/E consulting firm headquartered in Indianapolis, Indiana, USA with 16 offices in the United States. Hardik has 12 years of professional experience in the transportation industry and is actively involved with design, development, and management of traffic engineering services

offered by his firm for various public and private clients. He has worked on more than 100 transportation projects providing his technical expertise ranging from sub-area transportation planning, traffic impact and safety studies, operations analysis, traffic simulation and modeling, traffic signals, highway lighting, and roadway design. He also has 2 years of experience as research assistant in the area of transportation planning and infrastructure finance at Purdue University.

Hardik has been actively involved with ITE for the past 12 years and has served in several capacities at local and national levels ranging from social coordinator for the ITE Purdue Student Chapter (2004), ITE Indiana Section Scholarship Committee Chair (2006–2009), ITE Indiana Section Board (2009–2014), ITE Indiana Section President (2013), ITE Great Lakes District Vice-Chair (2014), and Chair of ITE National Section Activities Award Committee (2011–2014). He is also a recipient of the ITE Young Professional Scholarship Award given by the Transportation Consultants Council in 2010. He also serves on the ITE Membership Task Force, a significant effort undertaken to help shape the future of ITE.

Hardik served as the President of the Association of Transportation Professionals of Indian Origin (ATPIO) in 2011 and 2012. He had the opportunity to join a high-level transportation systems delegation to India in 2009. He is also a member of the American Society of Civil Engineers, the Transportation & Development Institute, the Transportation Research Board, and ATPIO. He holds a bachelor of engineering degree from Nirma University (India) and dual master's degree in civil engineering from Purdue University with a focus on transportation and infrastructure systems and construction materials. He is a registered Professional Engineer in Indiana, Michigan, and Ohio and a Professional Traffic Operations Engineer. Hardik and his wife Hardi enjoy spending quality time with their 5-year-old son Raahil and 1-year-old daughter Aashi.

INTERNATIONAL DIRECTORS

John A. Davis, P.E., PTOE, TSOS (F)

Midwestern District



John Davis is the manager of traffic engineering services for Ayres Associates Inc, which has offices in Wisconsin, Arizona, Colorado, Florida, and Wyoming, USA. He has more than 34 years of traffic engineering experience in both private and public practice. Besides his recent private sector experience, John spent more than 11 years serving as the chief traffic engineer for Lee County, Florida and 10 years as a traffic engineering manager with the City of Indianapolis, Indiana, USA. His current areas of interest are in traffic operations, traffic safety, and urban traffic engineering. John is licensed as a professional engineer in eight states, and is certified as a Professional Traffic Operations Engineer and as a Traffic Signal Operations Specialist. He is a graduate of Purdue University in West Lafayette, Indiana and holds a bachelor of science and masters of science in civil engineering.

John joined ITE as a student member in 1981 and became an ITE fellow in 1998. He has held active leadership roles at all levels of ITE starting in 1989 as editor of the *HoosierITE*, the newsletter for the Indiana Section. He has previously served on ITE's International Board of Direction as District 10 Director from 2002 to 2004. John served as President of the Midwestern District in 2009, as President of the Florida Section and District 10 in 1999, as an officer in the Indiana Section from 1991 to 1993, and was a discipline director of the Transportation Professional Certification Board in 2009 through 2014. He has served every section and district in which he has lived and worked. John recently completed a three-year term as chair of the ITE Traffic Engineering Council, and is presently serving as chair for the ITE International Collegiate Traffic Bowl Committee and as chair of the ITE Constitutional Amendments Committee. John was the 2015 recipient of ITE's Burton W. Marsh Award for Distinguished Service.

John and his family reside in Waukesha, Wisconsin, and enjoy the outdoors and seasonal changes. Besides his professional activities, he is an active volunteer with the Boy Scouts of America, currently serving as an area unit service committee chair and a merit badge counselor. In July of 2016, he accompanied scouts as an advisor on a 12-day 100-mile backpacking trek at Philmont Scout Ranch, which is near Cimarron, New Mexico, USA, and he is coordinating the traffic safety merit badge booth, which will be staffed by volunteers who are also ITE members for the upcoming 2017 National Scout Jamboree in West Virginia, USA. He is an Eagle Scout.

Bob Murphy, P.E., PTOE (F)

Southern District



Bob Murphy is president and founder of RPM Transportation Consultants, LLC in Nashville, Tennessee, USA and has more than 30 years of experience in traffic engineering and transportation planning. Bob specializes in multimodal planning and design and is noted for his commitment to sustainable design practices. At RPM he is responsible for a wide range of projects including transportation master plans, bikeway and pedestrian planning and design, traffic impact studies for major development projects, safety studies, campus planning and design, roadway and intersection design, traffic signal design, and parking studies and designs. His clients include state departments of transportation, cities, counties, metropolitan and regional planning organizations, universities, school boards, hospitals, and private developers.

Bob earned his bachelor of science in civil engineering from the University of Tennessee. He is a registered Professional Engineer in multiple states, certified as a Professional Traffic Operations Engineer, and is a registered Land Surveyor. He has authored several papers on transportation planning and traffic engineering subjects and is a frequent presenter at professional conferences.

Throughout his career Bob has been actively involved in his community and has been in leadership positions with several professional and civic organizations, including the Nashville Chamber of Commerce, Nashville Downtown Rotary, ACEC of Tennessee, Walk/Bike Nashville, Transportation Management Association of Franklin, Nashville Downtown Partnership, and Cumberland Region Tomorrow. He has been active at various levels of ITE for more than 20 years and served in all elected positions of the Tennessee Section and the Southern District. He was co-chair for ITE's Annual Meeting in Nashville in 2000 and was a reviewer for ITE's *Trip Generation Handbook*, the *Urban Geometric Design Handbook* and ITE/FHWA's *Toolbox on Intersection Safety and Design*. Also, Bob serves as vice-chair of ITE's Pedestrian and Bicycle Standing Committee and has been a member of other International ITE committees, including the Policy and Legislative Committee, the Professional Development Committee, Nominations Committee, and Budget and Finance Committee.

Bob resides with his wife Kelly in Nashville where they enjoy running, cycling, swimming, and other outdoor activities.

INTERNATIONAL DIRECTORS

Karen E. Aspelin, P.E., PTOE (F)

Western District



Karen Aspelin is a senior transportation engineer with Parametrix, Inc. From her home in Colorado Springs, CO, USA she serves as the traffic engineer for the company's Albuquerque and Boise offices, while growing the presence of Parametrix in the state of Colorado. Karen is a 2016 graduate of her company's internal leadership program, Leaders Emerging at Parametrix (LEaP).

Karen 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, and Texas, 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 feels her biggest ITE accomplishment was serving as General Chair of the 2001 Western District Annual Meeting in Albuquerque, NM, USA.

Karen is an avid runner, reader, and crossworder. She and her husband Erik have been married for 20 years, and they enjoy traveling and camping with their two teenage children.

Walter Okitsu, P.E., PTP, PTOE (F)

Western District



Walter Okitsu is a principal at KOA Corporation based in Monterey Park, California, USA. In 1987 he co-founded the firm, which has become one of the largest transportation engineering firms in Southern California. Prior to that, he worked for the City of Los Angeles Department of Transportation. His experience has been in traffic impact studies, traffic operations, and design of projects that include signal synchronization, freeway surveillance, railroad grade crossings, busways, arterial corridors, and bikeways. Walter has been actively supporting the continuation of California's traffic engineering P.E. license, a license that is unique to that state.

Walter has served as ITE Western District President (2012–2013) and Southern California Section President (1997–1998). He is the inaugural awardee of the ITE Western District's Individual Achievement Award for his work in maintaining the traffic engineering license in California. Walter has a bachelor's degree in mathematics-computer science from the University of California, Los Angeles (UCLA), a master's degree in transportation engineering from the University of California, Berkeley, and a bachelor's degree in civil engineering from Cal State Los Angeles. He teaches the traffic engineering and transportation engineering classes at UCLA and serves as assistant faculty advisor to UCLA's ITE Student Chapter.

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

Western District



Alyssa Rodriguez presently works for the City of Henderson, Nevada as the city traffic engineer. The division includes traffic engineering, operations, and maintenance. With more than 15 years of experience, she has a diverse employment history including municipal engineering, consulting, and academia. Her background includes a wide variety of transportation engineering and planning projects

including traffic impact studies, traffic signal design, travel demand modeling, maintenance management and asset management systems, safe routes to school, and GIS applications. She is a Professional Engineer registered in the states of Nevada and California. Her Civil Engineering bachelor's and master's degrees are from Montana State University.

Alyssa has been a member of ITE since 1998 and has served in leadership roles with the Western District, Intermountain Section, Nevada Chapter, and Montana State University Student Chapter. In addition, Alyssa was appointed as the Western District Student and Faculty Initiatives Chair in 2005, a position she held for five years. Encouraging students to enter the profession is a passion, and Alyssa has been involved in numerous local and regional programs to introduce youth to engineering.

Alyssa is recently married to her husband Kenny, and together they enjoy travel, ATV's and golf. She also serves on the Alumni Association Board for Montana State University.

Eugene (Gene) G. Chartier, P.Eng. (F)

Canadian District



Gene Chartier is a graduate of the University of Waterloo in Ontario, Canada, with bachelor's and master's degrees in civil engineering. He has held progressively responsible positions in the municipal government sector and private consulting, almost all involving transportation engineering in some form. He currently is vice president of Paradigm Transportation Solutions Limited, a consulting practice offering services in the specialized fields of transportation planning and traffic engineering, primarily in the southern Ontario market. The business model is somewhat unique to the industry, with all Paradigm staff working from home offices across the region.

With more than 26 years of active participation in ITE and service as an elected or appointed member at the student chapter, Section, District, and international levels, Gene brings knowledge, experience, and enthusiasm to his role on the ITE International Board of Direction and the Canadian Institute of Transportation Engineers (CITE) Executive Committee and Board. Gene has been married to his wife Karen for almost 25 years and has two children, Katherine and Creighton.

INTERNATIONAL DIRECTORS

Donald (Don) J. McKenzie, P.E. (M)

International District



Don McKenzie is a director and branch manager of TDG—New Zealand's largest specialist traffic engineering and transportation planning consultancy. Don is a chartered professional engineer and has been a member of ITE since 2003. He provides technical and professional leadership of the Auckland office of TDG and has 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 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 2016 strategic initiatives working group, and the Nominations Committee.

Jason A. Crawford, P.E. (F)

Texas District



Jason Crawford is the North Texas regional manager for the Texas A&M Transportation Institute (TTI). He has worked at TTI for 25 years in the areas of transportation/air quality, statewide traffic monitoring, transportation planning, cash forecasting, traffic operations, and safety. TTI employs more than 650 professionals, students, and support staff to provide useful research results, and to train and educate the workforce of the future.

Jason graduated with bachelor's and master's degrees in civil engineering from Texas A&M University. He is a licensed professional engineer in Texas. Jason has been actively involved with ITE for almost 26 years holding leadership positions at all levels: Texas A&M Student Chapter Vice President, Texas District Younger Member Chair, Greater Fort Worth Section President and founding member, and Texas District President. He also served on ITE's membership recruitment, retention, and reactivation committee. Jason was a member of the *LeadershipITE* 2014 inaugural class.

Jason and his wife, Tracy, have three children, three dogs, and two cats. He enjoys practicing and competing in Taekwondo at the black belt level.

Daniel (Dan) J. Beaty, AICP (M)

District 10 (Florida and Puerto Rico)



Daniel (Dan) Beaty is a chief transportation planner at the HNTB Corporation with 22 years of experience in the areas of urban and regional transportation planning and travel demand modeling. His main focus has been on travel demand modeling including: model development and validation, preparation and forecasting of socioeconomic data, development of long-range transportation plans, developments of regional impact, and modeling for planning, preliminary design and design projects.

REPRESENTATIVE

Beverly T. Kuhn, Ph.D., P.E. (F)

Coordinating Council



Beverly Kuhn is a division head and senior research engineer with the Texas A&M Transportation Institute, which is part of the Texas A&M University System. She has more than 26 years of diverse experience in the conduct of operations related research in various topic areas, including active transportation and demand management, active traffic management, managed lanes, traffic operations, intelligent transportation systems, human factors, education and outreach, traffic control devices, and sign visibility. Beverly has also served as a senior lecturer and instructor for the Zachry Department of Civil Engineering in the Dwight Look College of Engineering at Texas A&M.

Beverly is a fellow of ITE and previously served as chair of the Traffic Engineering Council, as well as chair of the Standing Committee on Recom-

mended Practices. She has served on several ITE technical committees since joining ITE in 1987, including ones dealing with establishing guidelines for freeway service patrols and determining vehicle signal change and clearance intervals. She has written for numerous publications, including refereed journal articles, book chapters, newspaper and journal articles, and technical reports to sponsors covering her career while at TTI. She also has extensive experience developing and facilitating workshops, seminars, and peer exchanges for the transportation community.

Beverly is a past recipient of the TTI/Trinity Herbert H. Richardson Team Award (2005, 2015), a Texas Department of Transportation Top Innovations and Research Findings designation, and the TTI/Trinity Senior Researcher Award. She was a member of the Leadership Texas Class of 2003. She also received ITE's Burton W. Marsh Fellowship for Graduate Study in Traffic and Engineering while a graduate student at Texas A&M. She serves as an ITE designee on the Technical Advisory Committee for the National Operations Center of Excellence.

The Titles Transportation Professionals Need Complete Streets Bookshelf



A Community of Transportation Professionals



All titles available through the ITE Marketplace at www.ite.org. Fill your bookshelf Today!

ITE/CNU Designing Walkable Urban Thoroughfares: A Context Sensitive Approach – ITE Recommended Practice

NACTO Urban Street Design Guide

Separated Bikeways

NACTO Urban Bikeway Design Guide, 2nd Edition

Road Diet Handbook: Setting Trends for Livable Streets

Improving the Pedestrian Environment Through Innovative Transportation Design: ITE Informational Report

NACTO Transit Street Design Guide

Promoting Sustainable Transportation Through Site Design—ITE Recommended Practice

Design and Safety of Pedestrian Facilities

Traffic Engineering Handbook, 7th Edition

Transportation Planning Handbook, 4th Edition

ITE Trip Generation Manual

Survey of Guidelines Used to Select Sidewalk Locations

Recommended Design Guidelines to Accommodate Pedestrians and Bicycles at Interchanges

Members receive a discount.

www.ite.org/marketplace

WELCOME TO THE ITE COUNCILS

Beverly T. Kuhn, Ph.D., P.E.
ITE Coordinating Council Chair

Russell G. Brownlee, P.Eng.
ITE Coordinating Council Vice Chair

What are they?

Whether you are a new member, an ITE veteran, or something in between, you may have heard about the ITE Councils. You may have seen them mentioned on the ITE website, attended a session they developed at a conference, or noticed one of their products in the ITE Marketplace or ITE Library. You have probably asked yourself the following: What are the ITE Councils? What do they do? How do I get involved? Well, let us share that information with you.

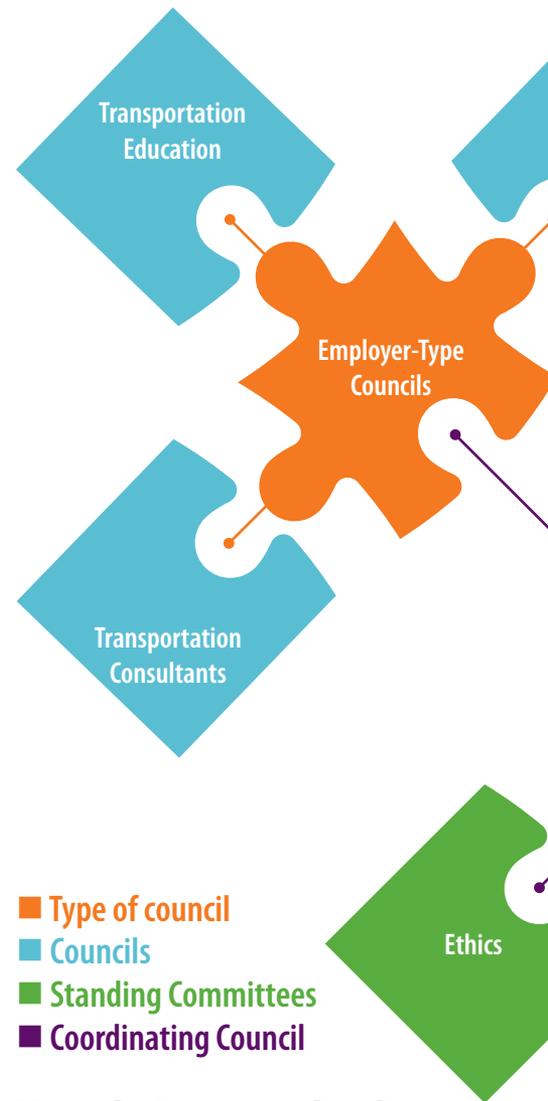
The ITE Councils represent nine communities of members within ITE that have a common focus and a special interest. There are three employer-type councils and six technical councils that develop a broad range of informational content for all ITE members. The employer-type councils are the Public Agency Council, the Transportation

Consultants Council, and the Transportation Education Council. The technical councils focus on six areas of interest: complete streets; transportation systems management and operations (TSM&O); traffic engineering, transportation expert witness, transportation planning, and transportation safety. The ITE Coordinating Council is made up of the individual council chairs that coordinates and collaborates across the spectrum of all of the councils and their activities.

What do they do?

The primary effort of all of the councils is the development of content for all of ITE and the transportation profession as a whole. That content takes on many forms to address the rapidly changing needs of the profession. Examples of content include informal discussions and real-time dialogue on the ITE Community, sessions for the annual meeting, webinars, presentations, informational reports, newsletters, blogs, recommended practices, and so much more. All of these are developed by volunteers of the councils.

ITE Councils Organizational Chart



get involved

Are you social media savvy? Then let a particular council chair know you are willing to help manage their Twitter or LinkedIn pages.

Do you have a great idea for a webinar?

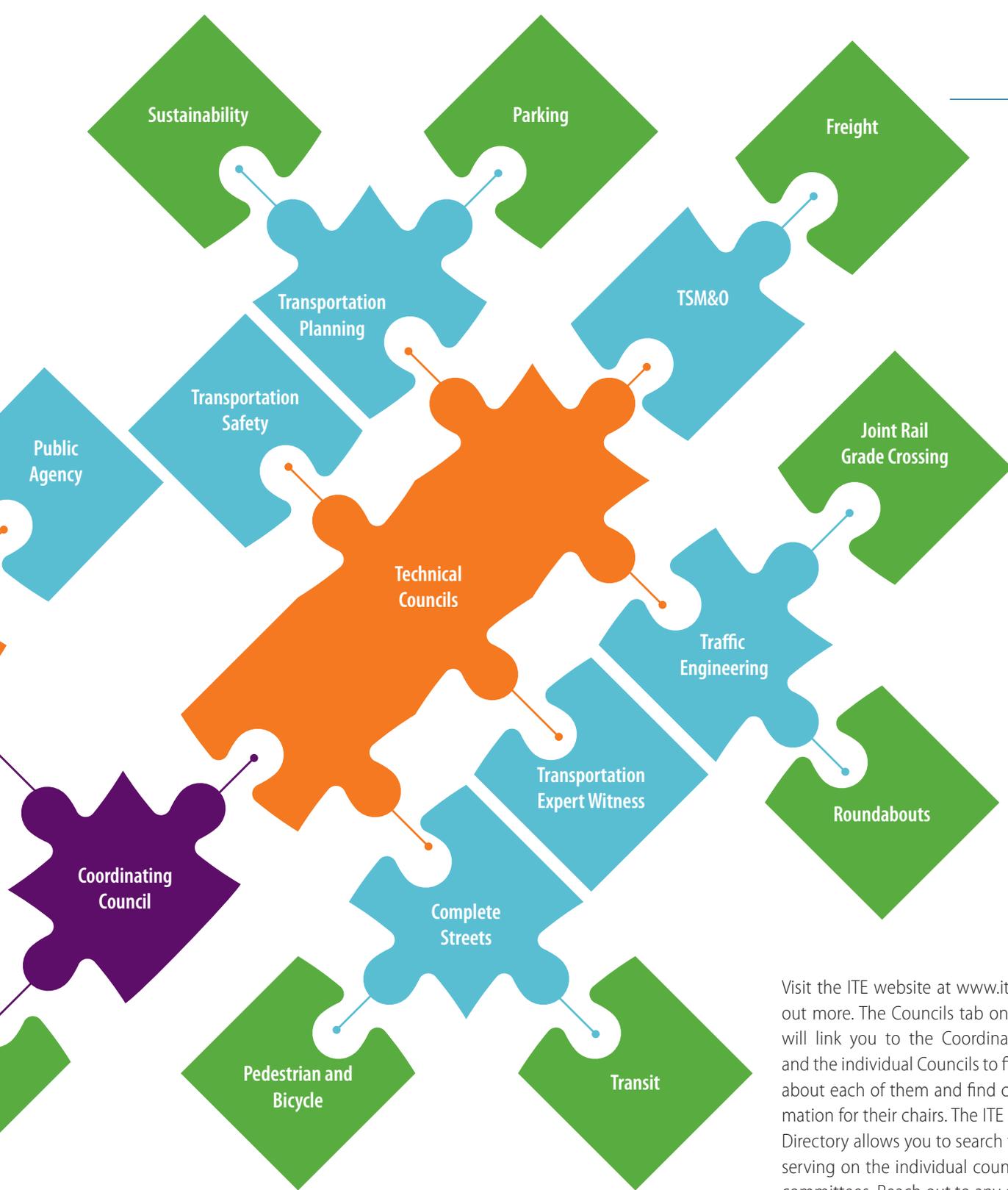
Let the coordinating council know and we can help you put it together.

Have thoughts you want to share? Begin a discussion or post a blog on ITE Community or reach out to the Council Chair and offer to write an article for a newsletter or *ITE Journal*.

Interested in sharpening your networking capabilities and increasing your number of professional connections but want to keep your activities honed to the local level? Raise your hand to be a District liaison and help connect them with a council and its activities.

Have you been involved primarily at the local level and want to broaden your leadership reach to the International level? ITE Councils are where you can find that opportunity.





If you want to be more than a casual observer of the councils, we need active volunteers, too. Volunteers are the lifeblood of the councils, and we always need help. Each council has a broad range of activities that are all led by volunteers, and which offer opportunities for you to play a role in determining the future direction of our profession.

Do you have a little spare time? Whether you have 30 minutes to volunteer every 2 weeks, or 4 hours a month; the councils could use your help in identifying, developing, and/or reviewing products for their members. You can tailor your involvement to the time you have to offer. In short: WE NEED YOU!!!!

Visit the ITE website at www.ite.org to find out more. The Councils tab on the website will link you to the Coordinating Council and the individual Councils to find out more about each of them and find contact information for their chairs. The ITE Membership Directory allows you to search for members serving on the individual council executive committees. Reach out to any of the executive committee members and they will get you involved today. Browse the All Member Forum on the ITE Community for announcements looking for volunteers. We are always looking for volunteers so your emails, ITE community posts, and phone calls will be answered. The welcome mat is out, so come on in! itej

PEOPLE IN THE PROFESSION

The Texas A&M University System Board of Regents confirmed **Gregory D. Winfree**, Assistant Secretary, Office of the Assistant Secretary for Research and Technology at the U.S. Department of Transportation, as the sole finalist for the position of director for the Texas A&M Transportation Institute (TTI) on November 10, 2016. Once confirmed, Winfree will replace **Dennis L. Christiansen, P.E., Ph.D.**, who is stepping down after 10 years as TTI Director and 45 years of service at the Institute. Under state law, governing boards must name finalists at least 21 days before making an official appointment. The Board of Regents will meet again to consider the final appointment.

Member Updates

Dennis L. Christiansen, Ph.D., P.E. (H) was presented a resolution in honor of his 45 years of service to Texas A&M Transportation Institute (TTI), including 10 years as agency director, at the November 10, 2016 meeting of the Texas A&M University System Board of Regents. The resolution recognized the significant growth of TTI’s research program and reputation under his leadership. The resolution stated that during his tenure as agency director, TTI research expenditures increased by 60 percent; the total operating budget increased by 52 percent; and TTI’s intellectual property portfolio generated more than \$76 million in gross royalties. The resolution also noted Christiansen’s emphasis on research diversification, the creation of new research programs and products, and the expansion of TTI’s offices and research facilities during his leadership, among other accomplishments.

Raymond (Ray) E. Davis III, P.E., PTOE (F) has been appointed to race director and elected to a two-year term on the Board of Directors of the Golden Gate Yacht Club in San Francisco, CA, USA. The Golden Gate Yacht Club is the trustee of the America’s Cup, the oldest sporting trophy in International sports dating back to 1851, and will be defending

the Cup in June, 2017, in Bermuda. As race director, Ray oversees all aspects of all of the Club’s Racing Regattas that they host on San Francisco Bay including the Manuel Fagundes Seaweed Soup Mid-Winter Regatta and the inaugural Rainbow Regatta to be held in June, 2017, in conjunction with San Francisco Pride Week.

Ray is a past International Director of ITE and has held all the offices within the Western District and the San Francisco Bay Area and Southern California Sections. He has served on the Executive Committees of the Traffic Engineering, Pedestrian and Bicycle, and Public Agency Councils. Ray has also served on the Board of Directors of the Professional Transportation Certification Board. Ray earned a bachelor of transportation engineering from Cal Poly, San Luis Obispo; a master of public administration from California State University, Dominguez Hills; and a certificate in managing transportation programs from University of California, Irvine.

John J. Presleigh, P.E. (F), Santa Cruz County Public Works Director, will head a statewide organization that serves as the counties’ leading voice on transportation issues in Sacramento, CA, USA. He has already begun his one-year term as president of the County Engineers Association of California. Hired in 1991 as the county traffic engineer, John was promoted to assistant public works director and became department chief in 2009. He has overseen development review, road design and operations and was manager of the Highway 1 Construction Authority. He’s a director and past chapter president of the American Public Works Association, a past chairman of the Inter-agency Technical Advisory Committee on Regional Transportation, and a member of the Urban Traffic Engineers Council. Before joining Santa Cruz County, John worked for a private engineering company, the state Department of Water Resources, and the

state Water Resources Control Board. He has bachelor’s degrees in civil engineering and in water and soil science and a master’s degree in civil engineering.

New Members

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

- Ahmed Abdelmoteleb (M)**, Delaware Department of Transportation, Dover, DE, USA
- Nazia Ahsan (M)**, County of Arlington, Arlington, VA, USA
- Ethan Lloyd Akerly (M)**, State of North Dakota, Bismarck, ND, USA
- Nahedh Munif Alhubail (M)**, Riyadh, Saudi Arabia
- Anton Anargyros (M)**, County of Arlington, Arlington, VA, USA
- Mike Barnett (M)**, CIMA Burlington, Burlington, ON, Canada
- Ernest Bartley, P.E. (M)**, San Diego County, San Diego, CA, USA
- Jordan Bell (M)**, Moffatt and Nichol, Atlanta, GA, USA
- Aaron Berger (M)**, DKS Associates, Portland, OR, USA
- William Bielek, P.E. (M)**, Franklin County Engineers, Columbus, OH, USA
- Robert E. Bini, AICP (M)**, Lancaster County Planning Commission Lancaster, PA, USA
- Kimberly Bogert (M)**, City of Gresham, Oregon Gresham, OR, USA
- John Boozer, P.E. (M)**, South Carolina Department of Transportation, Columbia, SC, USA
- Jaimee Bourgeois (M)**, City of Irvine, Irvine, CA, USA
- Pat Braun (M)**, City of Coquitlam, Coquitlam, BC, Canada
- Valerie Briggs (M)**, Washington, DC, USA
- Chelsey Rebecca Brooks (M)**, City of Hickory, Hickory, NC, USA
- Terrence M. Carbary (M)**, City of San Antonio, San Antonio, TX, USA

- Loren Chilson (M)**, Traffic Works, LLC, Reno, NV, USA
- Medwin Chiu (M)**, Sam Schwartz, New York, NY, USA
- Brian Clarke (M)**, Delaware Department of Transportation, Dover, DE, USA
- Colleen Connolly, P.E., PTOE (M)**, Malick & Scherer, P.C., Hampton, NJ, USA
- Sukhpreet Dhaliwal (M)**, City of Seattle, Seattle, WA, USA
- Juliet Ding, P.E. (M)**, San Diego County, San Diego CA, USA
- Cory Dorman (M)**, Kimley-Horn, Plantation, FL, USA
- Daniel Christopher Dye (M)**, Fehr & Peers, Seattle, WA, USA
- Derek B. Eason-Towers (M)**, City of San Buenaventura, Ventura, CA, USA
- Anna Emerson, AICP (M)**, Nashville Area M.P.O., Nashville, TN, USA
- Alexander Damian Flores (M)**, Lockwood, Andrews, and Newnam, Inc., Austin, TX, USA
- Stephen T. Gancarcik Jr., E.I.T. (M)**, Louisiana Department of Transportation, Baton Rouge, LA, USA
- Heather Grace Gardner (M)**, Stantec, Santa Barbara, CA, USA
- Koorosh Gharehbaghi (M)**, RMIT University and Department of Transport, Melbourne, VIC, Australia
- Kaustubh S. Gosavi (M)**, WSP | Parsons Brinckerhoff, San Antonio, TX, USA
- Ryan Groesbeck (M)**, Quality Counts, Tigard, OR, USA
- Jannette Guarin, ASCT (M)**, City of Coquitlam, Coquitlam, BC, Canada
- Karolina Haggerty (M)**, Strathcona County, Sherwood Park, AB, Canada
- Kristin Hamaguchi (M)**, Austin, Tsutsumi & Associates, Honolulu, HI, USA
- Michael J. Harrison (M)**, City of Clovis, Clovis, CA, USA
- Jeffrey Dean Hayes, P.E. (M)**, Oregon Department of Transportation, Salem, OR, USA
- Emmett R. Heltzel, P.E. (M)**, Virginia Department of Transportation Central Office Location & Design Division, Richmond, VA, USA
- Bryan Higgs (M)**, University of Memphis, Memphis, TN, USA
- Lawrence C. Hill Jr. (M)**, City of Fort Worth, Fort Worth, TX, USA
- David A. Janover, P.E. (M)**, City of Avondale Engineering Department, Avondale, AZ, USA
- Bruce Johnson (M)**, City of Kansas City, MO/ Public Works, Kansas City, MO, USA
- Molly A. Johnson, P.E. (M)**, City of Bellevue Transportation Department, Bellevue, WA, USA
- Monica Kearney (M)**, City of Kansas City, MO/Public Works, Kansas City, MO, USA
- Stefanie Kemen (M)**, City of Roseville, Roseville, CA, USA
- David Kline (M)**, Matrix Design Group, Denver, CO, USA
- Ted Koza, P. Eng. (M)**, City of London, London, ON, Canada
- Tyler Kuny (M)**, City of Coquitlam, Coquitlam, BC, Canada
- Jun Liu (M)**, Princeton, NJ, USA
- Justin Shane Forest Magne (M)**, MMM Group/WSP Winnipeg, MB, Canada
- Martin Maguire, P.Eng (M)**, Town of Oakville, Oakville, ON, Canada
- Spencer Maxwell, P.E., PTOE (M)**, Freese and Nichols, Inc., Fort Worth, TX, USA
- Michael McConnell, (M)**, LEA Consulting, Markham, ON, Canada
- Daniel Miller (M)**, City of Fremont, California, Fremont, CA, USA
- Ryan Miller, P.E. (M)**, City of Bellevue Transportation Department, Bellevue, WA, USA
- Jarrod Mitchell, ASCT (M)**, City of Coquitlam, Coquitlam, BC, Canada
- Michelle Morris, E.I.T. (M)**, City of London, London, ON, Canada
- Hugh Fletcher Morrison (M)**, Halifax Regional Municipality, Halifax, NS, Canada
- Danny Murphy (M)**, Fehr & Peers, Roseville, CA, USA
- Junaid Naeem (M)**, Stantec Consulting Services, Inc., Rochelle Park, NJ, USA
- Venu Nemani, P.E. (M)**, Montgomery County, Gaithersburg, MD, USA
- Joshua Nicholas (M)**, County of Arlington, Arlington, VA, USA
- Brandon Mackenzie Orr (M)**, Stantec Consulting Ltd., Toronto, ON, Canada
- Nicholas Oyler (M)**, City of Memphis, TN—Engineering, Memphis, TN, USA
- Matthew Pitts (M)**, City of Memphis, TN—Engineering, Memphis, TN, USA
- Sheila Pounder (M)**, City of Germantown, Germantown, TN, USA
- Shriram Ramaratnam (M)**, WSP|Parsons Brinckerhoff, Miami, FL, USA
- Mark Ridley, CET (M)**, City of London, London, ON, Canada
- John Riehl (M)**, Montgomery County, Gaithersburg, MD, USA
- Syed M.A. Rizvi (M)**, Town of Oakville, Oakville, ON, Canada
- Terrell Roderick (M)**, City of Roseville, Roseville, CA, USA
- Christian Rubiano (M)**, City of Clearwater, Clearwater, FL, USA
- Alan Ruck (M)**, City of Scottsdale—Transportation, Scottsdale, AZ, USA
- Barbara D. Russell (M)**, Texas Department of Transportation, Houston, TX, USA
- Christopher J. Salinas (M)**, City of San Antonio, San Antonio, TX, USA
- Richard A. Smith, P.E. (M)**, R.A. Smith National, Brookfield, WI, USA
- Ethan D. Smolinsky (M)**, WSP|Parsons Brinckerhoff, New York, NY, USA
- Megan Soroka (M)**, Halifax Regional Municipality, Halifax, NS, Canada
- Dara Soum (M)**, County of Arlington, Arlington, VA, 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 Michelle Birdsall, *ITE Journal*, 1627 Eye Street, NW, Suite 600, Washington, DC 20006 USA; mbirdsall@ite.org.

Ardian Spahiu, P. Eng. (M), City of London, London, ON, Canada
Gnaneshwar Thirumdas (M), WSP|Parsons Brinckerhoff, Noida, India
Omar Thomas (M), St. Andrew, Jamaica
Eileen Marie Velez-Vega (M), Kimley-Horn Puerto Rico, LLC, Guaynabo, PR, USA
Sergio Viricochea (M), County of Arlington, Arlington, VA, USA
Tom W. Visee (M), HDR, New York, NY, USA
Gerald Wegehaupt Jr. (M), Quality Counts, LLC, Tigard, OR, USA
William John Weizenbach (M), Strathcona County, Edmonton, AB, Canada
Pete Wessel, T.E. (M), County of Ventura, Ventura, CA, USA
Michael Williams (M), R & W/Engineers, P.C., Hauppauge, NY, USA
Eva Wilson (M), Eagle County Government, Eagle, CO, USA
Terry Wilson (M), City of Coquitlam, Coquitlam, BC, Canada
Kate Oi Ling Wong (M), Strathcona County, Sherwood Park, AB, Canada
Bi Wu (M), County of Arlington, Arlington, VA, USA
Ronald Brian Yanitski (M), Strathcona County, Sherwood Park, AB, Canada
Quan Yuan, P.E. (M), City of Boca Raton, Boca Raton, FL, USA
Michael Zasso (M), City of Roseville, Roseville, CA, USA

Obituaries

ITE recently learned of the passing of the following members. We recognize them for their contributions to ITE and the profession, and we send condolences to their families.

Roger W. Allington, P.E. (F) of Bellevue, WA, USA, passed away on August 3, 2013. He was a Life Member of ITE.

Clifford Y. Nohara, P.E. (F) of Honolulu, HI, USA passed away on October 4, 2016. He was a Life Member of ITE.

Edward S. Tobey, P.E., T.E. (M) of Antelope, CA, USA, passed away on July 24, 2016. [itej](#)

ITE NEWS

ITE Joins Video Analytics towards Vision Zero Partnership

ITE is one of several organizations joining the City of Bellevue, WA, USA, Microsoft Corp., and the University of Washington in supporting their Video Analytics towards Vision Zero Partnership. Through this effort, the City of Bellevue, Microsoft, and the University of Washington will develop a video analytics platform that could fundamentally transform how jurisdictions approach traffic safety analysis.

According to the partners, although traffic collisions can happen anywhere, there are often early warning signals in the form of near-miss events at specific locations. These signals could provide insight into when, where, and why crashes are most likely to occur, helping transportation professionals to better target safety improvement projects. The new technology in development offers unprecedented ways to map, manage, and analyze near-miss data in real time. This data will provide essential information so that governments can evaluate the effectiveness of current safety programs and pinpoint interventions.

The Video Analytics towards Vision Zero Partnership seeks to use available public agency traffic video and crowdsourcing from interested stakeholders who will annotate video clips to identify vehicle, pedestrian, and

bicycle movements at intersections. This is expected to inform the Deep Neural Networks algorithms Microsoft is developing and the deployment of a predictive crash analysis software tool that could be used in other locations with traffic cameras to detect near-miss crashes. Safety countermeasures could then be proactively implemented.

ITE, along with ITS America and the Vision Zero Network, have agreed to host a public-facing webpage that links to the video annotation user interface. We encourage our members to participate in the crowdsourcing platform when it is launched in the coming months. Stay tuned for more details once the site is available through all of ITE's communication channels.

Please join ITE and ITS America at a discussion on the Video Analytics towards Vision Zero Partnership during the week of the Transportation Research Board Annual Meeting. ITS America is hosting a lunch meeting in their Washington, DC, USA office on Monday, January 9, from 12:15 p.m. to 2:00 p.m. Please RSVP by contacting Annie Chang at achang@itsa.org.

More information can be found at www.bellevuewa.gov/pdf/Transportation/Video_Analytics_towards_Vision_Zero.pdf. [itej](#)

High-Cube Warehouse Vehicle Trip Generation Report Available

ITE received funding from South Coast Air Quality Management District (SCAQMD) and NAIOP (National Association of Industrial and Office Properties) to help in the establishment of national guidance for the estimation of vehicle trip generation at what are commonly called high-cube warehouse distribution centers (HCW). The product of that effort is posted on the ITE Trip and Parking Generation web page at www.ite.org/tripgeneration and in the ITE e-Library at <http://bit.ly/2hAIR1g>.

The report presents the results of analyses of vehicle trip-making at several subsets of HCW types. The analysis was able to identify some trip generation relationships and identified specific additional data needs that could lead to additional conclusive findings. HCW is one of the land use categories for which ITE has specifically requested data in the recent call for Trip Generation Data. [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 msaglam@ite.org. Good luck! **itej**



WILLIAM P. JONES

ITE EVENTS DURING TRB WEEK

January 7–10, 2017 | Washington, DC, USA

A complete list of the places and times for all ITE meetings and events taking place during the Transportation Research Board (TRB) Annual Meeting is available on the ITE website at www.ite.org/calendar/trb.asp.

ITE'S OPEN HOUSE RECEPTION FOR STUDENTS

January 9, 2017 | Washington, DC, USA
ITE Headquarters

ITE's Open House Reception for Students will take place on Monday, January 9 from 6:00–8:00 p.m. ET at ITE Headquarters. This event is a great opportunity to meet with other ITE student chapters and fellow students pursuing careers as transportation professionals. You will also 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. RSVP at www.surveymonkey.com/r/HTYHW7M.

ITE DISTRICT AND SECTION MEETINGS

SOUTHERN DISTRICT ANNUAL MEETING

March 26–29, 2017 | Columbia, SC, USA

TEXAS DISTRICT SPRING MEETING

April 19–21, 2017 | Frisco, TX, USA
Embassy Suites, Frisco Convention Center

MID-COLONIAL DISTRICT ANNUAL CONFERENCE

April 23–25, 2017 | Baltimore, MD, USA

NORTHEASTERN DISTRICT ANNUAL MEETING

May 10–12, 2017 | Vernon, NJ, USA
Crystal Springs Resort Minerals Hotel

ITE INTERMOUNTAIN SECTION ANNUAL MEETING

May 18–20, 2017 | Jackson, WY, USA
Snow King Resort

WESTERN DISTRICT ANNUAL MEETING

June 18–21, 2017 | San Diego, CA, USA

MIDWESTERN DISTRICT ANNUAL CONFERENCE

June 18–20, 2017 | Madison, WI, USA
The Concourse Hotel

SAVE THE DATE!

JOINT ITE/CITE 2017 ANNUAL MEETING AND EXHIBIT

July 30–August 2, 2017 | Toronto, Ontario, Canada
Sheraton Centre Toronto

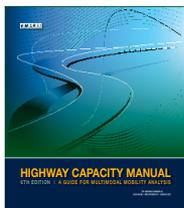
ITE 2018 ANNUAL MEETING AND EXHIBIT

August 20–23, 2018 | Minneapolis, MN, USA
Hilton Minneapolis



Professional Development Opportunities

Implementing the New 6th Edition of the Highway Capacity Manual (HCM 6): An ITE Learning Hub Webinar Course



Developed in collaboration with the Transportation Research Board (TRB), the SimCap Standing Committee of the ITE Traffic Engineering Council, and ITE fundamental webinar program presents the new analysis procedures incorporated into HCM 6 and why these tools are vital to helping analyze today's

transportation problems; and discusses the implementation of the HCM 6 in various settings, such as reliability, multimodal facilities, freeways, alternative intersections, interchanges, active traffic and demand management, and interrupted flow facilities.

**Webinar fee—ITE member price:
\$99; non-member price: \$149**

**Entire Course—ITE member price:
\$499; non-member price: \$799**

State DOT employees have complimentary access to this webinar program. RSVP by clicking on the link on the registration page to receive the necessary promo code.

Schedule of Remaining HCM Webinars



January 24, 2017, 3:00–4:30 p.m. ET

Estimating FAST Act Reliability Measures with the HCM 6

February 7, 2017, 3:00–4:30 p.m. ET

Multimodal Performance – How the HCM 6 can support complete streets analyses

February 21, 2017, 3:00–4:30 p.m. ET

Intersection Control Evaluation (ICE) Part 1 – Using the HCM 6 for intersection performance evaluation

March 7, 2017, 3:00–4:30 p.m. ET

Intersection Control Evaluation (ICE) Part 2 - Evaluating and pre-screening alternative intersection and interchange concepts using HCM6

March 21, 2017, 3:00–4:30 p.m. ET

Corridor Planning powered by HCM 6

Upcoming Webinars

**Pedestrian and Bicycle Safety in
Parking Facilities – An ITE
Informational Report Webinar**

January 25, 2:00–3:00 p.m. ET



IN THE KNOW

**Implementation Success Stories:
How SHRP2 is Helping Agencies
Advance Operations**

February 8, 3:00–4:30 p.m. ET

Professional Development Opportunities

Protected Bikeway Design: An ITE Practitioners Guide & Lecture Series

There are numerous design guides that have been produced in the past decade for the design of bicycle infrastructure. The most recent guidance includes substantially more information about protected bike lanes due to the strength of their demonstrated outcomes. These facilities, also referred to as separated bike lanes and cycle tracks, have been shown to improve safety, user comfort, operations, equity, and mode share.

With the additional guidance and approvals from authorizing agencies, growth in protected bike lane miles/kilometres has been significant. However, transportation professionals are having questions about the specific design and operational details that many of the guides do not include.

This webinar series addresses these gaps focusing on 5 priority areas: safety; mid-block protection; intersections; maintenance; and implementation. While much of the application of protected bike lanes has been in urban areas, guidance for suburban contexts is discussed as well.

Individual Webinars— ITE member price: \$149; non-member price: \$199

Entire 6-part Webinar Series—Save more than 30%! ITE member price: \$499; non-member price: \$799

Schedule of Webinars

January 17, 3:00–4:30 p.m. ET
Safety Performance

January 26, 3:00–4:30 p.m. ET
Mid-Block Design & Operation

February 9, 3:00–4:30 p.m. ET
Intersection Design & Operation

TBA
Maintenance

TBA
Implementation

Keeping the MUTCD Up to Date Webinar Series

Since the last edition of the *Manual on Uniform Traffic Control Devices* (MUTCD) was published in 2009, the Federal Highway Administration has published several key resources intended to help keep the content of the MUTCD relevant and up to date. This introductory webinar will describe these important tools (including Revisions, Interim Approvals (IAs), Official Interpretations, Experimentations, and FAQs), how they can be used, and the “risks” involved in applying them. It will also provide a general overview of existing IAs and a discussion of how IAs are developed. The FHWA experimentation process will be described and the need for research on the application of new traffic control devices will also be promoted. Participants will benefit from a practitioner’s perspective on the application of these important MUTCD related tools.

The first webinar is free.

Subsequent webinar fees: ITE member price: \$99; non-member price: \$149

Schedule of Webinars

January 18, 3:00–4:30 p.m. ET
Looking Beyond the 2009 Edition of the MUTCD: New Flexibilities for the Practitioner

February 2, 3:00–4:30 p.m. ET
Keeping the Pedestrian and Bicycles Safe: New MUTCD Provisions

February 15, 3:00–4:30 p.m. ET
Looking Forward: Exploring New and Emerging Traffic Control Devices



KICKING OFF THE 2017 ITE COLLEGIATE TRAFFIC BOWL SEASON

By John Davis, P.E., PTOE

A trip to the 8th Annual Collegiate Traffic Bowl Grand Championship is the prize for students who compete and win their ITE District Collegiate Traffic Bowl! The winners of each District traffic bowl will compete in the Traffic Bowl Grand Championship during the Joint ITE/Canadian ITE (CITE) 2017 Annual Meeting and Exhibit this summer, July 30–August 2, 2017, in Toronto, Ontario, Canada. As a reward for the hours of studying and hard work, each student team competing in the Grand Championship will be given complimentary registrations to attend the Joint ITE/CITE 2017 Annual Meeting and Exhibit, individual and team certificates, and participant t-shirts. The student team winning the Grand Championship will receive a plaque to display at their school and a cash award of \$2,000 (USD). Their school's name will be engraved on the grand champions trophy, the Voigt/Davis Cup. The 2017 ITE Collegiate Traffic Bowl Grand Championship will test a



Student teams at the 2016 Traffic Bowl Finals in Anaheim, CA, USA.

team's knowledge in transportation engineering and planning, but most importantly support fun learning while promoting transportation, education, and ITE. Over the next several months, student teams will compete at their District Traffic Bowl to represent their

ITE District in July in Toronto. The nine District winning teams will compete with three advancing to the final match to be named the ITE Traffic Bowl Grand Champion!

what people are saying

Students who participated in recent International Annual Meeting and Traffic Bowl Grand Championships have remarked:

"Exciting, edge-of-your-seat action and friendly and well-spirited competitors."

"I really enjoyed getting to hang out with teams from other schools in order to get to know them and get an idea of other transportation engineering programs."

"I greatly enjoyed meeting so many people, including the leaders of ITE, fellow competitors, and many other participants of the conference."

"I really enjoyed the experience of going through the traffic bowl and the Annual Meeting. I appreciated the energy and acceptance of students that ITE has provided, and I can't wait to engage in more ITE events. I was talking with one of my fellow students, and she shared (which I also believe) that after the meeting we just couldn't wait to graduate and start working on these projects and ideas we were exposed to at the meeting. We found it very inspirational and motivating!"

If you would like to get involved to prepare clues, in conducting events, and contribute to our wonderful transportation profession, please contact your District's traffic bowl coordinator. See you in Toronto!



The winning team of the 2017 ITE Collegiate Traffic Bowl Grand Championship will get their school's name engraved on the grand champions trophy, the Voigt/Davis Cup.

PHOTOS COURTESY OF ZAKI MUSTAFA



2017 District ITE Collegiate Traffic Bowl Season

District	2017 Event Dates	Event Location	Coordinator	Email Address
1. Northeastern	March 23	Brooklyn, NY, USA	Steve Gayle	Steven.Gayle@rsginc.com
2. Mid-Colonial	April 23–25	Baltimore, MD, USA	Nicole Kline	nkline@mcmahonassociates.com
3. Great Lakes	April 18–19	Ann Arbor, MI, USA	Ryan Bush	rbush@msconsultants.com
4. Midwestern	June 18–20	Madison, WI, USA	John Davis	DavisJ@AyresAssociates.com
5. Southern	March 26–29	Columbia, SC, USA	Richard Caudle	richard@skipperinc.com
6. Western	June 18–21	San Diego, CA, USA	Danielle Scharf	dscharf@sandersonstewart.com
7. Canadian	July 30	Toronto, ON, CAN	Edward Soldo	esoldo@cite7.org
9. Texas	April 19–21	Frisco, TX, USA	Robin Osborne	robin.p.osborne@kimley-horn.com
10. Florida & Puerto Rico	June 21–23	Naples, FL, USA	Vishal Kakkad	vishal.kakkad@mymanatee.org
ITE Grand Championship	July 31	Toronto, ON, CAN	John Davis	DavisJ@AyresAssociates.com

Additional information regarding the 2017 competition can be found on the ITE website at www.ite.org/trafficbowl. On this site, you will find the 2017 rules and instructions; current locations and dates for the upcoming District Traffic Bowls; and links to video highlights from previous Grand Championships. Start planning now to get your team together and prepare to participate! The first District Collegiate Traffic Bowls begin in late March or early April. The 2017 dates and locations for the District Traffic Bowls are shown above.

ITE District annual or seasonal meetings generally coincide with their traffic bowls, so take advantage of these amazing opportunities

by attending your District’s meeting to learn more about ITE, transportation engineering and planning, meet prospective employers, and even have some fun. Additional information regarding the 2017 competition and any changes to the schedule will be posted to the ITE website at www.ite.org/trafficbowl.

During the 2016 season, **62** ITE student chapters and more than **210** students from universities in the United States and Canada competed in District and Section traffic bowls. Since 2009, **102** student chapters have participated in a section or district traffic bowl event, and the Traffic Bowl Grand Championship has become extremely popular!

In an outstanding effort that was again decided for the second year in a row at the final clue, the Purdue University team, with a one-point margin of victory, was declared the 2016 Grand Champion. Teams from Cal Poly San Luis Obispo and Clemson University also advanced to the championship match and finished second and third respectively. It was Clemson’s first appearance in the final match, and both Purdue and Cal Poly were making their second appearances! **itej**

The Collegiate Traffic Bowl Program was created by the ITE International Board of Direction to foster competition between student chapters and increase awareness and participation of students in ITE. The objectives of the ITE Collegiate Traffic Bowl are to encourage students to become more active members in ITE, to enhance their knowledge of the traffic/transportation engineering and planning profession and ITE itself, and to strengthen the programs of the ITE student chapters. We hope all attendees, students, and professionals have fun. Follow us at: @ITETrafficBowl and get full details at www.ite.org/trafficbowl.

learn more



The winning Purdue team with Paula Flores Benway, John Davis, and John Kennedy, pictured left to right.

INTRODUCING THE 2017 CLASS OF LEADERSHIPITE



This January, *LeadershipITE* will kick off with the 25 new participants gathering at ITE Headquarters for their first workshop. Now entering its fourth year, the *LeadershipITE* program was developed to identify, develop, and engage leaders for the future of ITE and the transportation profession. ITE congratulates the following members of the 2017 *LeadershipITE* class and looks forward to their active involvement this year.



Clark B. Bailey, P.E., PTOE serves as the traffic engineering leader for the Gulf Region at Volkert, Inc. Prior to working at Volkert, he was a project manager at Skipper Consulting. Clark earned his bachelor's and master's degrees in civil engineering from Auburn University. His experience in traffic engineering includes arterial improvement projects including innovative intersection projects, access management studies, developing and implementing coordinated signal timings, and experience with adaptive signal systems. In addition, he has been involved in numerous traffic impact, parking, safety, bicycle, and pedestrian studies. Clark currently serves as the 2017 President of the Alabama Section of ITE. Clark lives in the Birmingham, AL, USA area with his wife and three boys.



Tom Baumgartner, P.Eng. is a transportation engineer and manager of Watt Consulting Group's (previously Boulevard Transportation) Okanagan, BC, Canada office. He received his master of science (2011) in transportation engineering and bachelor of science (2008) in civil engineering from the University of Manitoba.

Tom's passion in transportation is to design safe, efficient, and valued systems for communities. He has led projects on traffic calming, transportation master planning, pedestrian and cycling facilities, road safety reviews, urban streetscape designs, traffic impact assessments, and traffic management plans. His leadership roles have included ITE co-chair of the *TAC/ITE Traffic Calming Guide* update, ITE BC Interior Chapter Executive, 2016 Canadian ITE Kelowna Conference local arrangements committee, and vice chair of the Transportation Association of Canada Joint Active Transportation Subcommittee.



John P. Denholm III, P.E. PTOE is a project manager in the Dallas, TX, USA office of Lee Engineering. John earned a bachelor's degree in mathematics at the University of St. Thomas in Houston, and a master's degree in civil engineering from Texas A&M University. John was employed by the Texas A&M Transportation

Institute during graduate school and has been with Lee Engineering for more than 15 years. John currently serves as the section representative for the Greater Dallas Section of TexITE. He previously served as the section president, vice-president, secretary/treasurer, and was the section webmaster for 10 years. John began his involvement with ITE as the Texas A&M University student chapter librarian and webmaster.



Praveen Edara, Ph.D., P.E., PTOE is a James C. Dowell associate professor in the Civil Engineering Department at the University of Missouri-Columbia (UMC). He also serves as the director of graduate studies for the department. Prior to joining UMC, he worked as a research scientist for the Virginia Department of Transportation and as a research contractor for the Federal Highway Administration. Praveen currently teaches and conducts research in the areas of freeway traffic operations, intelligent transportation systems, work zone driver behavior, innovative intersection designs, and network disruptions and evacuation. A project he recently led on evaluating safety of diverging diamond interchanges was selected as a 2015 "Sweet Sixteen" High Value Research Project by the American Association of State Highway and Transportation Officials and was also awarded the 2015 best paper by the Transportation Research Board's committee on Operational Effects of Geometrics. He is a licensed professional engineer in Missouri and a certified professional traffic operations engineer. He is active in the Central Missouri Chapter of ITE.



Oscar Michael Garza, P.E., PTOE received his bachelor of science in civil engineering from the University of Texas at San Antonio in 2007. He has served as the San Antonio Division Manager for Dannenbaum Engineering Corporation for the last five years and previously worked with the Texas Department of Transportation. In 2013, he was selected by the American Society of Civil Engineers as one of ten individuals in the United States recognized as a New Face of Civil Engineering. In 2014, he received the Texas District of ITE "Younger Member of the Year" Award, and in 2015 he received an ITE Rising Star Award.



Jodi A. Godfrey, E.I. is currently a research associate at the Center for Urban Transportation Research at the University of South Florida (USF). She received her bachelor's and master's degrees in civil engineering from USF in 2013 and 2015 respectively. Jodi worked as a student research assistant throughout her undergraduate and

graduate studies. As a student, Ms. Godfrey held several positions of the USF Student Chapter of the ITE Executive Board, including president, vice president, and public outreach chair.



Enrique Gonzalez-Velez, Ph.D. has a doctorate in civil engineering from the University of South Florida with an emphasis on traffic operation and safety research. He also holds a master's of science and a bachelor's of science in civil engineering from the University of Puerto Rico at Mayaguez (UPRM). After completing his doctorate, Enrique worked at Sam Schwartz Engineering (SSE) as a transportation engineer. He is currently an assistant professor of the Civil Engineering and Surveying Department at UPRM, co-advisor of the UPRM ITE Student Chapter, and co-director of the Dwight David Eisenhower Transportation Scholarship awarded by the Federal Highway Administration at UPRM. In addition, he is a member of the Transportation Research Board Standing Committee on Transportation Education and Training (ABG20) and a member of the Transportation Safety and Education ITE Councils. Enrique was treasurer of the ITE Puerto Rico Section and is currently serving as vice president in 2017.



Joseph (Joe) Gregory, P.E. manages the second Strategic Highway Research Program (SHRP 2) effort, Organizing for Reliability, for the Federal Highway Administration (FHWA) Office of Operations. As a graduate from the University of Tennessee, Joe has held positions in numerous offices in FHWA, including the Office of Asset Management and as a field engineer in the Utah Division.



Russell (Rusty) Holt, P.E., PTOE graduated from Purdue University with a degree in civil engineering in 2003. Rusty has 13 years of experience in roadway design and traffic engineering, and he has worked for CHA in Indianapolis, IN, USA since 2008. He manages the traffic engineering section as well as leading several projects ranging from traffic impact studies to roadway expansion projects. Rusty and his wife Tabitha have three children—Ella (age 8), Carter (age 5), and Weston (age 2)—who keep them very busy. In addition to serving on several committees within the Indiana ITE Section, he is also active within Special Olympics Indiana.



Nicole R. Kline, P.E., PTOE is a senior project manager at McMahon Associates, Inc., where she has been involved in transportation engineering since her graduation from the Pennsylvania State University in 2002. Throughout her career, Nicole has maintained

a continued involvement in the Mid-Atlantic Section of ITE and the Mid-Colonial District of ITE serving in the following leadership roles:

Mid-Atlantic Section of ITE

- Committee chair: Recognition/Awards Committee (2005–2008) and Eastern Area Programming Committee (2009–2010)
- Elected board member: Secretary (2011–2012), 2nd vice president (2013), 1st vice president (2014), president (2015), immediate past president (2016)

Mid-Colonial District of ITE

- District Traffic Bowl coordinator, 2010 to present
- District Student Chapter coordinator, new position created by the Board in 2016
- Mid-Atlantic section representative to the District Board, 2016



Jeffrey J. Kupko, P.E., PTOE has eleven years' experience in transportation engineering and has been with Michael Baker International for approximately one year. Prior to his current employer, he was at Gibson-Thomas Engineering for five years and Herbert, Rowland & Grubic, Inc. for five years. He holds a bachelor of science degree in civil engineering from the University of Pittsburgh in 2005 and a master of science degree in transportation engineering also from the University of Pittsburgh in 2015. He was the conference co-chair for the 2016 MASITE-ITSPA Joint Conference in State College, PA and served as the social co-chair for the 2016 Mid-Colonial District Annual Conference.



Steven (Steve) M. Lavrenz, Ph.D., E.I.T. is a technical programs specialist for the Institute of Transportation Engineers, working from ITE Headquarters in Washington, DC, USA. He has been with ITE since January 2016, where he also serves as the technical services manager for the National Operations Center of Excellence (NOCoE). Steve's technical work for ITE focuses on context-sensitive street design, traffic safety, and pedestrian and bicycle infrastructure. He is also engaged in a number of policy and advocacy areas on behalf of ITE and NOCoE, particularly in safety and transportation systems management & operations (TSMO). In addition to his time at ITE and NOCoE, Steve is an adjunct professor at the Catholic University of America and holds board positions for the Washington, DC chapter of Young Professionals in Transportation (YPT), as well as the American Society of Civil Engineers' Transportation & Development Institute Committee on Younger Members. Steve has bachelor and master of science degrees in civil engineering from Iowa State University, and a doctorate in civil engineering from Purdue University.



Jeffrey (Jeff) Lebsack, P.E., AICP is a 1991 graduate of the University of Pittsburgh. He started his transportation career with the Genesee Transportation Council (GTC) in Rochester, NY, USA, where he focused on bicycle and pedestrian planning. Jeff moved to Sear-Brown (now Stantec) in 1996, and he was involved in a wide range of traffic, safety, and corridor studies. Jeff joined Mott MacDonald in 2001 and is currently serving as a senior project manager.

Jeff served on the ITE New York Upstate Section Board from 2011 to 2016, and was co-chair for the 2015 Northeastern District Meeting in Albany, NY, USA. Outside the office, Jeff enjoys cycling, skiing, fishing, and hiking in the Adirondack Park in northern New York.



Scott Lee, P.E. is a founding member and CEO at IDAX, a data solutions provider for transportation professionals. He graduated with bachelor's and master's degrees in civil engineering from Montana State University. Scott spent nine years as a consulting engineer at Transpo Group in Kirkland, WA, USA before changing career tracks. He was prompted by the leadership opportunity, the fast changing world of data, and the potential to influence how data are acquired and presented to transportation professionals. Scott has served in leadership roles as a committee chair within the Washington ITE chapter as well as planning commissioner within his local community.



Whitney D. Nottage, P.E. is a senior traffic engineer for Intelight, Inc. In this role she is responsible for the day-to-day management of the Georgia Department of Transportation (GDOT) Statewide Signal Software Upgrade, as well as technical support for customers around the nation.

Previously, Whitney worked at Atkins where she served as corridor manager on GDOT's Regional Traffic Operations Program and managed several intelligent transportation systems (ITS) and signal design projects. She has a bachelor's degree in civil engineering from the University of Central Florida, is IMSA level II certified, and has her professional engineer's license in Florida, Georgia, and Alabama. Whitney has supported Georgia ITE (GAITE) in several roles including, membership chair, GAITE mentoring program committee member, Summer Seminar activities chair, technical committee, and more.



Sara E. Patterson, Ph.D., E.I.T., LEED AP holds a bachelor of architecture from Rensselaer Polytechnic Institute, and a master of applied sciences and doctorate of philosophy in civil engineering from the University of Delaware. After a post-doctoral position at the University of Delaware, Sara started working at Michael Baker International outside of Philadelphia, PA, USA in 2013. At Michael Baker, she focuses on design of bike/pedestrian facilities and highways. She was the president of the student chapter of ITE at University of Delaware, sits on the committee to organize the Mid-Colonial District's Annual Conference, and is the chair of the Nominating Committee of MASITE.



Cynthia (Cindy) M. Pionke, P.E., has served in the public sector for more than 25 years. She has been the director of Planning and Development for Knox County's Department of Engineering and Public Works for the past 18 years. Previously she had worked at the Knoxville/Knox County Metropolitan Planning Commission for seven years.

Cindy received her bachelor of science in civil engineering from the University of Tennessee and her master of engineering in civil engineering from the University of Texas at Arlington. Cindy is an active member at both the Section and District levels of ITE. Currently she leads the Members Services Committee at the District level.



Scott C. Poska, P.E., PTOE is a senior associate traffic engineer at SRF Consulting Group, Inc. in Minneapolis, MN, USA. He has more than 12 years of experience in traffic engineering and has been involved in a wide array of planning, design, and operations projects. He earned a bachelor's degree in civil engineering from Iowa State University in 2004. He has been involved in ITE since he was a student at Iowa State and is currently the North Central Section ITE Vice President. Scott is an avid hockey player, coach, and fan and enjoys traveling and adventures in the outdoors including hiking, backpacking, mountain biking, canoeing, and fishing.



Asheque Rahman is the efficient deliveries program manager within the Office of Freight Mobility for the New York City Department of Transportation (NYC DOT). Asheque was a project manager and a data management coordinator in his previous roles with NYC DOT. Asheque was also the logistics technology program manager for the NYC Emergency Management Depart-

ment. Asheque currently has multiple leadership roles with different organizations. These include being a member of the Committee on Advancing the Profession with the American Society of Civil Engineers and serving as one of the directors for Green Lyte United, a non-profit organization that is dedicated to serving the underprivileged members of the community. Asheque received his bachelor of engineering degree in environmental engineering from the City College of New York.



Suzanna I. Set, P.E. is a project engineer at Midtown Engineers in Houston, TX, USA, with more than nine years of transportation professional experience. Suzanna's ITE experience started at Washington University in St. Louis, MO, USA. There she received her master of science in transportation engineering in 2006 and bachelor of civil engineering in 2005. She has been an active member of the TexITE Greater Houston Area Section for the past five years, served as programs chair for two years, and currently serves as secretary/treasurer. Suzanna was awarded the 2015 TexITE Greater Houston Area Section Young Engineer of The Year.



Tracy Shandor, P.E., PTOE is a transportation engineer with Kimley-Horn in Atlanta, GA, USA. Tracy's career in transportation planning and engineering began at Kimley-Horn in Tampa, FL, USA after graduating from Georgia Tech in 2007. Tracy went on to work for CH2M and TADI in Chicago, IL, USA before returning to Kimley-Horn in 2014 and ultimately relocating to Atlanta in October 2016 to avoid the frigid temperatures in Chicago. Her nine years of experience include working with both public and private sector clients, ranging from small developments to multibillion dollar public infrastructure improvement projects. Tracy has served her local Section of ITE in a variety of positions, most recently as the Illinois section president and finance chair for the 2016 Joint Midwestern and Great Lakes District Meeting.



Kirsten Tynch, P.E., PTOE, LEED AP BD+C, ENV SP serves as the transportation manager for VHB in Virginia Beach, VA, USA. In her role, she oversees traffic engineering and roadway design efforts for private, municipal, state, and federal clients. Prior to joining VHB, Kirsten was the transportation practice leader for Woolpert, Inc. She has more than 24 years of experience and is a registered engineer in seven states and the District of Columbia. She obtained her bachelor and master of science in civil engineering from the University of Virginia.

Kirsten is a past president for the Southern District of ITE, Virginia Section of ITE, and Virginia Peninsula Post of the Society of American Military Engineers. Kirsten is married with 2 sons.



Ryan Vanderputten, P.Eng., is the director of transportation planning with the City of Calgary, in Alberta, Canada. During his nearly two-decade-long engineering career, Ryan has worked in both the public and private sectors, in Ontario, British Columbia, and Alberta (The City of Calgary, Ministry of Transportation Ontario, MMM Group, Urban Systems). He is a licenced professional engineer in Alberta and Ontario. Ryan has a bachelor's degree in civil engineering from the University of Waterloo, a master's degree in transportation engineering from the University of Calgary, and a master's certificate in Municipal Leadership from the Schulich School of Business from York University.

Ryan has been an active participant in three different ITE sections, two ITE chapters, and has served on the executive committee of the BC Interior Chapter and the Southern Alberta Section. In 2015, he founded Forest City Robotics, a program designed to encourage the development of science, technology, engineering, and mathematics (STEM) skills for youth through LEGO-based robotics design and programming. Ryan is a Fellow of ITE.



Yao-Jan Wu, P.E., Ph.D. is an assistant professor of transportation engineering and the director of Smart Transportation Lab in the Department of Civil Engineering and Engineering Mechanics at the University of Arizona (UA). He is the faculty adviser of the UA ITE Student Chapter. Before he joined UA, Yao was an assistant professor at Saint Louis University from 2011–2013 and founded their first ITE student chapter. Yao received his Ph.D. degree from the University of Washington in 2010 and was a postdoctoral researcher at the University of Virginia in 2011.



Aaron T. Zimmerman, PTP is a senior transportation planner with the District Department of Transportation (DDOT) in Washington, DC, USA. He holds a master's degree in transportation policy from George Mason University and a bachelor's degree in urban planning from the State University of New York at Albany. From 2008–2009, Aaron worked at ITE headquarters as transportation planning director. During that timeframe, he was instrumental in the founding of the organization Young Professionals in Transportation (YPT). In graduate school, he was a recipient of the Outstanding Student of the Year award by USDOT's University Transportation Center Program. Aaron currently serves on ITE's Young Member Committee. itej

Getting to Know ITE's Technical Programs 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.

ITE Council Support

ITE Technical Programs Division staff support the work of ITE's Coordinating Council, the hub for all technical activities conducted at the International level within ITE, and the work of its associated nine Councils. The mission of the ITE Councils is to enhance professional collaboration and advance the technical body of knowledge through communities of common interest. As part of this mission, the Councils develop products that are of interest and value to Council members, ITE members, and the transportation community as a whole. (See page 14 for a complete article explaining the ITE Councils.)

Volunteer members of the Councils and associated standing committees conduct the work to develop Council products, with support from ITE Headquarters staff in the ITE Technical Programs Division. Since Council work takes place in a mostly virtual environment, ITE technical staff play key roles in collaborating with all stakeholders within the transportation community and then providing the coordination, support, and logistics to help the Councils achieve their goals. Douglas E. Noble, P.E., PTOE, ITE's senior director of management and operations, and Courtney L. Day, ITE's professional development and coordinating council manager, are the

staff liaisons to the ITE Coordinating Council. Courtney serves as the administrative liaison to all councils, standing committees, and task forces, while Doug provides a technical perspective as needed. Other ITE technical staff serve as technical resources to help determine methods to deliver on product and activity ideas generated by a Council. These ideas may range from informational reports and recommended practices, to webinars and sponsored sessions at ITE's Annual Meeting and Exhibit.

Many Council products and activities are generated to meet the needs of the profession. One of the biggest success stories of 2016 regarding ITE Council work was the development and publication of the ITE Application Supplement to the National Association of City Transportation Officials (NACTO) *Transit Street Design Guide*. Conceived by the ITE Complete Streets Council, the Supplement was produced in just 8 months. ITE technical staff helped the Council engage NACTO members in the product's development and handled the logistics of the publication process. This serves as a great example of how ITE is continuing to build connections between our members and external organizations to create products that can help our members and transportation professionals, at large, find solutions. Other recent products developed through the combined efforts of Council volunteer work and ITE technical staff support include the *Traffic Engineering Handbook*, 7th Edition and the *Transportation Planning Handbook*, 4th Edition. The development of resources like these not only provides opportunities for ITE members to grow their career and make their voice heard, but also to advance practices within the transportation profession. [itej](#)

ITE Talks Transportation Podcast

New from the Thought Leaders in Transportation Podcast Series



Deborah Hersman

Deborah (Debbie) Hersman is president and chief executive officer of the National Safety Council. The National Safety Council saves lives by preventing injuries and deaths at work, in homes, communities, and on the roads through leadership, research, education and advocacy. Debbie is also chair of the newly launched Road to Zero Coalition, which has the goal of ending fatalities on U.S. roads within the next 30 years. Debbie talks about road safety, the Coalition, and the role we each play in achieving zero deaths on our roadways, with ITE serving on the Coalition's Steering Committee.



All episodes available at www.ite.org/learninghub/podcast.asp | Subscribe for free via iTunes at <http://apple.co/2hOUz8t>

Emilio J. Murga

Emilio J. Murga is an ITE student member at California State University, Fullerton (Cal State Fullerton). This month, he is leading the 4th Annual ITE Western District Student Leadership Summit being hosted at the university.

ITE JOURNAL: How did you first become interested in a career in transportation?

EMILIO MURGA: I have always been interested in transportation and civil engineering because of my father, who is a civil engineer. He taught me so much from a young age, and I would learn so much on days he would take me to work. I first considered it as a career when I was coming home late one night and was stuck at a red light for longer than I thought was acceptable. I started imagining all the things I could do to improve the intersection.

ITEJ: Where do you see your career headed after school?

EM: Since my father worked for a city, I had always been drawn to the public sector. However, when I joined ITE I learned about so many great companies that accomplish things outside of what can be done within the public sector. Ultimately, I want to work where I can make a difference in my community and work with others in a place that reflects that mindset.

ITEJ: How did you first become involved in ITE, and what has your experience been like?

EM: I first became involved when I transferred to Cal State Fullerton in 2014. I was attending American Society of Civil Engineers meetings and a group of students announced that there was a transportation club. I started meeting regularly with Elias Garcia, past ITE Cal State Fullerton (CSUF) Student Chapter president, and Adrian Cortez, a senior Chapter officer. I helped with what I could and not long after they invited me to attend the 2nd Student Leadership Summit (SLS) at Sacramento State in February 2015. That weekend I met

so many incredible students and professionals, and I was exposed to the vast expanses of transportation.

The next year I became the Student Chapter President and led a group of students at the 2016 SLS at Cal Poly Pomona. During that weekend we were motivated by numerous students and professionals to apply to host the following SLS. Jamieson Gorospe, our Chapter's past vice-president and current president, and I never imagined we would be considered. Our Chapter was founded in 2012, had a moderate presence on campus, and was smaller than Chapters that hosted previously. However, after a well-received application and a good interview we were awarded the 4th Annual SLS. SLS originator Kaylinn Pell (Roseman) advised us to promote our event at the 2016 Western District Annual Meeting in Albuquerque, NM, USA and the International ITE Meeting and Exhibit in Anaheim, CA, USA. Attending both helped promote the SLS tremendously and also helped expand the Chapter.

ITEJ: What has your experience been like as director of the 2017 SLS?

EM: My experience has been rewarding and challenging. I've assembled a team of dedicated students, many of whom have little experience organizing events on this scale and haven't attended weekend-long events. I keep track of many tasks and deadlines, and it has been intense during finals with the event one month away. However, it has helped me appreciate the work and dedication of previous hosting Chapters. Furthermore, I have been acquainted with so many wonderful students and professionals eager to contribute.



ITEJ: What would you like fellow students to get out of the Summit?

EM: I want students to leave with the excitement I have for transportation and ITE. I first had thought that Elias Garcia, CSUF ITE Founder and past President, was exaggerating all the benefits I would get from attending my first SLS, but upon returning I realized he had undersold it. I want students to realize all the avenues of possibilities within transportation and how they are tied profoundly to our culture. I want students to return to their Chapters invigorated to continue their education and realize their career has already begun. I want them to be concerned with how they can improve the aspects of transportation they find unsatisfactory, rather than being afraid of landing that first job. I want them to feel comfortable with professionals and remember that those professionals were students once too. I want smaller ITE Student Chapters to be inspired to grow, and for the larger ITE Student Chapters, like Cal Poly Pomona and Cal Poly San Luis Obispo, to continue encouraging and helping smaller chapters to grow and prosper. [itej](http://itej.org)

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INDUSTRY NEWS

U.S. Congress Passes Stopgap Funding Measure

The U.S. Senate completed work late on December 9, 2016 on a continuing funding resolution that would keep most federal programs operating at fiscal 2016 levels through April 28, 2017. That sent the measure to President Obama just in time to avoid a shutdown of most federal agencies that could have taken place starting December 10, 2016. Its passage means state departments of transportation and transit agencies will not be able to tap into the scheduled funding hikes that were originally to begin October 1, 2016 under the Fixing America's Surface Transportation (FAST) Act that Congress authorized and funded in 2015.

The stopgap continuing resolution includes \$1 billion for the Federal Highway Administration's emergency relief account, which it often taps to provide initial or "quick-release" funds to state DOTs to help with immediate costs in the aftermaths of major storms or other natural disasters. The delay into 2017 allows states and transit agencies to access about 55 percent of the federal highway and transit funding they received in 2016. However, it also means states cannot tap those increases in highway and transit funds that Congress provided for fiscal 2017 in the FAST Act until well into the period when they plan their yearly project schedules. The delay will allow the incoming Trump administration to weigh in on current-year budget issues after Donald Trump assumes the presidency on January 20, 2017.

Cambridge Systematics Expands Economics Practice

In the firm's mission to partner with clients to solve today's most pressing challenges and shape the future of transportation, Cambridge Systematics recently expanded its economics practice. To provide rigorous economic analysis to projects and clients across its practice areas, the firm has developed the Economics Service Center. Dr. Paula Dowell, principal, leads the Center, bringing more than 20 years of experience conducting economic analysis. Dr. Dowell's team also includes Transportation Economist Joshua Hoodin, Senior Freight Transportation Economist Isabel Victoria-Jaramillo, and the team's newest addition, Transportation Economist Javier Sarriera.

With the new federal requirements outlined in the Fixing America's Surface Transportation Act and the requirements of Moving Ahead for Progress in the 21st Century (widely known as the FAST Act and MAP-21), state departments of transportation, metropolitan planning organizations and regional and local agencies face increasing pressure to conduct analysis and demonstrate the economic impact of transportation investments. "We saw the need and opportunity to increase our capacity to provide our clients with reliable economic analysis performed by a dedicated team of economists," said Steve Capecci, Chief Operating Officer. "Dr. Dowell has assembled an outstanding team ready to deliver strong and defensible analysis."

TTI Awarded Major FHWA Safety R&D Contract

The Texas A&M Transportation Institute (TTI) has been awarded a major multiyear, multimillion-dollar contract by the Federal Highway Administration (FHWA) Office of Safety Research and Development. The contract, which could provide as much as \$50 million in funding over the next five years, supports the FHWA's Office of Safety R&D in its efforts to determine why traffic crashes occur and understand what affects the severity of injury outcomes.

"For more than 65 years, TTI has been a leader in the highway safety and highway infrastructure areas through successful implementation of innovative research," says TTI Senior Research Engineer Kay Fitzpatrick, who will serve as the project's co-principal investigator, along with TTI Senior Research Scientist Sue Chrysler. "For this contract, TTI assembled and will lead a carefully chosen team that offers the best from both the academic and consulting worlds with the added implementation and outreach capabilities of one of the largest international communities of transportation professionals, the Institute of Transportation Engineers."

ITS Plus Gives Back to Communities

Mike Hutchison, founder of ITS Plus, Inc. claims he has led a fortunate life. As a first generation American he worked his way through the University of Texas at Austin, studying to be an electrical engineer. Out of school he worked in the semiconductor industry for 15 years (HP and TI) then started his first transportation company in 1997. While ITS Plus has been growing at triple digit rates for the past several years, his first company grew even faster.

Mike shares, "I draw \$1 in salary from ITS Plus. I stay employed because we have a phenomenal staff, a product that makes a difference, and I enjoy working with our customers. I have used the proceeds from my companies to fund a number of nonprofit organizations. To date we have provided more than a quarter of a million dollars in charitable contributions."

Mike states, "Recently it occurred to me our customers are the ones that have enabled me to pursue my philanthropic interests. Why aren't I doing something to give back to them since they have been helping me?"

Beginning in 2017, any agency that purchases ITS Plus equipment can enroll in the ITS Plus "Give Back to the Community" program. A certain percentage of the sales will go to local charities within the agency's area. "We have a fantastic product and staff. But we can always do better."

For more information about ITS Plus's Give Back to the Communities Program visit www.ITSPlus3.com/give-back. itej

NEW PRODUCT

\$9K ITS Plus Vehicle Detection System Outperforms \$30K Radar/Video Hybrids

The latest vehicle detection system from ITS Plus offers the performance of a Radar/Video hybrid at a fraction of the price. By utilizing dual operating detection algorithms the company can provide simultaneous advanced detection to 1,000 ft., stop bar detection, and vehicle counts. Ethernet connectivity via a single IP address allows remote adjustment as well as monitoring of the intersection from a traffic management center (TMC). Two weeks of data storage in 15 minute increments can also be downloaded remotely or via a laptop.

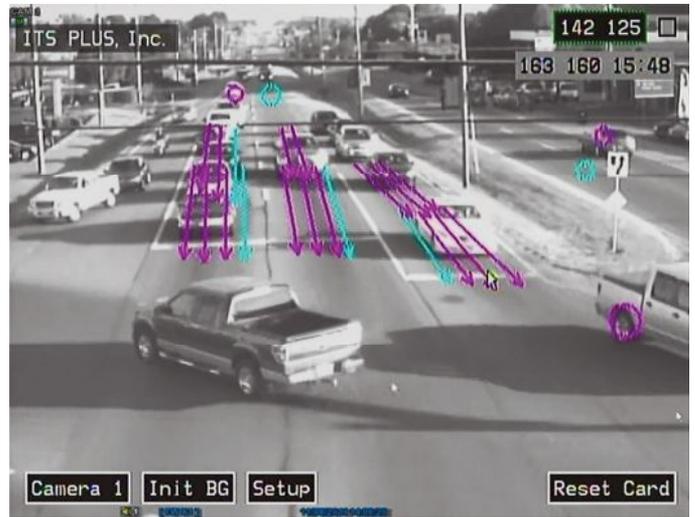
The City of Austin, TX, USA is converting half of the city's 1,000 intersections to the ITS Plus system. Jim Dale, Managing Engineer, Arterial Management Division for the city stated, "The product just seemed too good to be true. We tested 8 intersections for over a year and a half and it has performed as advertised." Austin is rolling out multiple Adaptive Control corridors coupled to the ITS Plus system.

Robert Saylor, Traffic Engineer for the City of Richardson, TX, USA claims, "The key to any Adaptive System is providing accurate data. We tested ITS Plus against every video system on the market for use in Adaptive Control. No other system could provide their level of performance; at any price. The system we tested was under \$7K for a complete 4 way intersection." This price included 4 detection cards with Ethernet, cameras, 1,000 ft. of cable, surge panel, and mounting hardware; a complete intersection solution.

Ease of installation is also key. Guadalupe Alvarado, signal supervisor for the City of Austin, states, "The system is easy to use and the support is excellent. ITS Plus has been granted access via our VPN to remotely make adjustments. Their staff has been able to address issues in real time while sharing the details with my staff."

Like a radar system, ITS Plus also addresses the glare and lens cleaning issues common to traditional cameras. "At certain times of the year the City of North Las Vegas has had to place intersections into recall for one to two weeks to deal with road glare," stated Jeff Freels, signal supervisor. "About 5 years ago we began using ITS Plus equipment and since then the problems have gone away."

Israel Toro, Signal Supervisor with the City of El Paso also echoes Jeff's comment. "We have hundreds of ITS Plus cameras in the field. In 11 years we have never cleaned a single camera. Our desert environment can create high maintenance for traditional cameras, but not the ITS Plus system."



ITS Plus Dual Detection Algorithms: Circle Zones are optimized for counting and advanced detection to 1,000 feet, while Line Zones perform stop bar detection.

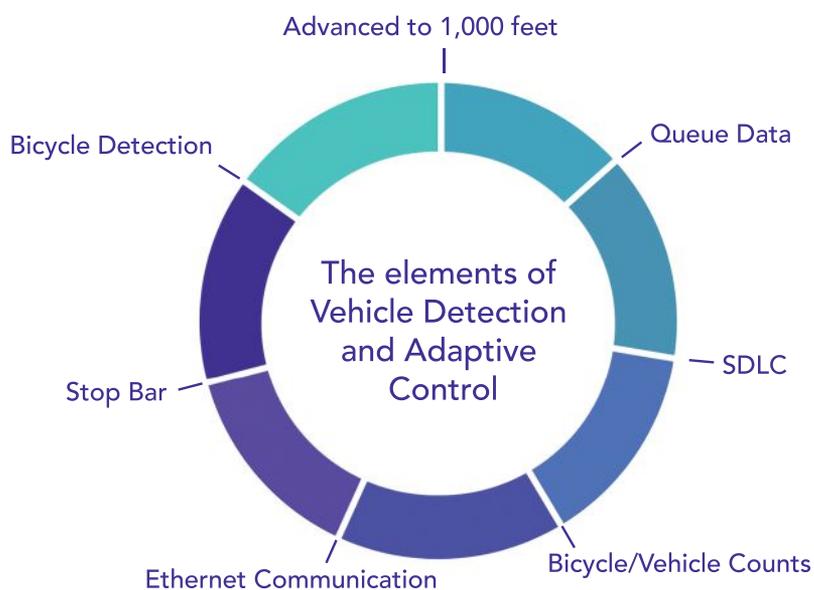
Chris Groth, Assistant Signal Supervisor in Douglas County, CO, USA has been utilizing ITS Plus for replacement of traditional cameras for more than 7 years. Chris claims 90 percent of the problems we have with video detection is the camera, not the card. "The lenses gets dirty, the cameras get knocked out of alignment by strong winds, connectors fail, power supplies fail, or they fill with water. ITS Plus is the only VIVDS system to have solved these maintenance and reliability issues."

"Replacing traditional VIVDS cameras with ITS Plus cameras is about half of our sales," says Staci Ingram, National Sales Manager for ITS Plus. "Years ago most agencies started off with loops, then went to video detection. However, video detection had many performance and maintenance issues. As a result many agencies either went back to loops or to more expensive technology such as radar and thermal cameras. ITS Plus listened to what the customers were saying, then took a different architectural approach and it has paid off. As word of our technology has spread we have been growing at triple digit rates. Last year was a record year for the company and this year will be well over 300 percent of last year."

For more information about ITS Plus's Vehicle Detection products visit www.ITSPplus3.com. [itej](http://itej.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 Michelle Birdsall at mbirdsall@ite.org. When contacting a manufacturer/distributor for more information, please mention that you learned about the product in *ITE Journal*.

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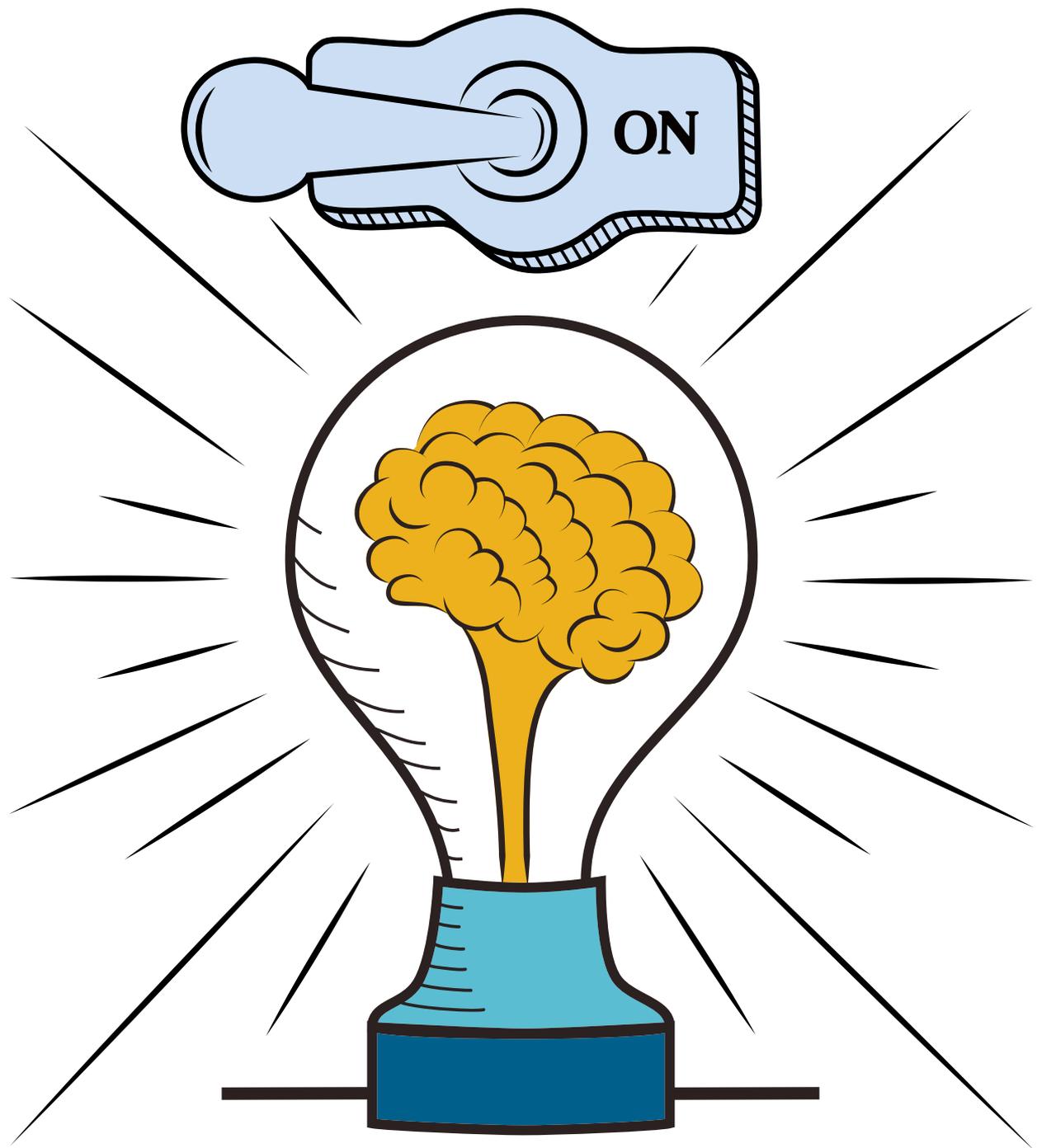
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Flip the Switches in the Brain: 5 Ways to Motivate Your Team, Staff, or Client

BY SHELLEY ROW, P.E., PTOE



The transportation consulting firm suffered from mismanagement. The new manager, Joan, walked into a declining client base, a mass exodus of staff, demoralized remaining staff, and a lack of organizational vision for her unit.

You may not face challenges of this magnitude, but you are likely to have a team or person who could use inspiration or a client who needs to feel the love. You have more control than you may think once you know how to skillfully engage the brain.

Think of it like this—the brain has two electrical circuits—one activates feelings of reward and the other activates feelings of threat. Whether it is with staff, teams, or clients, the reward circuit is the more reliable, long-term motivator of behavior. Unfortunately, the threat circuitry (via the amygdala) is more easily activated. With the slightest provocation, that circuit is quickly set into motion. This is the way we're built and why we've survived for so long.

The good news is that you can, with practice, consciously activate the reward circuit (via the ventral striatum). Here are five switches—the five Cs—that you can flip to activate the brain's reward or threat circuitry.

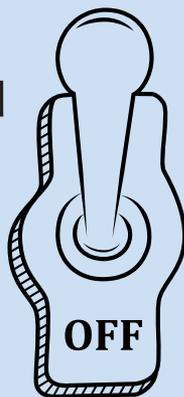
Brain Switches that Activate Reward and Threat Responses

Reward

Certainty
Control
Connection
Clout
Consistency

Threat

Uncertainty
Lost control
Disconnected
Lost clout
Inconsistency



Certainty and uncertainty. There's a reason that you experience resistance to change. The brain wants its world to be as expected based on its history. The brain constantly scans its environment for anything expected. If the brain is certain of the present and future, it feels comfortable. But with uncertainty, alarms go off.

Situations that create a sense of uncertainty happen frequently, such as lack of transparency, no information shared from management, no performance feedback, leadership instability, and ad hoc policies and procedures. How can you as a manager create more certainty during uncertain conditions?

Let's look at Joan's situation. Previous management lacked clear direction, many staff are now gone, and those who are left worry about the future. They need certainty at a time when she too is uncertain. However, there is more certainty than may be obvious. Joan knows how to grow the business. She knows how to nurture client relationships and how to recruit top talent. She can provide a sense of certainty by clearly and confidently validating staff concerns (validation takes the sting out of emotion) and sharing her plan. She might say, "I know you are concerned about the future of our organization. Admittedly, we are not as well positioned as we could be. Here are three things we will be doing to move forward. We will schedule regular visits to each client; we will pool our connections to find and recruit new talent; and we will retool our project management process to ensure on-time, high-quality work. This will reposition us as a respected consultant in our industry."

For government employees, administration change creates uncertainty. Will the new leadership be easy or tough to work with? Will they be supportive of key projects? As the manager, you don't know the answers. But you activate certainty when you say, "We don't know much about the in-coming administration. But here's what we *do* know. We do good work; we have a solid staff; and we will prepare information to clearly and concisely explain our work." (Note: The clear action step activates both certainty and control.)

Here are a few ideas to enhance feelings of certainty: Establish a clear timeline for a new project; provide frequent feedback to staff; be transparent about what you know or don't know; articulate a clear vision for the office; or implement repeatable processes.

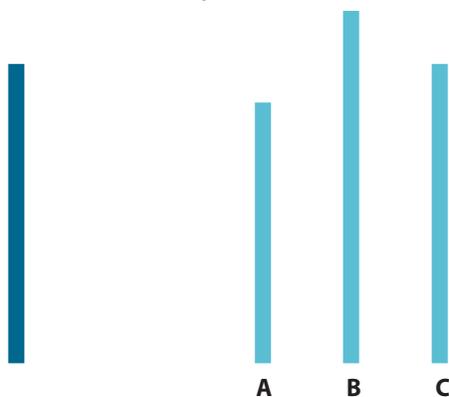
Control and lost control. The brain likes to feel in control so take advantage of it. Give others a sense of control to active reward circuitry. You don't even have to give away *full* control. You might release control of the process but retain control over the final product. For example, a friend's son takes growth hormone shots six days a week. He has no control over that; however, his mom let him pick the one day of the week without a shot. Now he has a level of control over his situation. How can you apply that principle?

Back in Joan's office, having provided certainty on next steps, she would be wise to give staff control over how to implement them. She might specify monthly client visits while staff control the agenda and schedule for the meetings. As she considers revamping the project management process, her staff are resistant. (Resistance is normal. The brain is designed to do what it's always done because

it's easier, faster, and takes less brain energy. Feelings of reward help overcome resistance.) What can Joan relinquish control over? Perhaps she asks staff to create metrics for an updated project management process, research software packages, and bring recommendations to the group.

Take a few minutes to come up with creative ways to give over real, partial, or perceived control to activate a reward response. For a client or citizen who is unconvinced of the merits of a project, you could ask them to set a trial period, to define the parameters for moving forward, or define when to pull the plug. It puts them in control of some parts of the work.

Connection and disconnection. As technical professionals, we favor logic; however, we are biologically social creatures. The brain craves connection to others. In fact, research shows that we demonstrate more empathy, trust, and cooperation with those whom we feel connected. According to a *Simply Psychology* article, research by Solomon Asch in 1951 illustrated the strong desire to fit in under pressure. Asch showed groups of people a line of defined length and asked them to select the line of the same length from a series of three. All except one in the group were told to select the wrong answer. The test was to see whether the one person felt pressure to change their answer and conform with the group. Of twelve trials, 75 percent changed their answer to conform at least once even though it was clearly the wrong answer.¹ Your staff and teams feel the same pressure to fit in and be part of a perceived “in-group.” You naturally want to connect with those like you. It makes the brain feel good.



If everyone around you said line B was the same length as the far left sample line, would you agree with them? Solomon Asch's line test shows people agreed with an incorrect answer to fit in with those around them.²

But, the office is filled with in-groups and out-groups. Much is written about in/out groups based on gender and race, but it goes beyond that. Do you have multiple offices? Has your company merged? If so, you may notice reluctant collaboration or trust across locations or companies. The brain doesn't feel connected to the people in another state and flips the threat circuit.

Thankfully, the brain readily accepts new connections. For Joan, she needs to increase the connections between the remaining staff so that they feel like a team and not the ones left behind. Teams create a sense of connection by setting common goals, naming themselves as a team, establishing their performance norms (this also activates control), and conducting team activities (field trips, happy hours, lunches). She can also create individual connections by seeking out commonalities. The gruffest colleague may soften when connecting about kids, sports, or a shared hobby. Connection fosters greater trust and collaboration.

Clout and lost clout. The brain *really* likes feeling important, but it's not about giving out raises or promotions (although that's okay, too). Feelings of reward from clout are activated in simple ways.

Think about circumstances that make you feel a wee-bit important: the *really-big* boss calls you by name; your input is specifically requested; a colleague demonstrates respect for your idea; you are invited to lunch with the inner-circle; your project team receives an award; the client tells your boss about the good work you do. With each example, your brain does a happy dance.

How can you create that same brain-based happy dance for your staff, team, or client? For top performers, send a hand-written thank you note, go for coffee together, give a shout-out in an important meeting, or offer them a career-development conversation. The gift of your attention feels like clout. Joan can easily use any of these with her team. She should also be attentive to ways her staff could lose clout: their ideas are ignored; they are excluded from discussions on *their* project; or they are subjected to public criticism.

For clients or citizens, you might: call the client for their input on a key decision; tell the citizen that you appreciate their dedication to the project; send a thank you note at the end of the job noting a positive influence the client or citizen had; or praise the active citizen in a public meeting. The key to applying this brain switch is sincerity.

Consistency and inconsistency. This is about fairness. Whether with staff or clients, we are sensitive to being treated fairly and consistently. Inconsistent treatment lights up the threat circuitry immediately. You don't want one client saying to another, “They didn't do *that* for me!” Morale is damaged when staff mutter in the halls, “He's playing favorites again. John gets to do anything *he* wants!” The threat circuit is on fire and productivity plummets. In Joan's case, she should be particularly mindful that existing staff do not perceive preferential treatment of new staff.

For this reason, policies and procedures are important to ensure fair treatment. Unintended bias easily creeps in (see Connection above) to personnel decisions. To the out-group, it looks like inconsistency. One caveat, however, is that you need room for interpretation. A clear, replicable rationale for the application of

guidelines is key. If you deviate from the stated policy, share your thought process so others understand you were *appropriately* fair. Take a hard look to ensure you are being fair and consistent.

Lastly, be aware that you don't need all five Cs to be effective. You may use Control and Certainty to manage the new project, or Connection and Consistency for personnel situations. Keep the 5 Cs in view to remind you to activate the brain's reward circuit. In time, you will realize higher productivity and collaboration, and that's enough to get motivated about. [itej](#)



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decision-making that balances business pragmatics and gut feel. Shelley's work combines her executive experience and results from personal interviews with 77 executives. She is the author of four books including her latest, Think Less, Live More. Lessons from a Recovering Over Thinker. Shelley holds a certificate from the NeuroLeadership Institute, is an International Coach Federation certified coach, and is President-Elect at the National Speakers Association Washington, DC Chapter. Her work has been published in Forbes, Fast Company, Huffington Post, and she is a columnist for CEO Magazine. Learn about Shelley's work at www.shelleyrow.com and follow her on Twitter @ShelleyRow. She is an ITE Fellow.

References

1. McLeod, S. A. (2008). Asch Experiment. Retrieved from www.simplypsychology.org/asch-conformity.html. Accessed December 1, 2016.
2. Ibid.

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Lean Thinking IN Transportation

DANIEL G. HAAKE, AICP, CMILT

The process of developing highways is incredibly risk adverse. Some would argue rightfully so, as major projects can dramatically change communities, and the unexpected consequences of poorly planned projects are present across the United States. Furthermore, almost all highway projects involve some level of public funding.



Each state has its own project development procedures that are guided by a set of federal regulations. To mitigate risk, most processes operate in a push-gate manner. However, this results in significant cost and waste, primarily through unrealized economic growth, time value of money, and construction material inflation.

There have been several efforts to streamline the process. Most notably, legislative changes in Moving Ahead for Progress in the 21st Century Act (MAP-21) and Federal Highway Administration (FHWA) initiatives like Every Day Counts have certainly made improvements to the overall project timeline. However, what can we do as transportation professionals outside of the regulatory framework to ensure our responsibilities to the public are met? How can we deliver projects that are in the long-term public interest, while also being sensitive to the publically funded impacts of the

long-term development process? We must rethink our compulsion to complete day-to-day tasks or phases, refocus on the big picture, and eliminate un-needed work, effectively removing the waste from the process...by lean thinking.

Lean Thinking

While there are many definitions of “lean,” a common theme emerges. “Lean” is a supply chain management methodology that is centered on the incremental and eventual removal of all waste in a manufacturing environment. Waste is generally defined as activity that does not add value to the final product, or, in a transportation framework, to the attributes that make a project successful to the final consumers—the public. Essentially the process could be called “work smarter, not harder.”

While traditional lean techniques may not necessarily work as they would in the manufacturing world, transportation professionals can learn a lot about managing day-to-day tasks through the prism of lean thinking. In the book *Lean Thinking*, James Womack and Daniel Jones identify five lean principles to organize activities with the goal of delivering increased societal benefits—all by a steadfast focus on creating value and eliminating waste.¹ Here’s how they can be applied to transportation.

Principle 1: Specifying Value from the Customer’s Viewpoint

Defining value can be an elusive concept in transportation. Value largely depends on who your customer is. While the correct answer is the public, at times it is not in practice. Internally focused staff and administrative groups can become overly focused on requirements and dates found in spreadsheets, and organizations can conversely be driven by programmatic motivations and lose focus on the ultimate consumer: the public. This often results in unnecessary rework and questions from the public on why recently completed projects are being rebuilt as part of a larger project a year or two later.

Principle 2: Identifying the Value Chain

Highway projects are developed by multiple organizations. Whether it is a local agency, metropolitan planning organization, regional planning organization, state department of transportation (DOT), or federal permitting agency, each plays an important role. Similarly, manufacturing consists of several levels of suppliers and manufacturing activities. Identifying activities that add value to the final product is a key lean activity that must be completed to eliminate waste. This identification process looks at the complete supply chain, not just particular activities. To implement the findings, companies throughout the supply chain must improve trust and communication. The same is true for highway development. Interagency trust and communication is key to eliminating waste. FHWA’s Every Day Counts initiative details several examples of how partnership and information sharing improved project development timelines.²

Principle 3: Create Flow

After trusted partnerships are created, the push-gate process that elongates the project development process can start to be reworked so development happens in parallel steps, without interruption or un-needed review/rework (waste). While this sounds unrealistic given various legal requirements, it has happened before. In 2008, the Ohio DOT, Franklin County Engineer’s Office, and the Mid-Ohio Regional Planning Commission significantly condensed the project development timeline for an interchange project that threatened a major economic development generator (see Figure

1.). Because there was trust between the agencies, they were able to quickly review and respond to design needs as a group. Through programming local funding at the right steps, the team accelerated the project development process from ten years to about four.



FRANKLIN COUNTY ENGINEER’S OFFICE

Figure 1. Alum Creek at Groveport Road is an example of an interchange project with a condensed development process.

Principle 4: Create Pull

Creating pull is the hardest step of the lean thinking process. The goal of this step is to respond to “the pull” of upstream steps. This means effectively moving from forecasting customer needs to reacting to the pull of actual needs and delivering when the need arises.

This principle presents several challenges when it comes to transportation projects. Even in the most ideal lean development process, the time required to develop and construct an actual facility is going to be greater than the lag between a demand trigger and consumer expectations. Secondly, unlike most manufacturing operations, transportation projects are permanent and represent large public investments. While these challenges are real, they cannot be a justification to dismiss changes that can be made with this principle in mind.

Principle 5: Achieve Perfection

As the process moves forward, more opportunities to remove waste will be identified and eliminated. Through sustained iteration, continued improvement becomes part of agency culture as it moves towards perfection and the elimination of all waste.

Conclusion

As funding continues to be stagnant and requirements for accountability increase, concepts like lean thinking will play a major role in improving agency responsiveness within existing regulations. Outside of the formalities, it’s the right thing to do. **itej**



Daniel G. Haake, AICP, CMILT is a nationally recognized freight planning and policy expert who has provided strategic guidance to more than 30 local, state, and national agencies. At SRF Consulting, Dan leads a multidisciplinary team of planners and engineers focused on creating economic development opportunities. Before joining the private sector, he led a multi-jurisdictional partnership that prioritized and accelerated a \$180 million project portfolio to address congestion issues that threatened Rickenbacker Inland Port, which employed 12,000 people.

References

1. Womack, James P. and Daniel T. Jones. *Lean Thinking*. Simon and Schuster: 2010.
2. Federal Highway Administration. Every Day Counts website. www.fhwa.dot.gov/innovation/everydaycounts. Accessed December 1, 2016.



Every Day Counts

The Federal Highway Administration's Every Day Counts (EDC) initiative was launched in 2009 in cooperation with the American Association of State Highway and Transportation Officials to speed up the delivery of highway projects and to address the challenges presented by limited budgets. Visit the EDC website to learn more about how partnership and information sharing can improve project development timelines.

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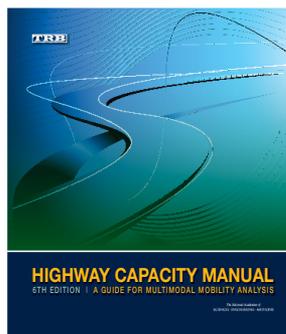
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Making the Case for Transportation Language Reform: Removing Bias

BY IAN LOCKWOOD, P.E.



Samuel Beckett (1906–1989), the Irish novelist and playwright, wrote “Words are the clothes that thoughts wear.” Throughout history and in many fields, the use of language has influenced how ideas have been received by adorning thoughts with words that carry subjective meaning. Strategically assigning words to ideas can challenge or perpetuate biases, attitudes, and public opinion, and ultimately influence policies and culture.

Examples of language that contain and reinforce biases abound. In the 1970s, common terms in workplaces included, “policeman, fireman, manpower, chairman, and man hours.” The language was gender-biased and excluded women. Over time, societal values evolved to the point where the language was updated. Many people worked hard to reform the language to be gender-neutral, while opponents called the reform “being politically correct” and unnecessary. Today, gender-neutral language is common and accepted; examples include, “police officer, firefighter, human resources, chair, and person hours.” This language reform supports gender equality, helping to change attitudes, policies, and culture. Gender-neutral language is not pro-woman; it is inclusive and objective.

The field of transportation engineering and planning has its own biased language. Much of the technical vocabulary regarding transportation and traffic engineering was developed between 1910 and 1965. The foreword of the *Highway Capacity Manual*, first published in 1965, states, “Knowledgeable professionals, acting in concert, have provided the value judgements needed to... and have established the common vocabulary...”¹ Notice the acknowledgment of making “value judgments” and the purposeful development of a “common vocabulary.” The period prior to 1965 was the golden age of the automobile in the United States. Automobiles were equated to freedom, mobility, and success. Accommodating automobiles at high speeds became a major priority in society and, thus, a major priority for the transportation engineering profession. It is no coincidence that these values were built into the transportation vocabulary.

Many cities are now contending with the consequences of 50-years of automobile-oriented design. At the same time, values and expectations are evolving. Increasingly, people want high-performance transportation infrastructure that achieves a number of functions—accommodating people who walk, cycle, take transit, and drive cars for equity and economic reasons. There is a growing awareness that reducing automobile speeds increases safety and comfort, while contributing to community vitality and quality of life. At the same time, cities are using land previously dedicated to car parking lots for multiple other beneficial purposes. For a myriad of reasons, many wish to reduce vehicle-miles-traveled, the carbon footprints of automobiles in cities, the barrier-effects of in-city highways, and mobility inequity. Society’s relationship with the automobile has become more nuanced since the “common vocabulary” was developed half a century ago.

Similarly, the conventional performance metrics used by transportation professionals are evolving. Rather than focusing almost exclusively on motor vehicle metrics, contemporary transportation planning and design are increasingly considering factors such as safety, equity, and the mobility of diverse populations.

However, the continued use of biased language perpetuates these inherited biases, sounds discordant to people who do not share those biases, and can lead to unclear meaning.

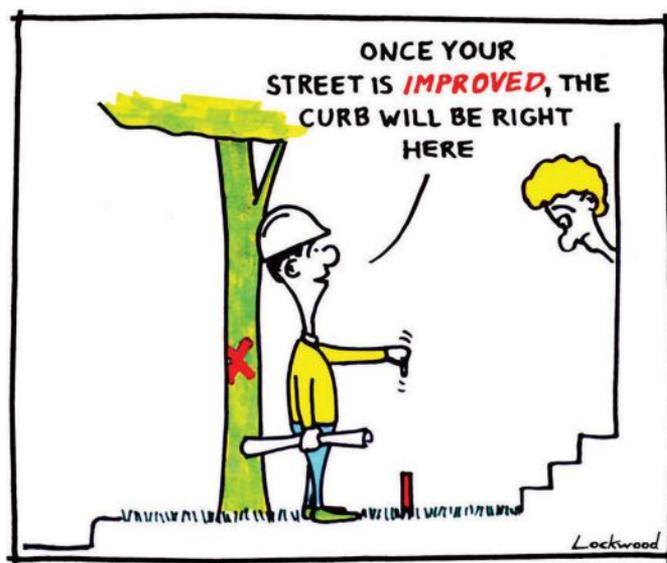
Transportation professionals and the profession itself must be unbiased and avoid the appearance of bias. Reforming the language of our profession to make it more objective will allow us to communicate more clearly, make sound decisions, and serve the needs of a broad population. This paper has only one recommendation: that the Institute of Transportation Engineers (ITE) gather some knowledgeable professionals and act in concert to employ contemporary value judgements, update our language to be objective, and popularize objective terminology.

Below are some examples of biased or euphemistic transportation words, terms, and usage in **bold** letters, which are common

today. Objective replacements are suggested in *italics*. In some cases, a different way of using the word or term is suggested. Some of the biases are obvious and some are subtle.

Efficiency is generally a good thing because using less land, energy, or other resources to achieve the same end is usually positive. Over the past 50 years, widening highways in metro areas, in an attempt to speed up motorists, has led to sprawl, car-dependency, and more vehicle-miles-traveled, and it hasn’t solved congestion. Yet it is common to hear, “We need to widen the highway to increase **efficiency**.” Per capita gasoline consumption, in the United States, is the highest in the world at 1.16 gallons (4.39 liters) per day. By comparison, the 2nd and 3rd highest countries were Canada and Kuwait using 3.62 and 2.28 liters per day per capita, respectively. Germany, 32nd; United Kingdom, 35th; and France, 63rd; used 0.84, 0.80, and 0.44 liters/day per capita, respectively.² More “**efficient**” is often a euphemism for *faster*. An objective translation would be “Let us widen the highway so motorists can drive *faster*.”

Improvement and **improved** are widely misused. **Improvement** implies making a situation better. Who can argue against an improvement? Commonly, when **improvements** are associated with intersections or streets, the professionals are referring to adding through lanes, turn lanes, channelization, or other means of increasing automobile throughput or speeds. However, more often than not, these changes make the situation worse from other perspectives. For example, pedestrians are required to cross a wider intersection when lanes are added. Using **improvement** in these circumstances indicates a bias toward motorists and against others. More recently, **improvement** has been used to describe narrowing and removing lanes to provide space for separated facilities for cyclists, wider sidewalks, etc. Still, there may be people who feel worse off as a result of the changes. Either way, an objective substitute should be used instead, such as *modification*, *project*, or *change*.



Enhancement or **enhanced** shows a bias in a similar way to **improvement**. For example, “The motor vehicle speeds were **enhanced**.” Either *increased* or *decreased* would be a better choice. **Enhanced** connotes that the situation has become better, which is a matter of opinion and perspective.

“The replacement of the highway, through the downtown, with a connected network of streets will increase the **delay** to motorists.” Obviously, **delay** is a negative word; nobody likes the idea of being **delayed**. It connotes that there is an unwanted or problematic increase in travel time that, ideally, should be remedied. However, for a professional to call the *increase in travel time* a **delay** shows a bias. **Delay** implies that motorists have a right to high speeds through the downtown and that society needs to set aside other considerations to provide motorists with high speeds. To many people, replacing the highway with a street network is a correction, and the *changes to the travel times* are just part of the correction. They feel the highway and the high speeds in the downtown were the result of outdated, automobile-oriented values, and bad public policy. To others, the slower speeds for motorists will increase safety, comfort, and access. To others, the streets would be easier to use on foot or by bicycle. So, some motorists may feel that the *change in travel time* is a **delay**, but an objective person should not take sides and, instead, use the objective measure of travel time. The audience may determine for themselves the advantages and disadvantages of the change.

“The reduction in the number of lanes to widen the sidewalks and plant street trees will result in a level of service that is **unacceptable**.” **Desirable/Undesirable** and **acceptable/unacceptable** can be misleading because the implication is that the change in the level of service for motorists is **unacceptable** from all perspectives, including the professional’s perspective who is making the statement. However, the pedestrians, shop owners, and arborists may feel the changes are **acceptable** or even **desirable**. Therefore, when these qualifiers are used, it should be required to indicate from whose perspective the conclusions are drawn: “The reduction... will result in a level of service for motorists that is **unacceptable** to motorists.”

Due to the biased nature of the common transportation vocabulary in favor of the automobile and high speeds, automobile-oriented outcomes have an advantage. This makes the profession appear biased. In order to remain unbiased and appear unbiased, the transportation profession ought to update its language and popularize objective words. A glossary of several biased words and phrases and suggestions for objective substitutes is provided in Table 1. There are many other biased words that are not included due to space limitations. Over time, the objective language will become normal and the transportation profession will be better aligned with contemporary values and better able to deliver services objectively to society. **itej**

Table 1. Transportation Glossary

Biased Word or Phrase	Suggestions of Objective Substitutes
Accident	Collision/Crash
Alternative Transportation	Active Transportation/Human-powered/Non-automobile
Capacity	Maximum motor vehicle volume
Capacity deficient	Motor vehicle use predicted to exceed the maximum motor vehicle volume.
Demand	Use/Expected use
Desirable/Acceptable	Desirable (for whom)/Acceptable (for whom)
Undesirable/Unacceptable	Undesirable (for whom)/Unacceptable (for whom)
Efficient/Efficiency	Increase speeds/Faster
Enhanced	Increase/Reduced (depending on the subject)
Impact (noun)	Effect
Improvement	Modification/Change
Level of service	Queueing time at an intersection for motorists
Movements	Motor vehicle trips
Reliable	Predictable travel time
Road capacity	Maximum motor vehicle volume
Roadway	Street
Traffic	Motor vehicle traffic
Traffic demand	Motor vehicle use
Urban Freeway	In-city highway
Upgrade	Expansion/Reconstruction

References

1. *Highway Capacity Manual*. Washington, D.C.: Transportation Research Board, 1965.
2. “Gasoline Consumption Per Capita Around the World.” Global Petrol Prices. www.globalpetrolprices.com/articles/52/. August 4, 2016. Accessed December 2, 2016.



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Transportation Agencies Share SHRP2 Reliability Solutions

Success Stories for Advancing Operations

BY TRACY SCRIBA, AARON JETTE, AND JOHN CORBIN, P.E., PTOE

The second Strategic Highway Research Program (SHRP2) conducted key research designed to address critical state and local challenges, such as aging infrastructure, congestion, and safety. The research results are available in a series of innovative, practical tools to help transportation professionals plan, operate, maintain, and ensure safety on America's roadways. The solutions developed under SHRP2 focused on four critical areas: safety, renewal, reliability, and capacity.



Save lives. Save money. Save time.



SHRP: A History of Success

Building on the success of the first Strategic Highway Research Program (SHRP) authorized by Congress in 1987, SHRP2 launched in 2005 to address four areas with critical transportation needs: safety, renewal, reliability, and capacity. SHRP2 sought to address pervasive highway transportation problems on a large and coordinated scale that focused both on research and deployment. The ultimate goal of SHRP2 was to save lives, save money, and save time across the nation.

SHRP2 funded more than 100 research projects that resulted in more than 60 implementable products. FHWA and AASHTO have dedicated more than \$170 million to deploying these products at all levels of government. Every state, the District of Columbia, Puerto Rico, and some metropolitan planning organizations (MPOs) and tribal agencies, have received financial and technical assistance for more than 430 projects. More information is available at www.fhwa.dot.gov/goshrp2.

[learn more](#)



SHRP2 Reliability solutions came along at a pivotal time as many agencies were placing more emphasis on improving the efficiency of existing facilities to address public expectations, tight budgets, and less space for system expansion. SHRP2 Reliability solutions focus on reducing congestion and creating more predictable travel times through better operations. They provide new analytical techniques, training, and institutional approaches to address events—such as crashes, work zones, special events, and inclement weather—that result in unpredictable congestion and make travel times unreliable. Transportation agencies are employing SHRP2 solutions to leverage existing roadway capacity, improve safety, and provide more reliable traffic flows so drivers can better plan their day and travel safely.

Since 2013, the Federal Highway Administration (FHWA) has provided funding to transportation agencies to deploy a range of SHRP2 Reliability products through the Implementation Assistance Program (IAP). The American Association of State Highway and Transportation Officials (AASHTO) has been a collaborative partner in these efforts. With the technical support, tools, and resources provided, agencies have advanced Transportation Systems Management and Operations (TSMO) practices. All U.S. states, the District of Columbia, and Puerto Rico are implementing at least one SHRP2 Reliability product, and some states are implementing more than 10 products.

SHRP2 Workshop Lead Implementer Workshops

To gain a better understanding of how transportation agencies are using SHRP2 Reliability products, the FHWA Office of Operations sponsored two roundtable events in January and August of 2016 with lead implementers of the products. Lead implementers included representatives from state DOTs, MPOs, and tolling authorities from more than a dozen states. These roundtables presented a unique opportunity for peers to exchange lessons learned and discuss how to get the SHRP2 Reliability products in the hands of more users. This article summarizes the key takeaways from these roundtables.

Deployment of SHRP2 Solutions

Participants in the two workshops described how SHRP2 solutions have helped them improve TSMO outcomes, establish TSMO programs, and build support for TSMO within their agencies. Lead Implementers discussed their experiences with a wide range of SHRP2 Reliability solutions, but the most commonly discussed products were: the Organizing for Reliability bundle (L01/L06/L31/L34), Regional Operations Forums (L36), Reliability Data and Analysis Tools bundle (L02/05/07/08/C11), and the National Traffic Incident Management (TIM) Responder Training Program (L12/L32).

Organizing for Reliability

The Organizing for Reliability bundle is a set of tools that helps agencies assess their TSMO programs and implement changes to technical and business processes in order to enhance the ability to manage unexpected congestion. Lead implementers deployed the Organizing for Reliability tools to better understand their organizational needs and develop strategies to improve their

SHRP2 Reliability Products

Organizing for Reliability Bundle (L01/L06/L31/L34)

Reliability Data and Analysis Tools (L02/L05/L07/L08/C11)

National Traffic Incident Management Responder Training Program (L12/L32)

Regional Operations Forum (L36)

Guidelines for Incorporating Reliability Performance Measures into Travel Models (L04)

Communicating Traveler Information and Estimating Its Value to Travelers (L14)

Framework for Improving Travel-Time Reliability (L17)

[resources](#)



capabilities. For example, using the TSMO Capability Maturity Model (CMM) tool, agencies are evaluating their strengths and weaknesses in six areas: business processes, systems and technology, performance measurement, culture, organization and workforce, and collaboration.

Maricopa County (Arizona), for instance, used the tools to analyze their business processes as they were undergoing a reorganization to integrate planning, project management, and traffic management functions into a single division. They used the tools to build regional coalitions and identify areas to focus on to improve TSMO processes including: staffing and skills, public communications, adopting innovative technologies, and enhancing multimodal planning.

The Washington State DOT (WSDOT) used the CMM tool to support their strategic planning efforts. At the Lead Implementers Workshop in August, John Nisbet, the director of WSDOT's Traffic Operations Division explained, "The timing of SHRP2 supported our agency's strategic planning effort and helped to ensure that TSMO concepts were reflected in all our agency goals."

Regional Operations Forums

Regional Operations Forums (ROF) are an opportunity for transportation agency leaders and key staff to convene in-person and learn about TSMO strategies and lessons learned, learn from peers, and collaborate on how to advance TSMO in the region. The ROF provides practitioners with new and innovative approaches for managing and operating the highway system, drawing from the cutting edge work being carried out under the SHRP2 program and other national programs. Representatives from 49 states, Washington, DC, and Puerto Rico have participated in ROFs.

Participants in the Lead Implementer Workshops agreed that ROFs were instrumental in strengthening TSMO programs, improving regional relationships among TSMO practitioners, and cultivating a culture of TSMO leadership at transportation agencies. Rob Clayton, the operations director at the Utah DOT explained how ROFs helped his staff forge valuable regional relationships. In February 2014, four staff from Utah DOT participated in an ROF, where they established connections with TSMO practitioners in Nevada. When flood damage forced a 50-mile section of I-15 in Nevada to be shut down later that same year, Nevada and Utah were able to leverage those relationships forged at the ROF to coordinate their response.

The success of ROFs has led some states to organize follow-on ROFs with TSMO practitioners in their own State. California has organized five ROFs to date in its Caltrans Districts and is planning additional ones in its other Districts. Missouri is partnering with the ITS Heartland coalition to conduct a multi-state ROF, with some ROF sessions done

in-person and others virtually over a year. The Colorado DOT is looking at hosting an annual in-house ROF to provide TSMO training to different layers of the organization. The Tennessee DOT earlier hosted an ROF and sees the ROFs as a way to collaborate with a range of agencies and other disciplines on a regional basis throughout the state to advance TSMO and their TSMO program plan.

Reliability Data Analysis Tools

The Reliability Data Analysis Tools bundle of five products is designed to help transportation agencies better identify issues and implement strategies to reduce the variability of travel times for commuters and other travelers as well as the freight industry. Agencies used the Reliability Data Analysis Tools to improve the way they measure and track travel time reliability. Doug McLeod the Planning Manager at Florida DOT explained how they used the tools to enhance how the agency incorporates operations and travel time reliability into their planning documents and modeling processes.

Subrat Mahapatra from the Maryland State Highway Administration described how Maryland is using the Reliability by Design (L07) tool to justify operations projects during the planning and project design processes. The tool, a spreadsheet-based treatment analysis tool and design guidebook, helps agencies estimate the effectiveness and comparative benefits of design treatments at specific locations. The Washington State DOT and the Minnesota DOT have also used the Reliability tools to improve their ability to measure reliability on a corridor basis.

National Traffic Incident Management (TIM) Responder Training

On average, 100 responders die annually in the United States as they work to clear traffic crashes. SHRP2's TIM Training brings police, firefighters, towing, medical personnel, and other incident responders together to learn about response techniques, improve collaboration, and engage in interactive, hands-on incident resolution exercises. Many of the lead implementer agencies described positive experiences implementing the SHRP2 TIM Training and shared the steps they are taking to expand implementation of the training. The Maryland State Highway Administration described how they have hired a full-time TIM program manager dedicated to providing TIM training in the state. To reach law enforcement officers, the Tennessee DOT integrated the TIM Training into their law enforcement training academy. They also worked with the Department of Safety to establish a traffic control fusion center co-located with State Patrol, based on TIM concepts emphasized in the training. The Utah DOT is integrating the TIM Training into their State Fire Academy training.

Benefits of SHRP2 Reliability Solutions

The workshops made clear that SHRP2 solutions have benefits that extend beyond the immediate problems they are intended to solve. They are supporting a change in the culture and capacity of transportation agencies to systematically improve operations and travel time reliability. Themes from the workshops highlighted how SHRP2 is helping to change the state of TSMO practice in transportation agencies across the country.

SHRP2 established a coordinated research and deployment program that addressed a gap in funding for TSMO and led to major advances in TSMO capacity at the state and local level. Nearly \$35 million is being spent to support implementation of the SHRP2 Reliability products. The targeted technical assistance and funding support provided by the IAP helped to ensure that the research results were implemented in the field. As a result, SHRP2 products served as a catalyst for advancing TSMO in many agencies. The tools have brought renewed energy, attention, funding and new capabilities to existing and new TSMO efforts, and this makes it easier to get buy-in for TSMO-related initiatives across agencies.



Figure 1. Six Core TSMO capabilities support effective use of TSMO strategies. Advancing these capabilities is supported by the SHRP2 products.

The Colorado DOT, for example, used SHRP2 assistance to support their agency's reorganization which involved combining traffic, safety, and operations into a single division. Colorado DOT

used the Organizing for Reliability Tools to conduct an assessment and determine the best ways to integrate those divisions. They credited this process with a major culture shift towards understanding the importance of operations solutions at Colorado DOT. Ryan Rice, Director of CDOT's TSMO Division, noted that, "We were at a tipping point. SHRP2 helped us move from a point where TSMO was emphasized to where it was institutionalized."

SHRP2 Reliability solutions are helping to establish and strengthen formal TSMO programs. The Organizing for Reliability Tools provided a framework for establishing TSMO programs and gave staff the knowledge and tools to sustain them. Several agencies are using these tools to formalize, integrate, and evaluate their TSMO programs. The Tennessee DOT integrated concepts from the Organizing for Reliability Tools into developing a TSMO program plan that helped them better communicate TSMO strategies and priorities throughout the agency and accelerate the institutionalization of operational business processes. The Arizona DOT is using a program plan as one tool to coordinate the realignment of multiple business and operations areas into one division. The Pennsylvania Turnpike is using the CMM assessment to set goals, program areas, and performance tracking mechanisms to improve operations performance on the Turnpike.

Participants agreed that implementing SHRP2 Reliability products raised awareness of the benefits of TSMO among staff of other disciplines and leadership in their agencies. In some cases, this led to improved communication among staff of different disciplines and a more supportive agency-wide culture for TSMO. In Arizona, for example, state leadership has voiced their strong support for improving TSMO practices, allowing the Arizona

what people are saying



John Nisbet, the director of WSDOT's Traffic Operations Division explained, "The timing of SHRP2 supported our agency's strategic planning effort and helped to ensure that TSMO concepts were reflected in all our agency goals."

Ryan Rice, director of CDOT's TSMO Division, noted that, "We were at a tipping point. SHRP2 helped us move from a point where TSMO was emphasized to where it was institutionalized."

Brent Cain, the director of Arizona DOT's TSMO Division, remarked, "A year ago most of Arizona DOT didn't know what TSMO was, but now they do."

Coming Soon from the ITE Learning Hub

Implementation Success Stories: How SHRP2 is Helping Agencies Advance Operations

February 8, 3:00–4:30 p.m. ET

While this article provides results both across the whole SHRP2 Reliability area and specific key products, with examples from specific agencies used to support the findings/points, this Learning Hub webinar will showcase a few specific deployment sites, each focused on one of the key products or product bundles.

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DOT to invest in TSMO staff, training, and technologies. At the August workshop, Brent Cain, the director of Arizona DOT's TSMO Division, remarked, "A year ago most of Arizona DOT didn't know what TSMO was, but now they do."

Another outcome has been the integration of operations and planning disciplines. Lead implementers found success using SHRP2 Reliability solutions to integrate operations into the transportation planning and project selection processes. The Florida DOT employed the Reliability Data and Analysis Tools to integrate operations and travel time reliability goals into their planning documents and MPO models. The Maryland State Highway Administration is integrating TSMO into their planning process and making improvements in implementing practical design standards.

Using Reliability products helped transportation agencies form new and strengthened partnerships with local, state, and federal stakeholders. Lead Implementers credited SHRP2 products such as the TIM training and Regional Operations Forum with developing valuable relationships among transportation and first responder agencies to address operations issues. The Oregon DOT, for example, developed a joint strategic plan with their state's law enforcement agency as a result of their work together on the TIM training and their participation in a CMM assessment workshop. The Tennessee DOT is partnering with the Knoxville MPO to use the Reliability Data and Analysis Tools to help develop an automated project management system that could be used by all MPOs in the state.

Participants unanimously agreed that a key benefit of SHRP2 was the strengthening of TSMO peer networks. These roundtables are another example of how SHRP2 is connecting agencies with similar goals.

Moving Forward

Lead implementers have accomplished a lot and have plans to build off their success advancing TSMO practices. FHWA is working to sustain its support for implementers of SHRP2 products through integration in its core programs and organizations such as the National Operations Center for Excellence (NOCoE). Supported with funding from FHWA, the Center is a partnership of AASHTO, the Institute of Transportation Engineers (ITE), and the Intelligent Transportation Society of America. The Center offers an array of technical services to the TSMO community including peer exchange workshops and webinars, information on best practices in the field, discussion forums, and technical resources. Building on the success of SHRP2's Reliability products, FHWA continues to champion TSMO and provide support for peer exchanges, training, and technical assistance. [itej](#)



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Aaron Jette is a community planner in Volpe's Organizational Performance Division. He was the lead author for U.S. Department of Transportation's report Beyond Traffic 2045. He specializes in transportation finance, strategic management, and urban planning. Aaron also served in the Peace Corps in Paraguay. He is a graduate of McGill University and the Harvard Kennedy School.



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Answer to Where in the World? photo on page 19, Reykjavik, Iceland. Credit William P. Jones



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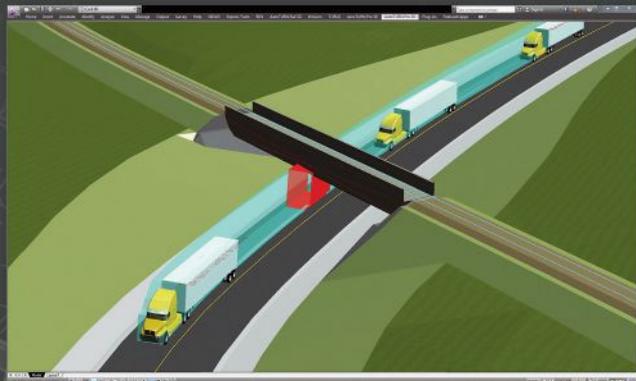
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