

ITS Midwest NEWSLETTER

Illinois, Indiana, Kentucky and Ohio

www.itsmidwest.org

President's Message

It is with great excitement and gratitude that I write this first President's Message for the ITS Midwest newsletter. I inherit this role in an organization that is actively realizing its mission of "promoting the development and deployment of intelligent transportation systems in our region and beyond". Our membership is engaged and growing, our programs are garnering high participation, and the future of intelligent transportation systems in our member states is bright! Thanks to Ken Glassman for his leadership these past two years and for putting ITS Midwest in position for continued success!

The Chapter has been busy since our last newsletter was issued in August. After months of dedicated efforts on the

part of our planning committee, the ITS Midwest Annual Meeting was held at the world-famous Indianapolis Motor Speedway on September 13 & 14. From our opening speaker, INDOT Commissioner Joe McGuinness, to the behind-the-scenes tour of the Speedway at the end of the conference, it was a race from one exciting and informative topic to the next. A big thanks to conference chair Ryan Elliott and his team for organizing a fantastic event!

Congratulations to our ITS Midwest award winners, which were announced at the conference. Out of a strong pool of eleven candidates, the City of Chicago's Smart Mobility Project won Project of the Year. It was great to see such a wide range of projects submitted from across the four states in our chapter. Justin Potts, Illinois Vice President, newsletter editor, membership committee chair, and the chapter's photographer, was recognized for his past and ongoing commitment to ITS Midwest. Thanks, Justin, for all that you do!

During our Business Meeting on the first day of the conference, the chapter elected several members of our Board, including many that are new to the role. The Board met soon after the Annual Meeting to welcome the new members of our team and start the ball rolling on several new initiatives.

For example, our new Secretary/President-Elect Scott Lee is developing a recur-

ring webinar series that will showcase ITS projects around the region, the latest ITS products, and other topics (please email Scott (slee@transmartinc.com) if you would like to suggest a topic or volunteer to present). As those of you on Twitter may have already noticed, we have amped up our presence on social media. Be sure to follow @ITS_Midwest (https://twitter.com/ITS_Midwest) to keep up with the latest ITS news from the region. We have also started to plan our 2019 Annual Meeting, which will be held in Illinois. Stay tuned for more information about joining the conference committee as we start to evaluate venues, identify a theme, and other initial tasks.

Discussions during the Annual Meeting



Matthew Letourneau, President of ITS Midwest

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highlighted the important role that our organization plays, serving as a bridge to the various groups that influence and interface with intelligent transportation systems. To be successful in our mission,

we will need engagement from across our membership! Please do not hesitate to bring an idea, encourage a colleague to join our membership, or offer your time to help make ITS Midwest even bet-

ter. Please contact me (matthew.letourneau@aecom.com) if you would like to get engaged. Thanks!

IDOT TSMO Training

IDOT ITS Program Office Staff

August 1 and 2, 2018 TSMO Workshop

On August 1 and 2 of 2018, over 30 IDOT staff attendees participated in a two-day Transportation System Management and Operations (TSMO) workshop held in the Hanley Building Auditorium in Springfield. This workshop was hosted by IDOT and presented and sponsored by the Federal Highway Administration (FHWA).

The purpose of the workshop was to bring IDOT Bureau of Operations staff together to extend their TSMO efforts already underway, and to learn about new ways to better manage the transportation infrastructure using TSMO strategies. TSMO provides a framework that can structure and direct IDOT's efforts to make the most out of their current and future transportation system.

These TSMO investment strategies are multimodal transportation strategies that maximize the efficiency, safety, and utility of existing and planned transportation infrastructure. These strategies include:

- Traffic incident management.
- Traffic signal coordination.
- Freeway management.
- Transit signal priority (TSP) and bus rapid transit (BRT).
- Freight management.
- Work zone management.

- Special event management.
- Road weather management.

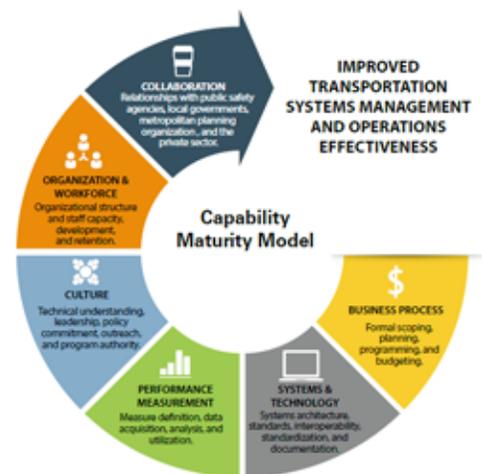
The workshop included presentations by Beverly Kuhn of the Texas A&M Transportation Institute, and Ralph Volpe, Ben Williams, and Daniel Grate of FHWA. In addition, John MacAdam from the Ohio Department of Transportation participated as a peer to share the Ohio DOT's TSMO efforts and successes. Their presentations emphasized the changing role of State DOT's from one of expanding transportation assets, to one of better managing these assets.

Such a role shift in IDOT is very challenging, because it involves changing practices and values of long standing. The idea that IDOT will not place as much emphasis on building large new projects, and instead focus on better operations and smaller scale cost-effective improvements is a major change. It requires re-consideration of how IDOT plans and programs future transportation investments, guides future staffing requirements, and points to a need to develop ways to better measure the performance impacts of these investments.

The workshop emphasized that measuring the performance of operations investments is important to IDOT's ability to tell the public the story of how their tax dollars benefit them. Attendees were introduced to evaluation tools that assist in

estimating the benefits of implementing various strategies to improve transportation operations. These evaluation tools and performance programming practices can help guide IDOT investment of limited transportation funds to focus on operational improvements that have the best return in terms of safety, reliability, and efficiency.

The workshop featured a self-assessment of IDOT's current TSMO activities, strategies, and efforts in areas such as Business Processes, Systems and Technology, Performance Measurement, Culture, Staffing, and Collaboration with Other Agencies. The self-assessment was very useful in identifying IDOT's current strengths, and areas where the Department can pursue action items to improve efforts in several of these areas. These potential action



items range from better informing the public on the benefits of implementing TSMO strategies, using Benefit/Cost analyses for TSMO projects, developing succession plans to address staff changes,

forming a TSMO Task Force, and development of a TSMO Program Plan.

As IDOT moves into the future, TSMO strategies will become a larger and more important part of fulfilling IDOT's mission

to provide an integrated transportation system that is safe, efficient and reliable; enhances quality of life; supports the economic prosperity of the state; and promotes data-driven, performance-based decision making.

A Convoy of Safety

James Barna

Ohio Department of Transportation
DriveOhio Group

You may not know it yet, but far safer highway travel is on the horizon. In the future, travelers sharing the roads with trucks will find the experience far different from the way it is now. Large semis will fall in single line like train cars, controlled remotely by one lead vehicle. The arrangement will allow fast and efficient delivery of goods, while also providing increases in fuel economy. Yet, the dangers of truck accidents caused by human fatigue and bad judgments will be virtually eliminated.

Technology has not yet reached this stage, but more and more government agencies and major corporations are committing to the development of automated and connected vehicles with an eye toward revolutionizing long haul transportation. The physical demands on drivers navigating miles of highway have always been intense. The use of automation can go a long way to relieve the stress on drivers while still allowing the timely delivery of goods across the country. This worthy goal is being furthered by the Ohio Department of Transportation (ODOT) and their dedicated group, DriveOhio. What is coming will require a shift in the way people think about driving, safety and control.

Welcome to the Platoon!



Truck platoons are formed when a number of commercial semis travel in single file, compact groups under a single automated control. The vehicles in a platoon travel closely together and at posted speed limits. This formation relies on connectivity technology and automated driving support systems to form and maintain the platoon. Each vehicle communicates with the others, with a lead vehicle controlling the speed and direction overall. The close distance between the vehicles creates a "draft," like that in auto racing, which reduces wind resistance and improves aerodynamics and fuel efficiency. Braking and acceleration responses are precisely matched to the

lead vehicle's movement. The automated systems simultaneously apply brakes to all trucks in the platoon when sensors detect danger ahead on the road.

As technology advances, self-driving or autonomous vehicles will be able to automatically join platoons that may function like long trains of vehicles on a highway. Platooning will ease traffic congestion, advance highway safety, and make travel and energy consumption more efficient. But to work, the autonomous vehicles will need to also be connected (capable of communicating and receiving information from each other and even from the roadways and signs).



It's Coming

The technology to make platooning possible is being tested through multiple projects by ODOT's DriveOhio, including the U.S. Route 33 Smart Mobility Corridor. The test highway is being upgraded with 27 traffic signals and equipping them with Dedicated Short Range Communication radios. These units will broadcast different kinds of data and safety messages to vehicles also outfitted with the technology to receive that information. Put simply, the vehicles can talk back and forth to each other and to the streets for safer operation. Project partners plan to outfit hundreds of vehicles with the technology to test this system throughout U.S. 33. This kind of communication will make truck platoons a reality on highways.

ODOT's DriveOhio hopes to take this experimentation further with actual roadway tests of truck platooning later this year. These roadway tests may take place along a section of the Ohio Turnpike already equipped with fiber-optic cable to

connect vehicles to the roadway, to information centers and to each other. A long section of the Ohio Turnpike has already been reviewed as a suitable test location. DriveOhio's Cynthia Jones is enthusiastic about the Department's next step:

"To put platooning into practice," she said, "we need to work with companies that have equipped their fleets with on-board technology. Since connected vehicle standards are still being developed, we cannot assume every commercial vehicle will be wired the same. We will have to work toward plug and play consistency in the future."

Alongside this testing, the successful advancement in the technology to make platooning safe will come from the research and testing at the Transportation Research Center's new Smart Mobility Advanced Research and Test Center. This state-of-the-art hub for automated and autonomous testing will be built within the 4,500 acres of the Transportation Research Center, the nation's largest independent automotive proving grounds. Construction of the facility is anticipated to be complete by the end of 2019.

The technology is moving along, and will in time, be ready. But another question arises: Will we?

Well, Will We?

Truck platoons will require changes to the classic way trucking is done. Human drivers will still be needed to deliver goods to their ultimate destinations. They can still be in each truck, largely as passengers until they are needed in emergencies or designated to take over and drive through city streets. First, platoons may be only two or three trucks, but later ones may be longer. As testing progresses and lessons are learned, standards will need to be further developed to create an operations protocol that is uniform across the state. Longer platoons will make it difficult for other cars to change lanes. Transitions from platoons into individual trucks headed into cities will need to be negotiated. It will also take time for everyone to get comfortable with the transition to automated trucks on the highway. This standard operating protocol will address the issues identified during testing.

But platooning has enormous potential for making highways safer by condensing truck traffic while still allowing for the efficient delivery of goods. Truck drivers will be able to rest during long trips, fresh and ready to take over when needed. Car drivers will also find truck traffic more pleasurable, and less of a threat. The future is coming, and it is arriving on 18-wheels.

Illinois Tollway I-90 Jane Addams Project

CDM Smith

Chicago-area drivers are experiencing safer, more efficient travel on Interstate 90 thanks to a new active traffic management (ATM) system on the Jane Addams Memorial Tollway. Meanwhile, related investments are prepping the corridor for autonomous and connected vehicles

by building a road with the ability to add electronic devices throughout.

Under its 15-year, \$14 billion Move Illinois capital program, the Illinois Tollway committed \$2.5 billion to rebuild and widen 62 miles of I-90, which serves nearly one

million travelers per day from Rockford to downtown Chicago. A part of I-90, the Jane Addams Memorial Tollway was built in the 1950s and required a dramatic overhaul to increase capacity and ease congestion. Roadway construction was completed in 2016.

The Tollway set a vision to rebuild I-90 as a 21st century corridor. This vision included turning the 16 miles of I-90 closest to O'Hare International Airport into a "SmartRoad" that applies the latest in technology to make the road safer and more efficient for users. By maximizing the use of technology and minimizing future construction required to implement future technologies, I-90 was designed to not only meet current needs, but to anticipate future demands. SmartRoad builds on the Tollway's extensive use of ITS and provides the flexibility to implement new features such as power and communications access to accommodate future autonomous and connected vehicles. The I-90 SmartRoad became fully operational September 6, 2017.

When the Tollway began setting goals for the project, CDM Smith researched examples of ATM projects to understand if it was right for the Tollway and, if so, how the Tollway could implement it successfully. ATM is a method of communicating real-time traffic conditions, travel times, lane closures and traffic pattern changes to drivers through small overhead dynamic message signs. To accomplish this, individual signs were installed over each lane every half mile in a 16-mile section of I-90 between Barrington Road in Hoffman Estates and the Kennedy Expressway near O'Hare. Combining traffic sensors, cameras and close coordination with a centralized 24-hour control center, SmartRoad provides drivers with valuable roadway information. CDM Smith researched ATM

systems in both the United States and Europe, gathering data and analyzing what went right and wrong and what could be done differently to yield better results.

In addition to ATM, SmartRoad uses sensors to collect traffic data. Travel times and congestion information are then shared with popular mobile navigation apps such as Waze, MapQuest and Google Maps to help drivers more seamlessly plan their trips on existing platforms. This data is also used to generate travel times and congestion messages on larger dynamic message signs located on every other gantry. Additionally, new high-definition cameras allow Tollway operations staff to monitor SmartRoad 24/7. Meanwhile, wireless weather stations monitor pavement and weather conditions at critical locations, including bridges, and feed that information back to drivers.

Also, the inside shoulders of I-90 are designed to function as "Flex Lanes," which provide the Tollway flexibility in options, both now and in the future. Using the ATM system, the Flex Lanes can serve as anything from a transit lane, to additional capacity, to a managed lane, with minimal effort and without requiring new construction. Today, the Flex Lanes are used by Pace suburban buses to help ensure reliable travel times for transit service. The Flex Lanes can also be used by emergency vehicles if an accident occurs or to route traffic around an incident without loss of capacity.

Before the ATM could begin operations, several issues had to be resolved. The first was the transition to 24/7 operations. The philosophy adopted by the Tollway was that the ATM should be available to be used at all times of day or night. Therefore, additional staff was hired to allow for full time operations. In addition, building from the lessons learned from others, time was allotted to train all operators on the new operations before the system was turned on.

The team also completed a comprehensive study of the symbols displayed by the lane control signs—the Xs and arrows used to indicate, for example, closures, open lanes or incidents ahead on the road. Extensive field testing was performed under controlled conditions to understand how well drivers could recognize different symbols—or the combination of symbols and text—at various distances. CDM Smith used research from other agencies and the Federal Highway Administration to recommend symbols that optimize message clarity for drivers.

A concept of operations was delivered to the Tollway for the ATM system and a public outreach program was developed to educate users. This included numerous meetings with stakeholder groups, developing educational material to be shared and working with the media to provide fact sheets, videos and other material to help inform the public how to use the ATM system.

Annual Meeting Summary

ITS Midwest 2018 Annual Meeting – Indianapolis, Indiana

Thursday and Friday, September 13-14, 2018
at the Indianapolis Motor Speedway Media Center in
Indianapolis, Indiana

The 2018 ITS Midwest Annual Meeting was held at the Indianapolis Motor Speedway Media Center in Indianapolis, Indiana on September 13-14, 2018

The theme for this 23rd Annual Meeting of the Intelligent Transportation Society of the Midwest (ITS Midwest) was “Keeping ITS On Track”. The focal point of this year’s gathering was the actions needed to continue development and deployment of ITS and transportation technologies. These deployments are proven to increase safety, mobility, and reliability of our transportation systems. It also reflects the emerging emphasis on connectivity across vehicles and with infrastructure towards the ultimate goal of autonomous vehicles. Research has shown that such a future will reduce crashes, injuries, and deaths on our roads and highways.

The two-day event included a “Speedway Indoor Karting and 1911 Grill” reception and banquet Thursday evening social event, which allowed participants an opportunity to enjoy the thrill of wheel to wheel competition on a somewhat



Thursday night Social Event Included Racing Thrills on a slightly smaller scale

smaller scale than that of the Indianapolis Motor Speedway.

The technical tour was an exciting “Behind the Scenes Tour of the Indianapolis Motor Speedway” following the sessions on Friday. This tour included the Pagoda, Timing/Scoring, as well as the Winners Circle and Podium. The Indianapolis Motor Speedway Museum also included an opportunity to see many famous previous race-winning cars going back to the very first running of the Indianapolis 500

in 1911.

The heart of the event was a terrific program with eight technical presentations and nineteen exhibitors. In addition to connected and autonomous vehicles, there were presentations on Smart Cities, multi-state collaboration, transportation systems management and operation, commercial vehicle operations, safety innovations, incident management, work zone ITS, transit applications, federal updates, and new and innovative technologies. A very interesting presentation was “Race Day Traffic Management at the Speedway” by Ed Cox, the ITS Engineering Director for the Indiana Department of Transportation (INDOT).

Our President Ken Glassman opened the meeting, and noted this is one of the largest ITS Midwest Annual Meetings, with over 130 registered attendees. He then introduced Keynote Speaker Mr. Joe McGuinness INDOT Commissioner.

Mr. McGuinness currently serves as INDOT Commissioner and also as Mayor of



The Indianapolis Motor Speedway Museum tour includes the Marmon Wasp, driven to victory by Ray Harroun in the inaugural 1911 Indy 500



Keynote Speaker Mr. Joe McGuinness Commissioner, Indiana Department of Transportation addresses the assembly

Franklin, Indiana. He noted that Indiana has recently increased their motor fuel tax by 10 cents per gallon for all vehicles.

He briefed the audience on INDOT's current ITS activities. Their future ITS deployments are geared toward Smart Growth and Automated Vehicle/Connected Vehicle (AV/CV) initiatives, including a three-year \$33 million project to deploy Closed Circuit TV (CCTV) cameras to allow streaming video primarily along Indiana interstates. In addition, INDOT is working with Purdue University on V2I projects and Weigh In Motion (WIM) sensors, and deploying a CV pilot project in West Lafayette that includes Signal Phasing and Timing (SPaT) along Indiana Route 231.

The luncheon was catered in the Indianapolis Motor Speedway Media Center. Prior to our luncheon speaker, the 2018 project and service awards for the Society were announced by Awards Chair Dan Shamo, Indiana Director. Ken Glassman received the President's Award for his service as President of the ITS Midwest.

Justin Potts of the Illinois Department of Transportation was presented with the ITS Midwest Excellence in Service Award for his many years of service to ITS Mid-



Dan Shamo (left) presents the President's Award to Ken Glassman (right) for his service as President of the ITS Midwest

west, and his long record of promoting ITS initiatives within the Midwest.

The 2018 ITS Midwest "Project of the Year" awards were announced by Dan Shamo. The 2018 ITS Midwest "Project of the Year" award for the Most Outstanding ITS Project had strong contenders this year including:

- The Illinois Department of Transportation (IDOT) District 5 ITS Initiative to implement and deploy fiber optic, traffic signal upgrades, and detection devices,

- The Illinois Department of Transportation Arterial Construction Tracking System (ACTS) Version 2 which extends tracking closures of arterials due to permits given to municipalities, utilities, and IDOT maintenance activities,

- The Ohio Department of Transportation (ODOT) I-90 Lake Effect Snow Corridor (LAK-90-14.68 Variable Speed Limit Project) which includes variable speed limit and dynamic message signs, CCTV cameras, road weather



Illinois Department of Transportation Justin Potts (right) was presented with the ITS Midwest Excellence in Service Award by Dan Shamo (left).

information systems, coordination with National Weather Services, and training of ODOT Traffic Management Center staff to more actively manage traffic,

- The Illinois State Toll Highway Authority I-90 Smart Road project, which has established 24/7 advanced active traffic management with Over-the-Road Lane Control Signals, use of established Flex Lanes on the left shoulder for buses and general purpose during specific events, establishment of operations reporting to include Smart Roads, plus before and after analysis of corridor operations,
- The Kane County Division of Transportation Arterial Operation Center (AOC) and Advanced Traffic Management System (ATMS), which included construction of a building addition to house the new AOC, ATMS, and upgraded Central Traffic Signal Management System,
- The City of Naperville, Illinois Adaptive Signal Control Technologies (ASCT) installation, which is an extension of their award-winning centralized arterial traffic management system. This project integrated 32 Central Business District signalized intersections with the City's existing central system software, modified traffic signal cabinets to facilitate equipment upgrades and ASCT software, and installed wireless vehicle detection technology at each location to enable adaptive control,
- The City of Chicago, Illinois Chicago Smart Mobility (CSM) Project Phase I which involves the rollout of a multi-featured ATMS to implement active traffic management in Chicago. The new system integrates multiple previously antiquated and standalone systems together in one platform. The project will provide unprecedented access to traffic data and provides a foundation for active traffic management, integrated operations, traveler information delivery, agency coordination, and system analytics,
- The Indiana Department of Trans-



ITS Midwest Indiana Vice President Dan Shamo (left) of AECOM presents ITS Midwest Project of the Year Award to Abraham Emmanuel of City of Chicago (second from left), and their consultants Joseph Brahm (second from right) and Preston Judkins (far right) of Parsons.

portation TPIMS (Truck Parking Information Management System) which places advance notification signs at 19 sites, setting up two websites, and establishing an App regarding truck parking availability. The system provides In/Out counting of truck movements at entrance and exit ramps, including CCTV to verify data,

- The ITR Concession Co. LLC (Indiana Toll Road) ITRCC Road Safety Initiative, which involved a substantial construction project using Design/Build to construct 64 miles of fiber backbone to connect 42 existing devices, and deploy and connect an additional 58 new devices, while accommodating video imaging sharing with the Indiana State Police Toll Road Post. The project submittal included verified benefits of incident reductions, particularly during rain/fog and winter weather conditions,
- The City of Cincinnati, The Banks Public Partnership Hams Banks Variable Message Signs, which is a multi-phase Parking Management System in downtown Cincinnati to make motorists aware of available parking during events. Phase One has installed two DMS. Next phases include installation of four additional Dynamic Message Signs (DMS) over city streets and US

Route 50, and installation of a Parking Management System; and

- The Kentucky Transportation Center SAFCAT (Safety Assessment for Connected and Autonomous Transportation) which provides an analytic framework to demonstrate the impact of CAV implementation based on various levels of implementation. The



Luncheon Speaker Jason Goldman, Vice President for External Affairs and Stakeholder Engagement at the Intelligent Transportation Society of America (ITS America) addresses ITS Midwest

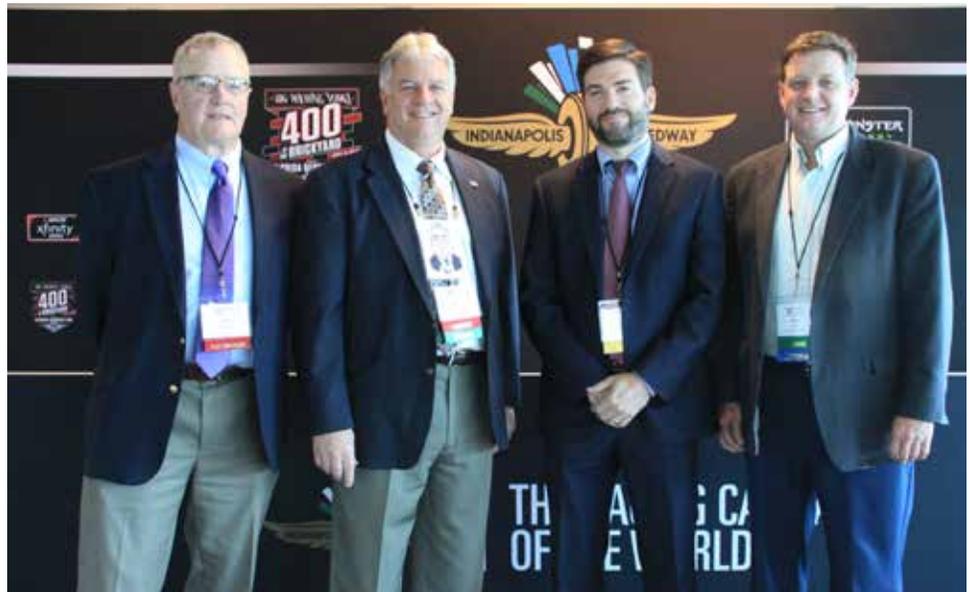
project considers multiple parameters and evaluates levels 1-5 Automated Vehicle Technology, and incorporates large volumes of crash data, roadway attributes and traffic data.

And the winner was ... City of Chicago, Illinois Chicago Smart Mobility (CSM) Project Phase II! Congratulations to the City of Chicago and their consultant Parsons!

President Ken Glassman thanked Dan Shamo for all of the work he has done in overseeing the process to solicit, evaluate, and select the ITS Midwest Project of the Year.

For the second consecutive year, we were fortunate to have as our Luncheon Speaker Jason Goldman, Vice President for External Affairs and Stakeholder Engagement at the Intelligent Transportation Society of America (ITS America). Jason oversees ITS America's relationships with its state chapters. To further ITS America's public policy agenda, Jason engages in coalition-building involving outreach to state and local governments as well as third parties. As part of his work managing the ITS America Advocacy Trust initiative related to transportation technology issues emerging over the next three-to-five years, Jason is focused on the policies needed to advance the creation of smart communities. Additionally, Jason serves as the legal policy counsel for the ITS America Cybersecurity Task Force, and contributes his extensive policy expertise to ITS America's legislative and regulatory efforts.

Mr. Goldman discussed in detail the recent national policy developments in the areas of Dedicated Short Range Communications (DSRC) and 5G as related to AV/CV technologies. He also provided a presentation of current ITS America activities, and laid out the plans for ITS America future priorities and endeavors, including an update for the ITS World Congress that was held in September in Montreal, where more than 11,000 professionals were in attendance. He also provided an overview of ITS America's programs and priorities.



From left to right, David Zavattero, Ken Glassman, Matt Letourneau, and Scott Lee.- Four Past, Current, and future Presidents in a row.

After the Luncheon Address, Matt Letourneau announced the election results for the ITS Midwest Officers and Directors. The Secretary/President-Elect position was won by Scott Lee, and Vice-President positions will be filled by Justin Potts of Illinois, Dan Shamo of Indiana, Ed Williams of Ohio, and Jason Siwula of Kentucky. Director positions will be filled by Rick Fedder of Indiana, William McLemore of Kentucky, Nick Hegemier of Ohio, and Amarpal Matharu of Illinois. A complete list of ITS Midwest Officers and Directors is provided on the last page of this newsletter.

Additional presentations were made on various ITS topics, and one of the anticipated segments was the portion of the program where vendors discuss their current technologies and services, which were on display all throughout the Annual Meeting in the vendor Display area. The individual vendors made presentations on their equipment and services to the assembly, and this presentation period was followed by the Exhibitor Open House where the vendors and attendees met to discuss their products.

On Thursday afternoon, a Roundtable discussion of a select Executive Panel of DOT executives was moderated by ITS

Midwest Past President David Zavattero. The distinguished panelists included Jim Sturdevant, the Director of Traffic Management of the Indiana Department of Transportation; Jason Siwula, the State Innovation Engineer of the Kentucky Transportation Cabinet; and Paul Loete, the Director of Highway Implementation of the Illinois Department of Transportation. This panel discussed a wide variety of topics including funding, legislation, project procurement methods, and specific ITS initiatives within each state.

Following the Roundtable discussion, Dean Mentjes of the Federal Highway Administration (FHWA) provided an update on FHWA policies, procedures, and activities, including research in operations areas of active transportation management, work zone safety, and promotion of Transportation System Management and Operations (TSMO) strategies to improve mobility, safety and travel reliability. He informed the attendees of new tools available for estimating performance of ITS projects, multi-modal and freight planning tools, and asset management tools.

The Annual Meeting neared its conclusion with a special session on traffic management where Ryan Elliott, the Annual Meeting Conference Chair intro-

duced Ed Cox, ITS Engineering Director for INDOT. Mr. Cox provided a very interesting presentation of the Indy 500 Event Control on Race Day and gave his perspectives on how ITS applications on Race Day have evolved to improve the management of this challenging event.

Conference Chair Elliott concluded the Annual Meeting and thanked the assembly for their attendance and their support.

The ITS Midwest Annual Meeting provides a forum where members and vendors can showcase their progress in planning and deploying state of the art ITS technologies.

ITS has grown from a fledgling industry to a major factor in the future of transportation in the United States and around the world. ITS Midwest and our members can take pride in the contributions being made through technology to achieving safer, more informed, and more efficient travel. Yet, much remains to be accomplished.



The Indiana Motor Speedway was a breathtaking setting for the Annual Meeting

Thanks, and appreciation goes out to all our vendors who exhibited, and special thanks to our sponsors including our Gold Sponsors Jacobs Engineering, Parsons, and TranSmart/EJM; and our Silver

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