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Fall 2014

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Cleveland's New Innerbelt Bridge Marks Halfway Point

See page 6

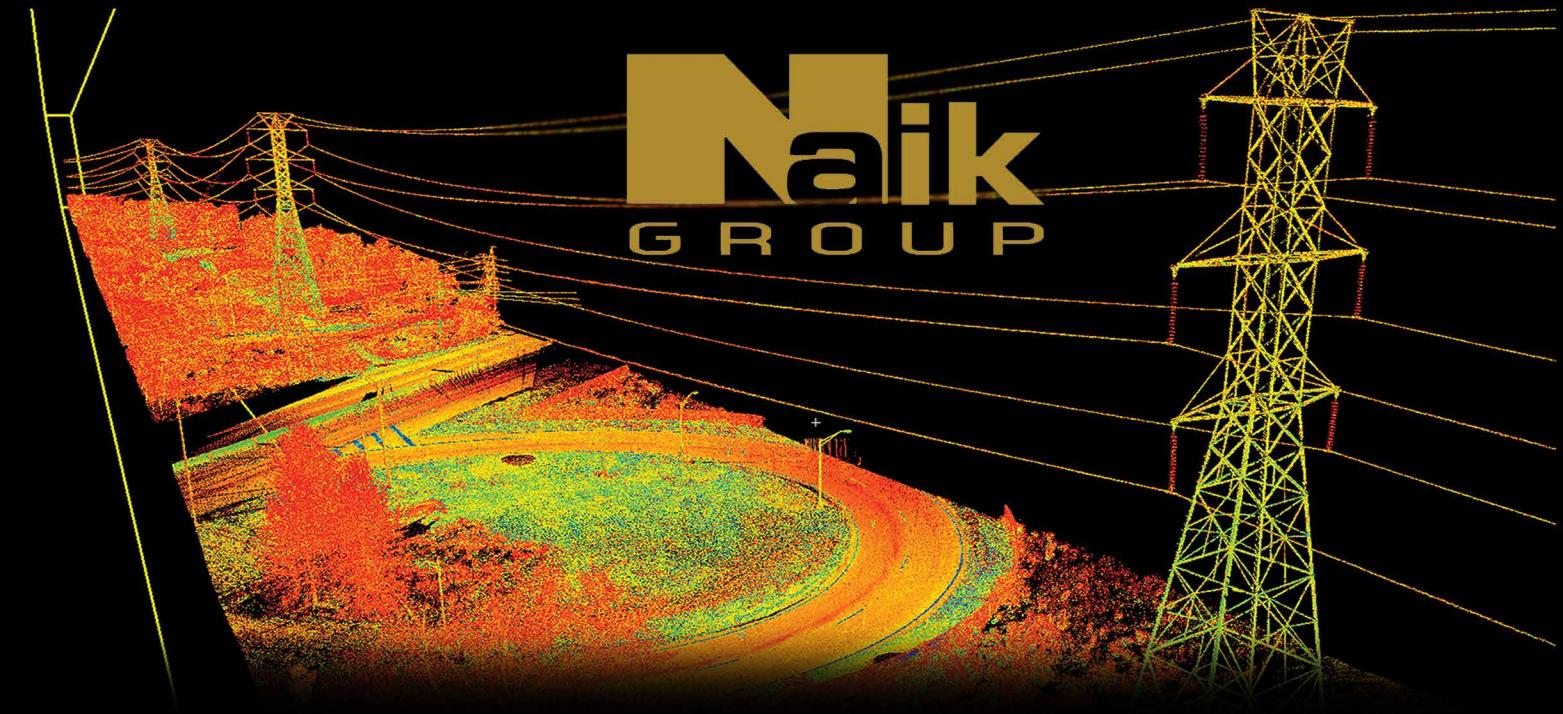


Central Dacotah Section Hosts 2014 ASHE National Conference

See page 29



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Samir Mody, PE

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New Directions

I hope you and your family had an opportunity to enjoy the summer season and get away from the rigors of day-to-day reality. Unfortunately, the 14-week window between Memorial Day and Labor Day has rapidly closed, and yet another summer will soon be a distant memory. Although Gail and I did not take a formal vacation this summer, we did enjoy our time relaxing during several extended weekends in Atlantic City. This summer featured much more comfortable temperatures with many cool nights when I had an opportunity to open the windows. Though not a big fan of the beach itself, I utilized its beauty as a backdrop to outdoor activities, riding my bike, walking, sitting on the bench watching people walk by or enjoying a cold refreshment at one of my many favorite establishments.

The summer season is typically a time when ASHE is doing what we are typically doing—recharging; Sections and Regions hosting golf outings/summer activities, and holding organizational meetings for the coming year. Over the past two months, I have had the opportunity to either meet or listen by conference call to three Section Boards during their organization meetings, discussing their goals/challenges for the coming year. In addition, I have been invited to participate on several conference calls led by our National Committee and Subcommittee Chairs who are re-activating their volunteer-based groups to discuss outstanding actions and strategies for success. In a time when we all struggle for a balance between our professional and personal lives, I am extremely encouraged and proud of the effort displayed at all levels of this organization, particularly during our “slow season”. Our 41 Sections are the driving force to make ASHE a viable and relevant organization. I cannot overstate the fact of how many concurrent activities are ongoing at the Section, Region and National levels, all of which are conducted by an organization composed of motivated, hard-working individuals who are striving to make a positive contribution.

In keeping with that, this summer has allowed the formation of the new Technology Committee, led by Mindy Sanders from the Georgia Section, and composed of dedicated volunteers (George Willis, John Hetrick, Richard Cochrane and Jake Morisi) working at the National level to improve our internal and external communication needs. The Website and Cloud subcommittees have been rolled into this organization.

Technology is a way to make us more effective and productive as we try to do more with less time. It is a broad subject that encompasses everything from streamlining functional processes to improving information sharing and communication. The objectives of this committee will be to research, propose and execute new technology-based tools in an effort to better support our members and the mission of ASHE at the Section, Region and National levels of the organization. We will begin by supporting the progress of goals previously established by the National Board. These include implementation of the 2012-2015 Strategic Plan, development of the ASHE Cloud, expansion of the National Website to provide job postings and production of a fully interactive, electronic version of the scanner. This year will be a discovery process as we establish additional short- and long-term objectives.

It is their recommendation to no longer operate as an independent committee, but serve as a supporting entity to the Board, other committees and Sections/Regions. A large part of their function will be to discover the needs of the entire organization and understand how best to achieve and implement them. Responsibilities will need to be distributed, as appropriate, to members of other committees or may even require establishing temporary, task-specific subcommittees. If you would like to become involved with this

(continued on page 14)

In This Issue



06 Cleveland's New Innerbelt Bridge



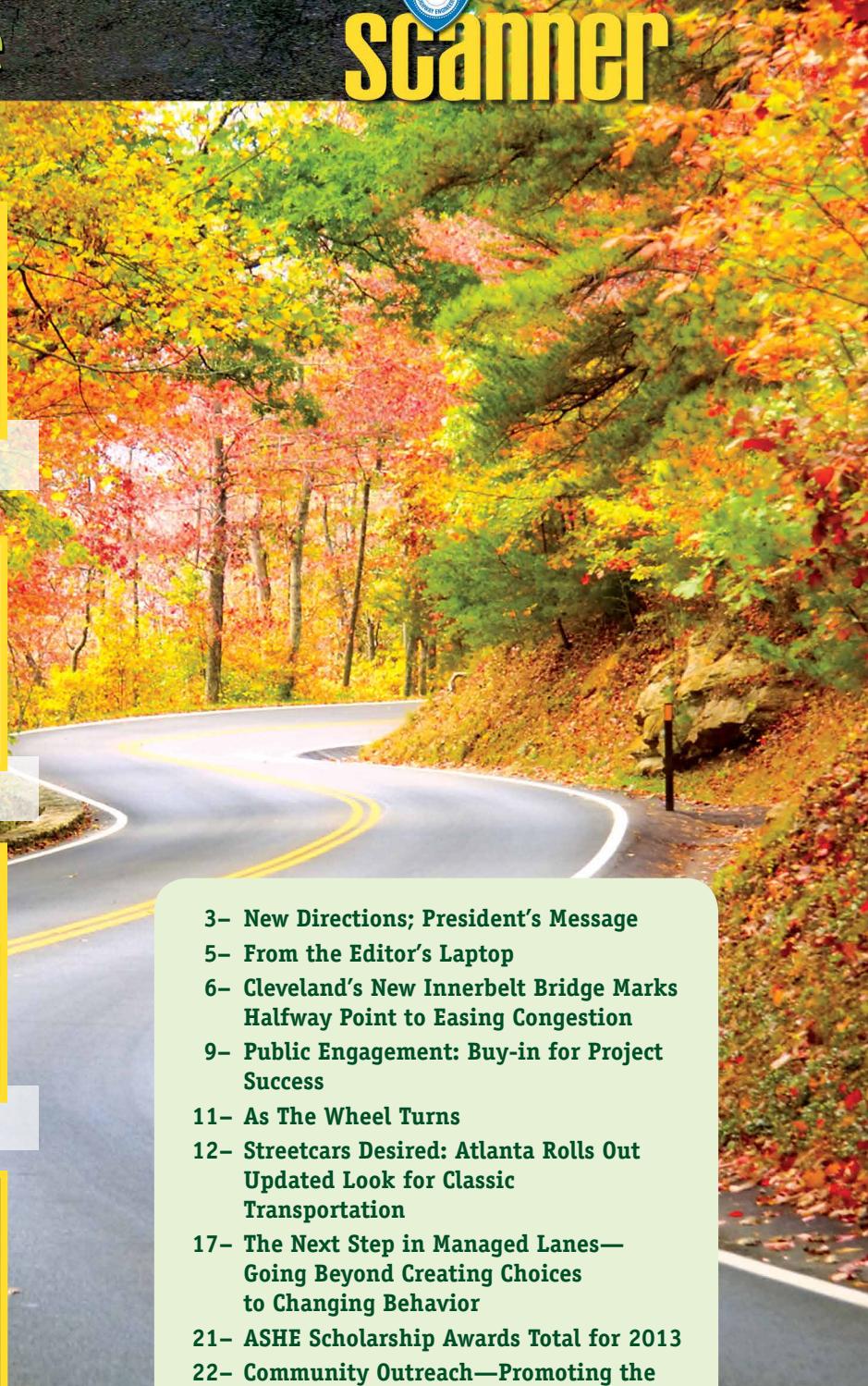
17 The Next Step in Managed Lanes



22 Community Outreach



29 2014 ASHE National Conference Recap



- 3– New Directions; President's Message
- 5– From the Editor's Laptop
- 6– Cleveland's New Innerbelt Bridge Marks Halfway Point to Easing Congestion
- 9– Public Engagement: Buy-in for Project Success
- 11– As The Wheel Turns
- 12– Streetcars Desired: Atlanta Rolls Out Updated Look for Classic Transportation
- 17– The Next Step in Managed Lanes—Going Beyond Creating Choices to Changing Behavior
- 21– ASHE Scholarship Awards Total for 2013
- 22– Community Outreach—Promoting the Engineering Profession and STEM Education
- 26– Natural Gas Electricity
- 29– Central Dakotah Section Hosts 2014 ASHE National Conference
- 31– MileMarkers

From the Editor's Laptop

Summer is over, and fall will be here when most of you are reading this edition. There are many exciting changes coming about for ASHE this fall and into next spring.

ASHE has added two new partnerships since June—The National Association of Women in Construction (NAWIC) and the International Erosion Control Association (IECA). Here is a little bit about their organizations:

NAWIC's purpose is to enhance the success of women in the construction industry. They provide their members with opportunities for professional development, education, networking, leadership training, public service and more. They have 150 chapters and have been serving the construction industry since 1950. Their educational foundation has awarded more than \$4M in scholarships. More information can be found at www.nawic.org.

IECA is the world's oldest and largest association devoted to helping members solve the problems caused by erosion and its byproduct—sediment. Their mission is to connect, educate and develop the worldwide erosion and sediment control community. They have 2,200 members who

specialize in stormwater management and natural resource protection. More information can be found at www.ieca.org.

ASHE is also starting to investigate/develop an electronic version of the scanner. This will be made available to those who would prefer to read it on their laptops or their smartphones versus receiving a printed copy. More information will be made available as this initiative nears completion, but it is targeted for next spring/summer.

The final initiative being developed is a job bank that will be placed on the ashe.pro website. National has had several requests this year, and after discussions over the last few months, the board made the decision to proceed with the job bank development. It will be completed this fall, so please check the website if you are an employer wishing to post a position or if you are a member looking for a new job. You may also contact me for information to post a position at jlhettick12@gmail.com.

I hope you enjoy this edition of the scanner and have a wonderful fall. 🍁

John Hetrick P.E.

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Cleveland's New Innerbelt Bridge Marks

by Jocelynn Clemings, Public Information Officer, Ohio Department of Transportation, ASHE Lake Erie Section

The Ohio Department of Transportation (ODOT) celebrated a major milestone in November 2013 when the first new I-90 bridge opened, spanning the Cuyahoga River in downtown Cleveland. ODOT is in the midst of replacing the 1959 Innerbelt Bridge with two, nearly identical spans—the first designed to carry westbound traffic, the second to carry eastbound traffic. Construction of the first bridge is the largest project in ODOT's history—and the state's first value-based, design-build project.

Replacement of the old bridge is vital to the economy of Cleveland. Serving 140,000 motorists each day, this link provides access to jobs, sports complexes, restaurants and more. The first of the pair is now open

and temporarily carrying traffic in both directions until completion of the second new bridge in late 2016. The pair of new bridges has been named in honor of statesman George V. Voinovich, who was honored with a dedication and ribbon-cutting ceremony on November 8, 2013.

"The sheer scale of these projects, in an ultra-urban environment, over a navigable river, three active railroads and adjacent to major sports complexes, made these projects especially complex and high profile. We were fortunate to have an experienced and conscientious project staff, who continuously and proactively coordinated construction impacts with numerous project stakeholders," said ODOT's David Lastovka, Innerbelt Corridor Project

Manager and a member of the ASHE Lake Erie Section Board of Directors.

Construction of the first new bridge earned national attention as one of the top 10 bridges in the nation, and was featured on the cover of *Roads & Bridges* magazine in 2012. The project also received the Environmental Excellence Award from FHWA for its leadership and sustainability efforts. In addition, ODOT was recognized by the Design-Build Institute of America as "Owner of the Year" in 2014.

ODOT now turns to construction of the second bridge—and will do so with a new contracting team. In September 2013, ODOT announced that Trumbull Corporation, The Great Lakes Construction Company and The Ruhlin Company (TGR), along with

designer URS Corporation, were the apparent winning team who would perform the demolition of the 1959 Innerbelt Bridge and construct a new eastbound structure in its place. With a bid amount just under \$273 million, the team secured its place as the next contractor.

The project is funded by Ohio Governor John R. Kasich's Jobs and Transportation Plan, which injects nearly \$3 billion in state, local, federal and Turnpike money into 41 transportation projects across the state. These needed funds erase delays and accelerate construction projects. In northeastern Ohio, that means \$1.2 billion will be spent on 17 projects—the largest of which is construction of the second replacement bridge. Without the plan, construction of the second new bridge could have languished for two years or more, which could have meant traffic headaches for Cleveland commuters while all traffic remained on

the first new bridge.

"Governor Kasich's Jobs and Transportation Plan is allowing us to invest \$3 billion over six years in new infrastructure spending at a time when it's needed the most," said ODOT Director Jerry Wray. "We are able to unlock the revenue potential of the Ohio Turnpike and use it for transportation construction without raising taxes on hardworking Ohioans."

With funding in place, the TGR team has turned its attention to dismantling the old bridge. The demolition plan includes a mixture of both traditional demolition and "controlled"—or explosive—demolition.

"This demolition plan will protect the businesses that operate beneath the bridge, as well as people living and working in adjacent neighborhoods," said Tom Hyland, PE, ODOT's Project Manager for Construction.

The bridge railings, lights, barriers and concrete driving surface will be removed using traditional methods. Specific spans over the river and railroads will also be disassembled in a traditional manner. Several spans will be demolished using the controlled demolition method. A professional demolition company that has handled large-scale demolitions around the nation will perform the controlled demolition, and a safety perimeter of 1,000 feet will be set.

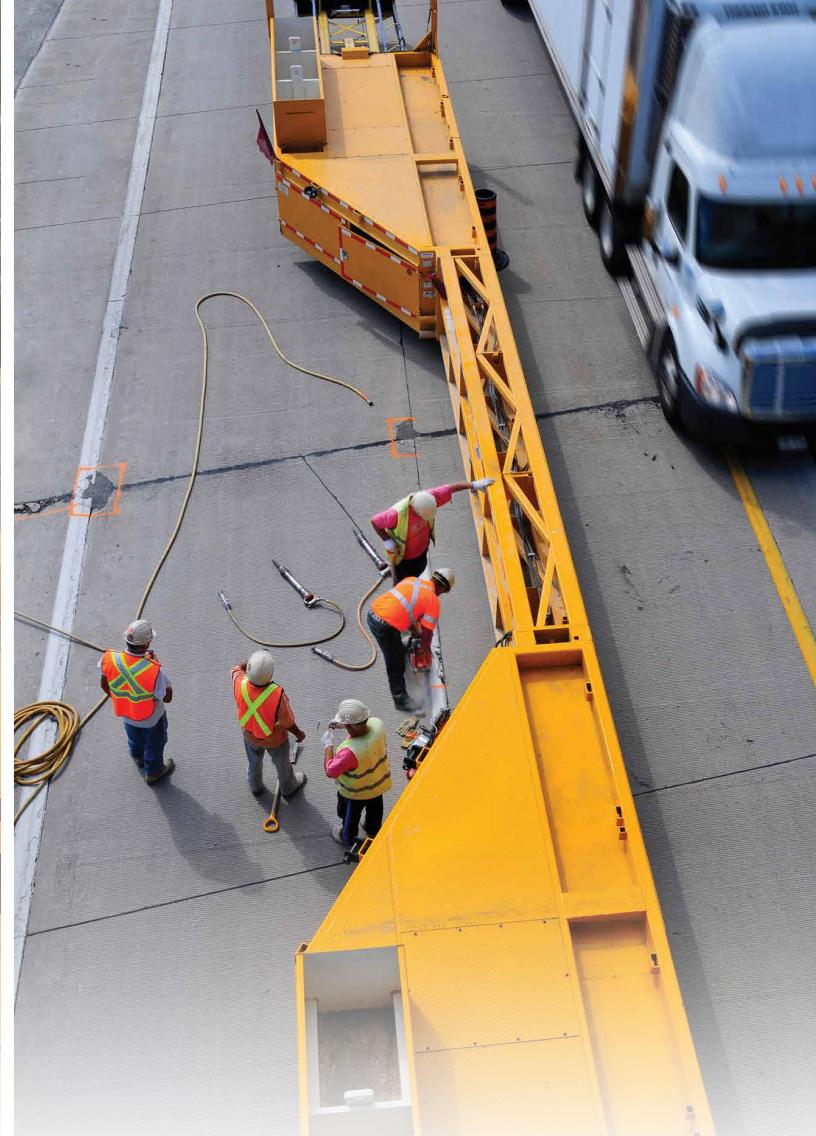
Crews currently work to remove the 10-inch thick concrete bridge deck that's over 5,000 feet long. This work was to continue into the summer of 2014 when controlled demolition was scheduled to take place. The bridge is to be demolished in its entirety soon after the deck removal. At that point, construction of the eastbound span will commence, with a projected completion date in the fall of 2016.

Halfway Point to Easing Congestion



"With the completion of these two bridges, the daily congestion encountered on the old bridge during rush hours (Level of Service E & F) will be eliminated, as each direction of I-90 will have an additional travel lane in each direction," Lastovka said. "Additionally, safety will be improved, as each bridge is designed to current standards, including full 12-foot shoulders, a large improvement over the previous two-foot shoulders." The completion of these two bridges represents the approximate 30 percent completion point for the entire Innerbelt Corridor Modernization Plan, which rehabilitates and reconstructs about five miles of interstate roadways traveling through the heart of downtown Cleveland. 

For more information, please visit www.Innerbelt.org.



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Public Engagement: Buy-in for Project Success

by Mike Sewell, PE, Gresham, Smith and Partners, ASHE Derby City Section

Since I am an engineer for Gresham, Smith and Partners (GS&P), it might strike you as odd that the part I love most about my profession is public engagement. I appreciate the benefit of getting residents involved in planning early and often; their feedback is essential to ensuring that a project will meet the current and future needs of its actual users. While most transportation and land-use projects require a public engagement component in order to qualify for funding and move a project forward, it's important to not treat these meetings and interactions as a box that simply needs to be ticked. Planners and engineers can come up with some great concepts, but until we seek out a local perspective, there is

a Facebook comment about an issue.

But in a world of always-connectedness, I find that going the opposite route—having face-to-face conversations—is still, by far, the best way to get the most honest feedback and foster grassroots support. It shows you are engaged directly with a person and allows people to be more candid if you are a willing listener. During the last year, GS&P has provided multi-modal planning and transportation engineering services for renovations and improvements for the busy Fourth Street University Corridor in Louisville, KY. It connects the University of Louisville to Churchill Downs, home of the Kentucky Derby, and spans a densely populated residential and commercial district.

Throughout the project, our team has sought out countless conversations with local residents to learn exactly why the improvements were needed and what the best solutions would be. I have walked up and down the corridor on foot and ridden it by bicycle. This has allowed me to strike up dialogues with drivers, pedestrians, cyclists and people getting on and off buses. Most everyone felt that the corridor was overly congested and unsafe, but each user group offered me a different, valuable perspective on their unique needs and concerns. It's also worth noting that I've recognized many of these people at our public meetings. They remembered my name, and I remembered theirs; they knew their feedback had been put to use by our design team, and they had

a vested interest in the project's success. We listened, and now we have people outside of our design team who own this project.

A slide from one of GS&P's presentations at a Fourth Street public meeting encouraged attendees to virtually walk the route of the corridor and identify areas they like and areas that need improvement.

For the three public meetings we've held, we tried to schedule them at a time and place that would be easy for people to attend. Here's an example: many of the corridor's pedestrian users don't own cars, so it seemed obvious they wouldn't be able to travel for a meeting. Thus, we made the decision to hold one of the meetings in a neighborhood where many of the pedestrian users live, and we scheduled it immediately following another community event so they



a “guessing game” element to our work. Public engagement presents a unique opportunity to get solid feedback that steers decision making in the right direction. Residents and stakeholders who actively participate are a major component of a project’s success.

Public engagement can occur in a number of formats: town hall-style meetings, informational sessions, community events, surveys, casual conversations and other methods. Social media is also advancing the ways that planners and engineers can interact with and get feedback from the public. Many organizations create Facebook and Twitter accounts that provide a fun, easy way for residents to stay in the loop on planning and progress. It's a simple way to disseminate information, and since it's not time-consuming, people are often more inclined to “tweet” an opinion or post



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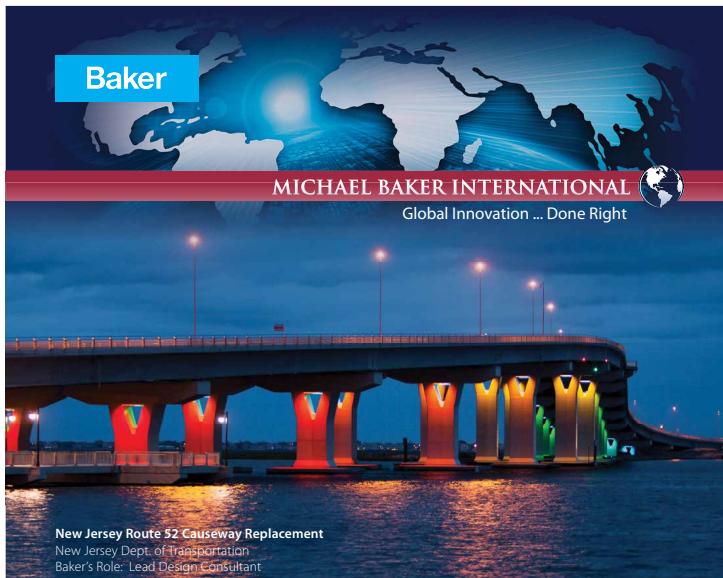
were already gathered together and in a social mood. For this meeting and our other meetings, turnout and participation have been excellent because the setting and timing were strategic.

Plenty of organizations are daunted by the idea of coordinating a full-fledged public involvement campaign; there are countless instructional manuals and step-by-step guides floating around in the planning universe. But I personally believe that achieving success isn't so complex. Following these five simple do's and don'ts will, at the very least, get you off on the right foot:

- DO remember that public engagement is about listening and understanding as much or more as it is about talking and educating.
- DON'T wait for scheduled meetings; seek out conversations during residents' everyday use of a project to encourage candid feedback.
- DO make it easy for people to attend meetings and information sessions by picking convenient times and locations.
- DON'T underestimate the power of social media to foster connectivity and easy communication.
- DO keep in mind that good public engagement efforts can turn into great public relations. An informed, supportive group of citizens is an unbeatable project advocate.

The time required for successful public engagement is worthwhile. Done correctly, it's the only surefire way to plan and design a project that will meet the community's needs now and for years to come. 

See more at: <http://goo.gl/SBGEH2>



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As The Wheel Turns

ASHE Members on the Move!



Greenman-Pedersen, Inc., Appoints Director of Transportation Design

Scranton, Pa. – Greenman-Pedersen, Inc., an employee-owned professional engineering firm, has appointed Joseph

Gillott, PE, as Director of Transportation Design in their Scranton, PA, office. Joe has over 20 years of experience as a civil engineer with a focus in the design and analysis of highway bridges and structures. He has extensive highway, bridge and project management experience on projects of all sizes, ranging from small bridges to \$5 billion major

highway, interchange and bridge projects. He is also a certified design-build practitioner with experience on over 60 design-build projects and extensive design-build training through the Design-Build Institute of America. Joe earned his bachelor's degree in civil engineering from Penn State. He is a board member of ASHE North East Penn Section and is a licensed professional engineer in Pennsylvania, New York, Ohio and Michigan.



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Streetcars Desired: Atlanta Rolls Out

by Philip Meador, LEED AP, ASHE Southeast Region—Georgia Section

First and last mile transit connectivity, referenced by the Atlanta Beltline, begins with the Atlanta Streetcar. Part of the larger “Connect Atlanta” plan that is intended to increase transportation options, promote sustainable development and create a better urban environment, the Atlanta Streetcar Project (Streetcar) is the first stage in what is expected to become a major overhaul of the city’s transit system. It was initially envisioned as an east-west connection between the Martin Luther King Jr. National Historic Site and Centennial Olympic Park, with a north-south alignment along Peachtree Street. The Atlanta Streetcar lost out on the opportunity for Federal Transportation Investment Generating Economic Recovery (TIGER I) discretionary grant program stimulus funds. However, in October 2010 the City of Atlanta received notice that it had been awarded approximately \$47.6 million in funds through the TIGER II Federal Grant program, which would partially fund the originally proposed east-west connection. In addition, the City of Atlanta was granted Federal Transit Administration Grantee status. Recognizing transit-related financing challenges, the city has also publicly acknowledged that it would entertain public-private partnerships.

The Atlanta Streetcar, a collaborative effort among Atlanta’s business, political and transit communities, includes three local sponsors: the City of Atlanta, Atlanta Downtown Improvement District (ADID) and the Metropolitan Atlanta Rapid Transit Authority (MARTA). The City of Atlanta is the recipient of the TIGER II grant and owner of the project. MARTA, as the tenured transit organization, is serving as the technical advisor, and ADID is a funding partner. As a result

of the TIGER II Grant Federal funding, the Federal Transit Administration provides oversight, while the Georgia Department of Transportation oversees safety certification. The team selected the design-build project delivery system for implementation and awarded the contract to URS Corporation in February 2012. Immediately following the selection, URS joined the Weekly Utility Task Force composed of the entire utility community and the sponsors, which was originally established in mid-2011. In April 2012, URS began design efforts. With the full attention of all parties, a focus on design refinement became the top priority. Design concluded in December 2012, and streetcar system construction commenced in February 2013. The last notable utility adjustments were completed in July 2013. Since the project site is located within some of the oldest areas of downtown Atlanta, several unknown facilities and infrastructure features had to be managed on a case-by-case basis. The Utility Task Force remains committed to actively responding until the last cantilever pole is placed and the last portion of guideway is poured.

Sponsors, utility owners, property owners, business proprietors and the general public have been integral players in the project’s implementation. Within Atlanta’s built-out urban environment, minimizing and negotiating impacts and conflicts is a huge challenge. Contending with existing utilities, minimizing interruptions to the myriad of utility service providers and considering new infrastructure, along with constant merger and acquisition activity among the private telecom utilities, require continuous day-to-day collaboration among all involved. Over the course of construction, property owners who border the Streetcar have had to

face daily construction traffic, shifting detours and the occasional access request needed to integrate the new system into the existing infrastructure. These businesses, residences and the general public have exhibited patience and understanding while waiting for normal routines to return, along with a resurrected method of transit that has been absent for over a half-century.

The Streetcar project is nearly three miles long, operating in a loop from the Martin Luther King Jr. National Historic Site, to Woodruff Park, to Centennial Olympic Park and back. Twelve stops will include King Historic District, Peachtree Center (with connection to MARTA), Centennial Olympic Park, Hurt Park and the Sweet Auburn Market. The four S70 Ultrashort vehicles manufactured by Siemens are examples of the most advanced modern streetcar design and technology available. The Overhead Contact System (OCS) will also be making a reappearance downtown with a single trolley wire system suspended from OCS poles, blending in with the city street lights. The project is supported by a new two-bay vehicle maintenance facility located in the heart of the alignment on Fort Street.

With the conclusion of construction this year, festival activity will return to downtown, traffic detours will be lifted and the public can enjoy an enriched and revitalized downtown Atlanta. Streetcar will share travel lanes with the public, who will undoubtedly know which way it will turn! This is a historic project for the City of Atlanta—one that exemplifies the intense collaborative effort so crucial in rebuilding and urbanizing not only existing infrastructure, but also new infrastructure in Georgia and across the United States. 

Updated Look for Classic Transportation



New Directions (*continued from page 3*)

committee or have any ideas or suggestions for what you'd like to see improved or implemented, please pass them along to Mindy Sanders at mindy.sanders@loweengineers.com.

After the Executive Board had some downtime, we traveled to Atlantic City the weekend of August 15 and 16 and met with representatives from the Southern and North Central New Jersey Sections to give them a flavor of the challenges facing the National Board. At the Executive Board meeting, we had an agenda that contains a wide variety of issues, including an in-depth discussion of the seven Action Items resulting from our SWOT Analysis of the organization held in January 2014. Our goal was to establish designated Chairs, forming a committee structure, establishing defined goals/purpose/strategies and formulating a schedule of follow-up meetings/conference calls for the implementation of each Action Item.

My personal travel plans and responsibilities begin to heat up next month as I look forward to meeting with my ASHE colleagues in the following cities. Here is a snapshot of my visitation schedule:

- September—ASHE/ASCE Fall Conference in Phoenix, AZ (9-11), and Southern New Jersey and North Central New Jersey Joint Section Meeting in Cranbury, NJ (9-17)
- October—Southeast Region Meeting in Jacksonville, FL (10-2); Executive/National Board Meetings in Toledo, OH (10-11 to 10-12); Past President's Banquet in Pittsburgh, PA (10-18); and OTEC in Columbus, OH (10-28 to 10-29)
- November—Carolina Triangle Section Dinner Meeting in Raleigh, NC (11-6)
- December—Georgia Section Holiday Party in Atlanta, GA (12-4, tentative)

The 2014 National Conference held in Bismarck this past June was outstanding on so many fronts. The Central Dakotah Section, led by the dynamic Energizer Bunny Laurie Martin, was truly a great host to more than 200 attendees, with many dedicated "volunteers" working behind the scenes attending to the type of details that measures a successful conference. This Conference Committee conquered many challenges during their planning efforts over the past three years, but their team persevered to provide their guests with firsthand friendliness, an excellent technical program, a golf tournament promoting the beauty of the prairie valley and local attractions to provide a sampling of the Upper Great Plains.

I would like to thank the Conference Committee personally for their hospitality, first-class treatment and for providing Gail and me with Suite 1169, known as the second hospitality suite, which may never be the same again. For those who joined our late-night get-togethers during the conference, it was truly a great experience with

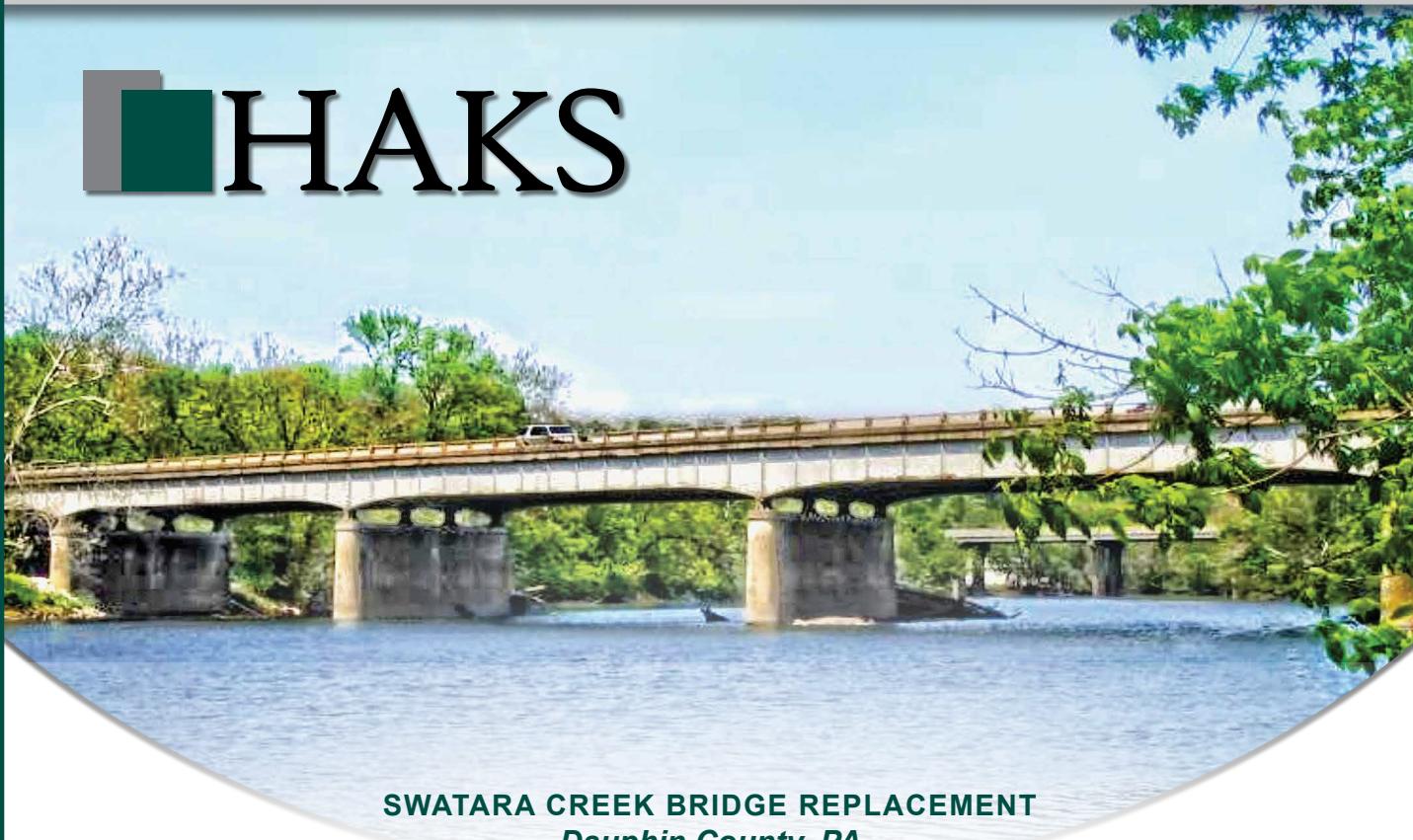
tremendous fellowship, lots of laughs (I am smiling as I write this passage) and one I will treasure for a lifetime.

In closing, I would like to give you a quick update on what is happening at the National level:

- We now have signed partnership agreements in place with National Association of County Engineers (NACE), International Erosion Control Association (IECA), National Association of Women in Construction (NAWIC) and Society for Marketing Professional Services (SMPS).
- The partnership committee is currently updating the guidelines for establishing future partnerships.
- We are currently working with two Sections who are struggling to maintain sustainability.
- The Regional Oversight Committee (ROC) continues their focus to strengthen their organizational structure.
- We are exploring the merits of adopting the Registered Continuing Education Program (RCEP) for utilization by our membership.
- As we wrap up our final report and financials from the 2014 ASHE National Conference, planning efforts are already underway for next year's gathering in Baltimore, MD.
- Letters have been distributed to each Region, soliciting a host for the 2018 National Conference. Responses are due by November 1, with a selection announced at the January 2015 National Board meeting.
- We are working toward establishing a student chapter at Temple University.
- The New Sections Committee is making positive inroads toward hosting an introductory meeting in Denver, CO, planned for the Fall of 2014.
- Potential Sections include Beaumont, TX (located a local champion), Pacific Northwest (possibly redirect focus from Portland to Seattle/Olympia, WA) and Hartford, CT (led by the Northeast Region). Collaboration with the Member-at-Large, Partnerships and Public Relations committees continues to forge ahead for greater success.
- We continue exploring new Section opportunities within the existing Regional boundaries.

We will continue enlisting your participation on new committee initiatives and integrate "future leaders" who have expressed a desire to become more involved at the National Board level and assist in the development of important strategies to move the organization forward. I have seen firsthand where an organization, open to the ideals of many, can make a significant contribution to the highway industry when we all work together in a well-orchestrated, collaborative fashion toward the preservation of the vision, mission and values of ASHE. Thanks, summer of 2014! 

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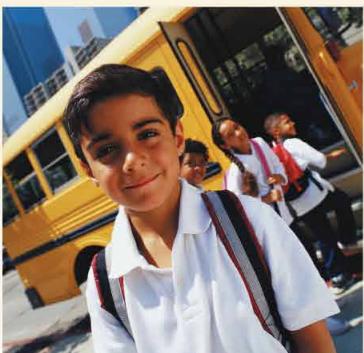
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The Next Step in Managed Lanes—Going Beyond Creating Choices to Changing Behavior

by Alan Brick-Turin, PE
ASHE Gold Coast Section

High Occupancy Toll (HOT) lanes, managed lanes, express lanes—whatever you call them—are gaining in popularity. From the first experiment in Orange County, California, to the most recent additions to the express lane constellation in Washington and Georgia over the past year, a trend is clear. Managed lanes offer a congestion-free alternative, and a revenue source, and even reduce congestion on the adjacent general purpose lanes. But are they sustainable, or will they also, succumb to growing travel demands? A multimodal approach, as was explored by the Miami-Dade Metropolitan Planning Organization (MPO) in the study titled Tolled Managed Highways with Rapid/Express Bus and Ridesharing, offers the potential for a more sustainable solution.

Over the short term, projects like 95 Express in Miami-Dade County are showing real results. Implemented by the Florida Department of Transportation (FDOT) in 2008 through 2010, this nationally recognized and frequently cited example of a successful managed lane project has made a substantial difference in the most congested corridor in the state. The lanes operate with a high level of reliability, and travel speeds have increased on both managed lanes and general purpose lanes. Advertised as "You won't use it every day, but it's there when you need it," anecdotal and survey data show that many people appreciate the reliability and congestion-free travel

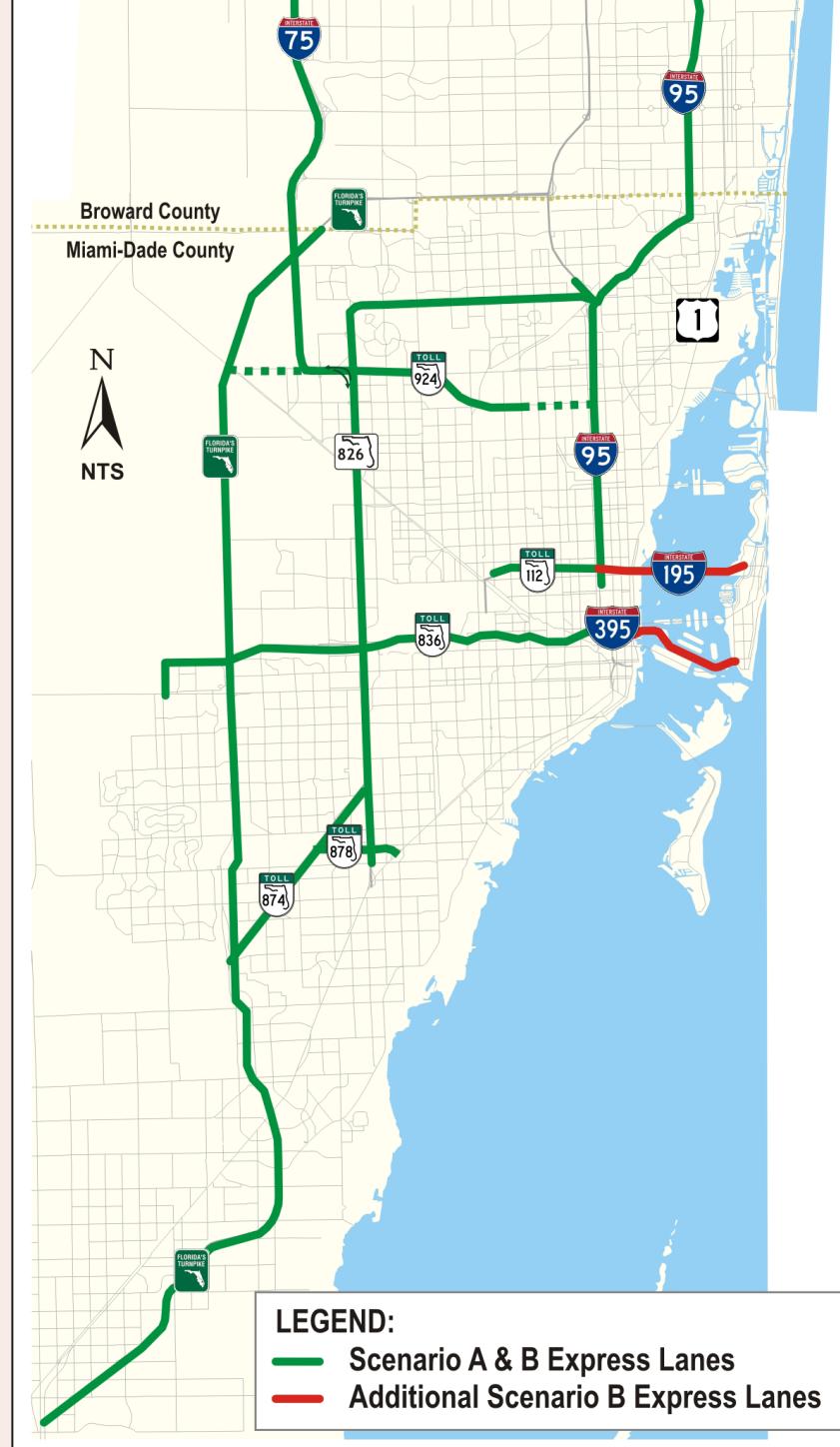


Figure 1

(and maybe even the higher speeds) that managed lanes offer, and are using them every day.

The underlying problem, however, is the prospect that what works today might not work for long. Projections show that vehicle-miles of travel are growing substantially faster than the increase in population and far surpassing the growth in highway capacity. In one study in southern Miami-Dade County, an 83 percent projected increase in population will be met with only a seven percent increase in highway capacity. Managed lanes can accommodate

some of that growth simply because they offer additional highway capacity. Beyond that, managed lanes will give only some a congestion-free ride.

The performance on 95 Express may provide a sneak peak at the prospects for the future. Volumes on the approximately eight-mile stretch of I-95 running from the Dolphin Expressway (SR-836) to the Golden Glades Interchange are rising slowly. But volumes on the managed lanes appear to have reached the limit. The peak toll rate is more frequently hitting the former statutory maximum

of \$7 (now \$10.50). Ultimately, by law or by public sentiment, FDOT will lose the ability to raise tolls and optimize traffic flow. With further growth, speeds will decline, throughput will go down and some traffic will be forced onto the increasingly congested general purpose lanes.

The MPO study explored the potential for a regional network of managed lanes on which a network of express buses would operate. The lanes would also be organized and managed to encourage ridesharing, and the toll revenues would, in part, support the transit operations within each highway corridor. The network encompassed virtually every limited access highway in Miami-Dade County, including the Homestead Extension of Florida's Turnpike (HEFT) operated by Florida's Turnpike Enterprise (FTE), the five roads owned and operated by the Miami-Dade Expressway Authority (MDX) and the interstates and primary highways managed by FDOT (see Figure 1, page 17). Under one scenario, managed lanes would be carved out of the existing roadways. Under another, more aggressive approach, time-of-day tolling would be imposed across all lanes, and a High-Occupancy Vehicle (HOV) lane designated exclusively for vehicles carrying the requisite number of persons (a number that might increase over time).

Superimposed on this network would be a system of 18 express routes connecting intermodal facilities in the principal employment centers around the county. Under the second scenario, these 18 routes would be augmented by another 26 routes operating on the nearby arterials. Express bus routes would serve longer trips, while arterials would support shorter distance travel in the same corridors.

Scenario A replicates the 95 Express experience and would appear to offer only short-term benefits. Vehicle throughput would remain constrained across managed and

general purpose lanes. Traffic growth would either travel earlier or later than the peak or accept an ever-growing managed lane toll rate.

Scenario B offers a long-term, sustainable future. As traffic volumes grow, the choice to travel during the shoulders of the peaks would be available, but so would carpooling or transit; motorists could still buy their way out of congestion but could also rideshare a way out. Toll revenues would fund a growing transit system and result in a long-term increase in auto-occupancy—1.6 or more by early estimates.

Figure 2 illustrates these two approaches. In the short term, the introduction of a variable toll set to limit the amount of traffic would produce a high level of service in any scenario. Over time, however, with growing traffic demand, people unwilling to pay the rising managed toll rate would have no choice but to overwhelm the general purpose lanes. Those willing to pay more would move at speed, while those not willing or not able to pay more would be bogged down in the same congestion we see today.

Under the second approach, motorists would have the additional choice of carpools or riding public transit. Person-throughput in the managed lanes would be increased by carpools and transit, and rising demand would be met by a greater shift to higher occupancy modes. Revenues under Scenario B would be greater and better able to support a more extensive transit network.

A regional network of managed lanes with express bus, parallel arterial rapid bus service and carpools incentives would respond to growth trends. Just as important, the extensive network of transit and the funds this network might generate would create both the carrot and the stick to make a sustainable and permanent difference. 

Alan Brick-Turin, PE, is a Senior Project Manager with the Miami Office of Gannett Fleming, Inc., a full-service consulting engineering firm. The information contained in this article comes from the Miami-Dade MPO Study titled Tolled Managed Highways with Rapid/Express Bus and Ridesharing, conducted in 2012/13.

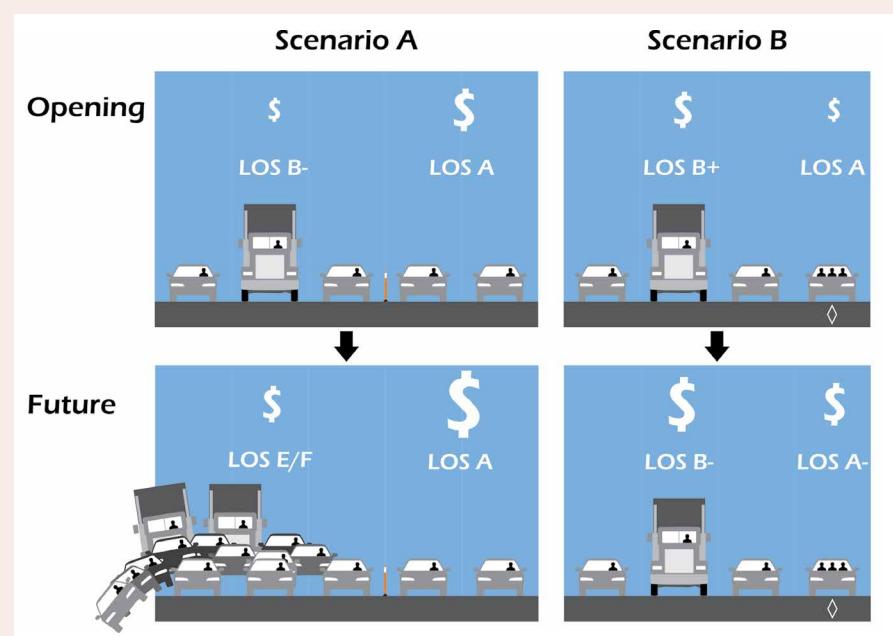


Figure 2



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ASHE Scholarship Awards Total \$170,086 for 2013

ASHE members continue to support their Section's Scholarship Fund program by providing \$170,086.00 in 2013. The accumulated total for scholarships since the program began in the 1980s is \$1,472,248.00 (see chart at right.)

Region accumulated totals and Sections awarding \$5,000 or more in 2013 include:

Great Lakes Region – An increase of \$19,000.00, from \$58,000.00 to \$77,000.00.

Central Ohio Section - \$5,000.00
Northwest Ohio Section - \$6,000.00

Mid-Atlantic Region – An increase of \$28,500.00, from \$175,103.00 to \$203,603.00.

Carolina Triangle Section - \$7,500.00
Chesapeake Section - \$7,500.00
Old Dominion Section - \$5,000.00

Northeast Region – An increase of \$91,958.00, from \$839,282.00 to \$931,240.00.

Delaware Valley Section - \$6,500.00
First State Section - \$6,000.00
Harrisburg Section - \$12,000.00
New York Metro Section - \$7,500.00
North Central New Jersey Section - \$14,500.00
Southern New Jersey Section - \$20,000.00
Southwest Penn Section - \$6,500.00

Rocky Mountain Region – An increase of \$1,500.00, from \$3,000.00 to \$4,500.00

Southeast Region – An increase of \$29,128.00, from \$226,777.00 to \$255,905.00.

Northeast Florida Section - \$13,128.00
Middle Tennessee Section - \$5,000.00
Tampa Bay Section - \$9,500.00

ASHE National President Sam Mody, along with the entire National Board, thanks the members for their support of the scholarship program.

Great Lakes Region

Central Dacotah	\$ 1,000.00
Central Ohio	\$ 13,500.00
Circle City	
Cuyahoga Valley	\$ 11,500.00
Derby City	
Lake Erie	\$ 6,000.00
Northwest Ohio	\$ 26,000.00
Triko Valley	\$ 19,000.00
TOTAL	\$ 77,000.00

Mid-Atlantic Region

Blue Ridge	\$ 3,000.00
Carolina Piedmont	\$ 18,103.00
Carolina Triangle	\$ 48,000.00
Chesapeake	\$ 49,000.00
Greater Hampton Roads	\$ 15,500.00
North Central West Virginia	\$ 45,000.00
Old Dominion	\$ 10,000.00
Potomac	\$ 15,000.00
TOTAL	\$ 203,603.00

Northeast Region

Albany	\$ 6,500.00
Altoona	\$ 43,500.00
Central New York	\$ 6,000.00
Clearfield	\$ 35,000.00
Delaware Valley	\$ 105,350.00
East Penn	\$ 31,000.00
First State	\$ 104,000.00
Franklin	\$ 30,000.00
Harrisburg	\$ 131,900.00
Long Island	\$ 7,500.00
Mid-Allegheny	\$ 12,500.00
New York Metro	\$ 60,500.00
North Central New Jersey	\$ 96,000.00
North East Penn	\$ 36,282.00
Pittsburgh	\$ 17,000.00
Southern New Jersey	\$ 143,500.00
Southwest Penn	\$ 45,250.00
Williamsport	\$ 19,458.00
TOTAL	\$ 931,240.00

Rocky Mountain Region

Phoenix Sonoran	\$ 4,500.00
TOTAL	\$ 4,500.00

Southeast Region

Central Florida	\$ 42,500.00
Georgia	\$ 41,400.00
Gold Coast	
Northeast Florida	\$ 94,505.00
Middle Tennessee	\$ 29,000.00
Tampa Bay	\$ 48,500.00
TOTAL	\$ 255,905.00

ACCUMULATED TOTAL

\$ 1,472,248.00

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Community Outreach—Promoting the Engineering Profession and STEM Education

by Margaret Moore, PE
ASHE Pittsburgh Section



Engineering Students at
Chartiers Valley High School,
a Certified PLTW School



As Chair of ASHE Pittsburgh's Community Outreach Committee, I have the privilege of visiting engineering and technology high school classrooms around the region and providing the students with an overview of the Civil Transportation Engineering profession. I hand out mechanical pencils and ASHE Pittsburgh Section brochures (sometimes later found crumpled up on the hallway floor), tell the students they can have cookies at the end if they ask a lot of questions, and then get down to the nitty-gritty.

First, we discuss how all the engineering disciplines differ so drastically from each other. We then focus in on Civil Engineers in the Highway Design and Construction Industry. I show photos of different types of bridges, introduce the concepts of substructure and superstructure and emphasize, with structure failure photos, that the primary duty of civil engineers is to protect the health and welfare of the public. These photos usually register with the students. We discuss the stages of highway design, from planning through development and final design, and how design and construction of a roadway can positively or negatively affect the economy of the surrounding area. I show them cool construction photos of high-flying iron workers and deep foundations in cofferdams; before-and-after photos of ASHE Pittsburgh Award-winning projects; and a catastrophic, geyser-like sewer overflow video that gets everyone's attention.

But before discussing any of these things, I begin by asking the students, "What do engineers do?" The best answer I ever received was, "They use their brain to solve problems." This is almost exactly correct. More specifically, engineers use *math and science* to solve problems. Advancement of Science, Technology, Engineering, and Mathematics (STEM) education has gained national attention in the past several years. The traditional STEM education model has even been recently amended to STEAM education, the "A" standing for "Arts," to highlight the importance of the creative process.

National attention has been focused on the importance of STEM education, because the United States is losing its competitive edge in math and science while the rest of the world soars ahead. And we are continuing to slip in the rankings. According to the Program for International Student Assessment (PISA), 29 nations outperformed the U.S. in mathematics in 2013, making us slide from 24th in 2009 to 30th last year. And

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in science performance, the U.S. is currently 23rd, sliding down from 19th in 2009. Those are dangerous trends. In fact, McKinsey & Company estimated that the academic achievement gap between children in the United States and other countries deprived the U.S. economy of as much as \$2.3 trillion in 2008 alone. Undeniably, STEM education in the U.S. is lagging behind, and there is a growing momentum to remedy the situation.

Project Lead the Way (PLTW) is a national program forming partnerships among public schools, higher education institutions and the private sector to increase the quantity and quality of engineers and engineering technologists graduating from our educational system. PLTW has a support staff of experienced technology educators and college and university partners to support schools as they implement PLTW curricula, which is free to schools participating in the PLTW network. Several of the high schools I visited were members of the PLTW program, and the advantage this program gives students was immediately evident in the classroom.

However, a crucial element to the success of programs like this and to young, aspiring engineers is the participation from industry professionals. Students need a real live engineer, a mentor, to answer questions like, "How difficult was college?", "How much time do you spend at a desk?", "Why did you choose civil engineering?", "How often do you use computer programs?" and "What type of math do you use the most?" But mentoring goes beyond helping students succeed; it benefits both parties involved. Mentoring has been shown to increase student retention rates in educational settings and increase confidence, self-esteem and satisfaction. Mentors also gain satisfaction and respect as they are associated with the success of their students, which can provide a sense of accomplishment and stability in their professional lives. A mentor may also be challenged to consider new opportunities with his or her own career, as a student can bring new ideas, experiences and energy to the relationship.

It is especially important for the profession and for me, personally, to reach young women and encourage their potential to increase the diversity and perspective of civil



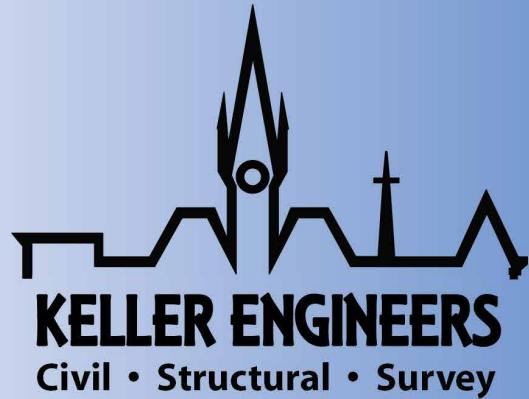
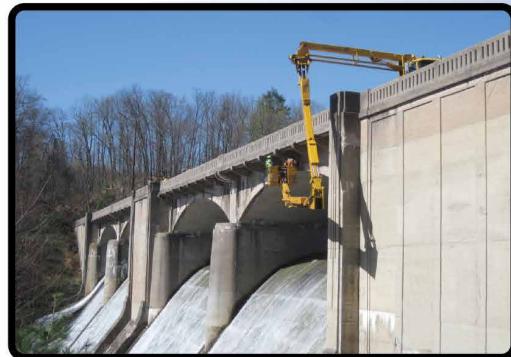
engineers. According to research conducted by the University of Wisconsin-Milwaukee, 43 percent of women who earned a B.S. degree in engineering never entered the field or have left the field. A full 78 percent of the women engineers that left the profession for other full-time work are now in executive or management positions. Researchers have concluded that women are oriented toward the context of engineering problems, and perceive those problems with a broader scope, in addition to being highly motivated by collaborative work and social impacts. This perspective is invaluable, especially for civil engineers whose main purpose is to serve the public. It is important to keep these bright, educated women engaged and motivated to apply their talents in engineering through mentorship and professional development.

The ASHE Pittsburgh Section strives to make a difference in the world around us through our community outreach to local schools and aspiring young engineers. It's easy to forget, but we are all role models and sometimes to the most unlikely of people. Whether it is through your local ASHE Section or other organizations, I encourage everyone to get engaged in your local communities. Find out what engineering and technology classes your school offers, promote and advocate engineering education and encourage aspiring engineers. We need it, our country needs it and our children need it. 

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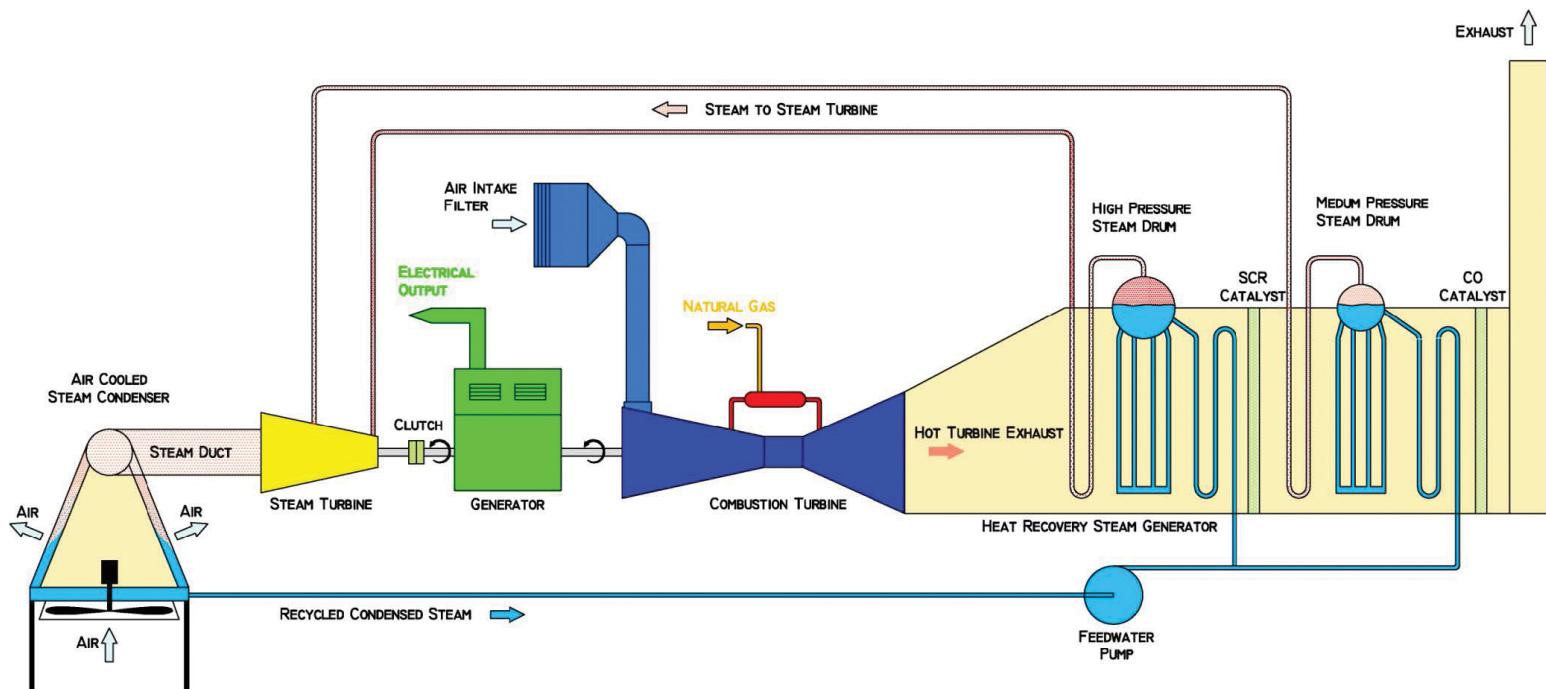
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Natural Gas Electricity

by Thomas Adams, ASHE Williamsport Section



The Technology Combined Cycle Power Plant

A summary of two natural gas power plants that Moxie Energy was proposing to build in Asylum Township, Bradford County, Pennsylvania, and Clinton Township, Lycoming County, Pennsylvania, was given to the ASHE Williamsport Section Members in February 2013. The presenter was Kent Morton of Moxie Energy, LLC, located in Vienna, Virginia. Mr. Morton explained that the plants were sited in those areas to take advantage of the abundant natural gas supplies available in Pennsylvania from the Marcellus Shale. Gas production in the region is expected to exceed 8 billion cubic feet per day of useable fuel. This significant natural gas production from the region will continue to grow and help fuel the country's energy needs. Locating power plants in gas production

areas reduces the cost of gathering fuels and better monetizes the resource.

The Liberty Plant in Asylum Township and the Patriot Plant in Clinton Township both have an expected operational year of 2016. Approximately 820 megawatts of electricity will flow from each facility. A general rule of thumb states that this total energy production is equivalent to powering close to two million homes. Both plants will be state-of-the-art facilities that use the most advanced pollution control systems to keep the air emissions as low as practical, and air-cooled condensers instead of river or ground water for the cooling needs in the plants. Use of air-cooled condensers means that the plants will not draw water from, or discharge water into, the Susquehanna River—eliminating potential impacts



to species in the Susquehanna watershed. A special blade design and low-output motors will also be used to minimize sound.

The current transportation and energy infrastructure were also considered to provide for the best siting. Although the facilities are separated by only a one-and-a-half-hour drive along the SR 220 corridor, they are significantly separated with the current power infrastructure. (See PJM Transmission System on page 28). Additionally, large gas mains are currently in operation that pass near the sites. Both highway and rail routes will be used to move equipment to the sites during the construction period.

Improvements to those transportation systems resulting from the shale gas drilling operations will help move the equipment better and with less inconvenience to the public.

The use of the newest turbine technology not only provides for the lowest air emissions, but also produces the greatest efficiency. That greater efficiency helps preserve our natural resources by using less fuel to produce the same amount of power as old technologies. Both sites will utilize two combustion turbine generators and two steam turbine generators in a single shaft configuration. (See The Technology Combined Cycle Power Plant on page 26). The "combined-cycle" configuration that will be used first generates electric power by combusting the natural gas to spin the gas turbine generators. The hot exhaust from the gas turbines is then directed to heat recovery steam generators. In this way, what would otherwise be "waste heat" is productively used to convert water to steam that is used to create additional electric power in the steam turbine generators. Steam exiting the steam generators is condensed by the large air-cooled condensers (these condensers act very much like car



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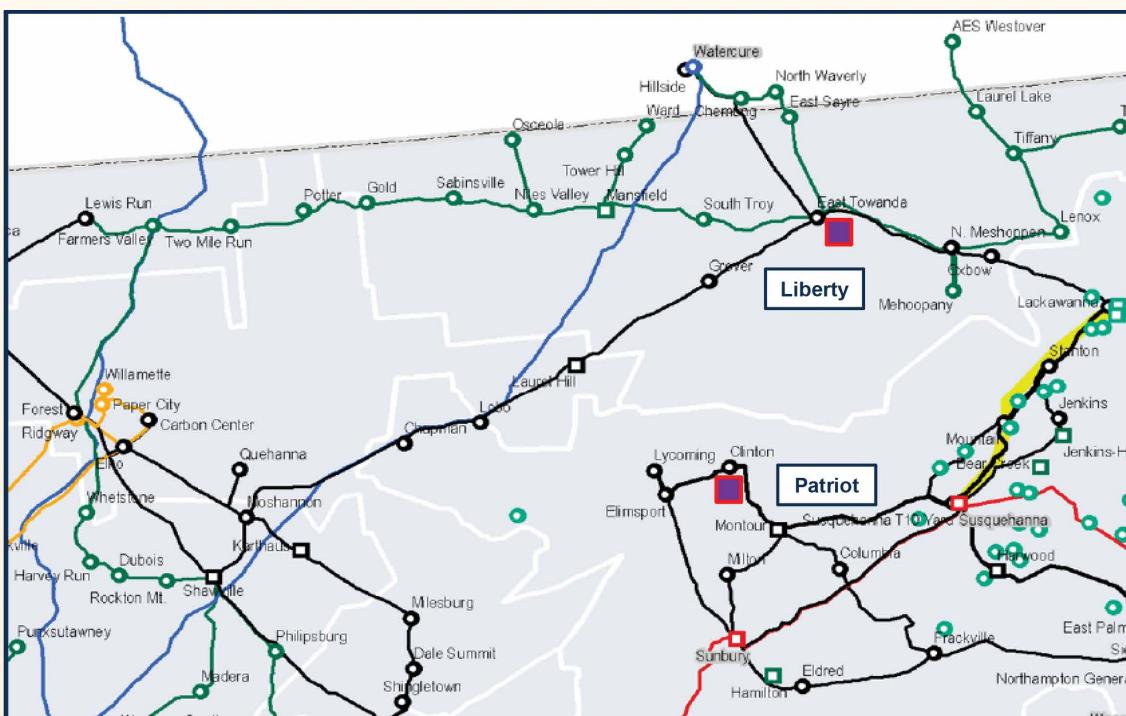
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radiators) and returned to the heat recovery system, thereby greatly reducing water usage and discharge.

Although natural gas may never fulfill the hunger for energy resources, it is another option in an ever-growing market. The power generation facilities will lower the overall air emissions in the region, reduce water usage and discharge and increase overall efficiency in comparison to older power generation facilities. The future will only show these successes and failures.

Author's Note: Subsequent to Mr. Morton's presentation, Moxie Energy entered into agreements with Panda Power Funds to provide financing for both projects and get them under construction. Panda is one of the largest independent power producers in the United States, and has an excellent track record for success. The Liberty Plant started construction in August 2013, and the Patriot Plant started construction in December 2013. 



PJM Transmission System



Moxie Liberty Rendering



Central Dacotah Section Hosts 2014 ASHE National Conference

More than 200 ASHE members and their guests, along with speakers, sponsors and exhibitors, attended this year's ASHE National Conference in Bismarck, ND, from June 12 through 15.

Preconference activities included a trip to Medora, a historic cattle town in the badlands for shopping, and a tour of the Theodore Roosevelt National Park, bison watching, a pitchfork fondue and the Medora Musical. Attendees also spent time before the conference exploring the area on their own.

Conference attendees took part in a golf tournament at Hawktree Golf Club and a riverboat tour of the Missouri River before the conference got underway with an Icebreaker Reception in the Exhibition Hall of the Ramkota Hotel and Conference Center.

At Friday's opening session, ASHE was honored by keynote speaker Greg Nadeau, FHWA Deputy Administrator, who spoke about the National Transportation System's needs and pending federal legislative funding. The day's agenda also included technical sessions on topics and projects from around the country. The Past President's Luncheon presented Clay Jenkinson as "Thomas Jefferson," who told how the United States was formed around transportation routes, comparing transportation from colonial times with today's systems. DeLane Meier of the Central Dacotah Section received the Robert E. Pearson—Person of the Year Award. Conference activities also included a tour of the

state capitol's new Heritage Center, a museum focusing on North Dakota's history from prehistoric geology up to the present.

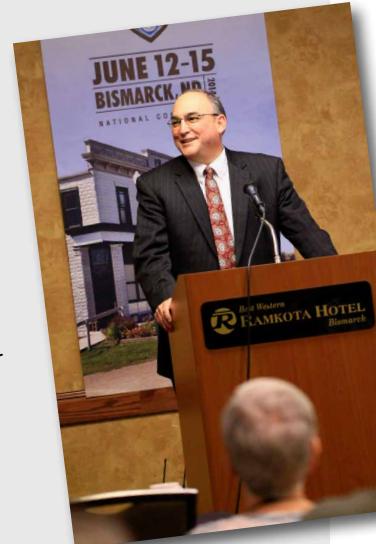
On Friday evening attendees were shuttled to Buckstop Junction, a prairie town created from historic North Dakota buildings, for a buffet dinner, entertainment by cowboy action performers and rides in classic automobiles by the El Zagal Shrine Dusters. Live music was provided during dinner.

Attendees had a choice of technical tours on Saturday, including a review of the new Memorial Bridge linking Mandan and Bismarck over the Missouri River, and the nearby new water intake structure for Bismarck. They could also visit Fort Mandan and the Lewis and Clark Interpretive Center to hear about Western exploration and expansion.

The annual President's Reception and Banquet, along with the swearing-in of the new national officers and board members, concluded the conference.

We extend our best wishes to the 2015 Conference Committee. To learn more about the upcoming conference, visit www.2015conference.ashe.pro.

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News From Across ASHE-Miles

All Roads Lead to Bismarck

by Michael D. Hurtt, PE, Cha Companies, **ASHE Albany Section**

After many hours of planning and preparation, ASHE Albany members *Michael Hurtt* (CHA, Inc.) and *Joseph Foglietta* (Parsons Brinckerhoff) embarked on a leisurely 3,800-mile motorcycle trip from upstate New York to the 2014 ASHE National Conference in Bismarck, ND. The five-day ride out included a detour to the Badlands National Park, Mount Rushmore, Crazy Horse and, of course, Sturgis, known for its annual motorcycle rally. After having a great time at the conference, the three-day trip home was much quicker—taking the ferry across Lake Michigan, looping up into Canada (what's up with all the Canadian flags?) and then a stop in Niagara Falls.

Long-distance motorcycle riding is no stranger to Mike and Joe. In 2012, they completed an 8,600-mile cross-country trek from New York to Florida to California and back. That adventure included the Iron Butt Association's 50-CC challenge (coast to coast in under 50 hours), a feat that the pair accomplished in 46.5 hours.

There are two key components that make trips like this possible (other than a really tough "iron" butt). The first is Google Maps for the planning phase. It is hard to imagine that 10 years ago this tool didn't exist, but now it is essential in the highway design work that most of us do. The entire trip can be planned down to the mile and the minute, with all stops predetermined. With a range of under 200 miles per tank of gas, it is extremely important to know where the next available gas station is, especially west of the Mississippi.

The second key component is our great Interstate system. Backroad twisties are always fun (we rode plenty, especially in the Black Hills of South Dakota), but when it comes to putting down the miles, the Interstate is the way to go. Consistency in road configuration, interchange operation and guide signage reinforce driver expectancy, making the Interstates safe, fast and easy to use. In addition, there almost isn't anyplace you can't get to by the Interstate.

Joe and Mike are already planning the trip to Baltimore for the 2015 ASHE National Conference. That should just be a daytrip, unless they detour through Kentucky on the way...



Mike—in Badlands National Park

Clearfield, PA, ASHE Picnic a Resounding Success!

The Clearfield Section has held an annual member/guest picnic for many of the years since the Section was chartered in 1961. This year's event took place August 14, and a near-capacity crowd of over 300 attended.

The Elk's County Home, near Clearfield, PA, has been the long-time venue for the picnic that features trap shooting, refreshments, a barbecue chicken dinner with side dishes and dessert and a wide variety of prizes—including a 50/50 drawing.

Since 1997, the picnic has been preceded by a golf outing; this year 30 foursomes teed off at the Beechwood Golf Course near Falls Creek, PA. Just like the picnic, the golf outing offers popular prizes.

Clearfield ASHE looks forward to another successful turnout next year, with the golf outing and picnic tentatively set for August 13, 2015.



Joe—dodging a bison

(continued on page 32)



Three Receive Scholarships from ASHE Carolina Triangle Section

We are proud to announce that the Carolina Triangle Section awarded three scholarships at our May dinner meeting; following are brief bios of each recipient:

Meredith Ann Hilliard, a senior at University of North Carolina-Charlotte, received the \$1,000 Undergraduate Scholarship. She has a 3.5 GPA and is a member of the University Honors Program, the UNC-Charlotte Engineering Leadership Academy, Tau Beta Pi (Engineering Honor Society), Alpha Omega Epsilon (for women in engineering and science) and ASCE. She serves as the recruitment head and membership educator for Alpha Omega Epsilon. Meredith also served as a teaching assistant (TA) for the Introduction to General Engineering classes in 2011 and 2012, and she is now the TA for the Introduction to Civil Engineering course. Her career aspiration is to work for either NCDOT or a construction company focusing on highways.



Pittsburgh Section Announces 2013-2014 Scholarship Recipients

This year the ASHE Pittsburgh Section was pleased to receive seven scholarship applications from Civil Engineering students attending regional universities. The Scholarship Committee created a standardized scoring method to evaluate the applicants and held a meeting to confirm rankings. The Board of Directors then approved the addition of a second scholarship because of the quality of the candidates. The two 2013-2014 scholarship recipients are *Dylan Soller*, University of Pittsburgh, \$2,000, and *Renato Ruzzini*, University of Pittsburgh, \$1,000. Both indicated a passion for the transportation industry as demonstrated in their application essay, and they expressed how much they enjoyed working in the industry.

We hope that our support of their education will only further reinforce their desire to be successful professionals in our industry. Dylan, a senior at the University of Pittsburgh, has been active in ITE Student Chapter and is the Communications Manager for the Society of Engineering Transfer Students. He is an intern for PENNDOT District 11. He enjoys hiking, running, kayaking and biking. Renato is a junior at the University of Pittsburgh and is a member of ASHE and ASCE. He is an intern at *ms consultants, inc.* He enjoys playing guitar and intramural soccer.

Shannon Elizabeth Warchol received the \$2,000 graduate scholarship. She graduated magna cum laude from Notre Dame, where she earned a Bachelor of Science in Civil Engineering. Now a graduate student at North Carolina State University (NCSU) with a 4.0 GPA, she is a member of Tau Beta Pi and Chi Epsilon. She is registered as an Engineering

Intern with the Indiana State Board of Registration for Professional Engineers. At Notre Dame, she served as Officer of ASCE Relations with ASCE and participated as a representative on the College of Engineering Undergraduate Studies Committee, the Dean's Review Committee and the Engineering Honors Board. She was also President of the Joint Engineering Council Engineering Honors Board. At NCSU, she is Treasurer for ITE/ASHE, Vice President of the Civil Engineering Graduate Student Association, Co-chair of the University Graduate Student Association Social Committee and has worked for Walsh Construction and ITRE. Shannon aspires to work with the geometric design of interchanges.



Alexander Michael Wiseman, a junior at UNC-Charlotte, received the \$3,000 Robert E. Pearson Scholarship. He has a 3.9 GPA and has made the chancellor's list every semester. He is a member of ASCE, ITE and the EPIC Power and Energy Society. In the summer of 2012 he interned with Branch Highways in Altavista, VA. Next, he interned with RS&H in Charlotte, assisting with 2040 LRTP for Charlotte and the Business

40 project in Winston-Salem. He now interns with the Urban Research Institute at UNC-Charlotte. He is a TA for Introduction to Engineering II. He plans to attend graduate school and ultimately play a role in the expansion and rehabilitation of the Interstate Highway System.

MileMarkers

News From Across ASHE-Miles



ASHE Pittsburgh Makes Clean Sweep in Adopt-A-Highway Program

ASHE Pittsburgh Section held its annual spring cleanup of the Interstate 376 - Campbells Run Road Interchange on Saturday April 26, 2014. Thanks for the continued support of the ASHE Pittsburgh Section! Volunteers shown, left to right: *Doug Lang, John Lang, Sally Lang, Bob Stitchick, Bill Athanas, Cliff Elicker, Tom Johnson, Anthony Castellone and Kathryn Power.*



ASHE Middle Tennessee Section

2014 Spring Scholarship Awards

College or technical school students who are studying highway industry-related subjects at a college or technical school in Tennessee are eligible to apply for ASHE Middle Tennessee Section scholarships that are awarded each spring semester. This year we received an impressive number of applications from qualified students from five different schools. We awarded five scholarships, valued at \$1,000 each, to the following: *Hunter McCracken* (Tennessee Technological University), *Chelsea Kennedy* (Tennessee Technological University), *Jennifer Frego* (Vanderbilt University), *David McClatchey* (Tennessee Technological University) and *Brandon Whetsel* (The University of Tennessee, Knoxville).

(continued on page 34)

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A photograph of a construction worker wearing a white hard hat and a striped shirt. He is looking down at a large sheet of paper, likely architectural plans or a map, which is partially visible. The background shows some foliage and possibly a construction site.



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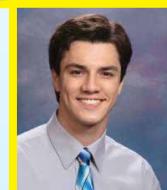


MileMarkers

News From Across ASHE-Miles

Phoenix Sonoran Section Announces Scholarship Winners

By holding golf tournaments and other fundraisers, the Phoenix Sonoran Section was able to award scholarships to three engineering students this year. The recipients attended the annual ASHE Cup Member Appreciation Event in August, where they received their awards and met with ASHE members. Following are short bios about each scholarship winner:



Christopher Sobie, recipient of \$1,500, is a senior studying Civil Engineering at Northern Arizona University, Flagstaff, Arizona. He interns at Lee Engineering, LLC, assisting with projects involving engineering analysis for transportation projects. He has also interned at the Minnesota Department of Transportation, where he worked on various transportation projects ranging from surveying to highway design.

Haley Koesters, recipient of \$500, is a senior majoring in Civil Engineering at the University of Arizona and planning to attend graduate school in fall 2015. This summer she worked at the University of Iowa in an environmental engineering research lab; in summer 2013 she was a water resources intern at Kimley-Horn & Associates in Phoenix, Arizona.

Robert Richards, III, recipient of \$500, is a junior attending Arizona State University in Barrett, The Honors College. After acquiring a Construction Bachelor of Science in Engineering, he plans to attend graduate school for a Master of Science in Engineering. Robert received an ADOT internship right after high school and has worked in the Research Center and Survey Office as part of the internship rotation.

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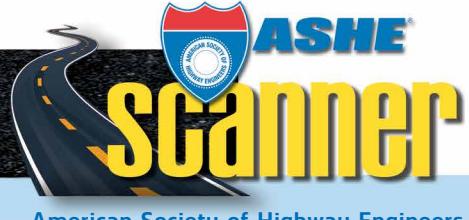
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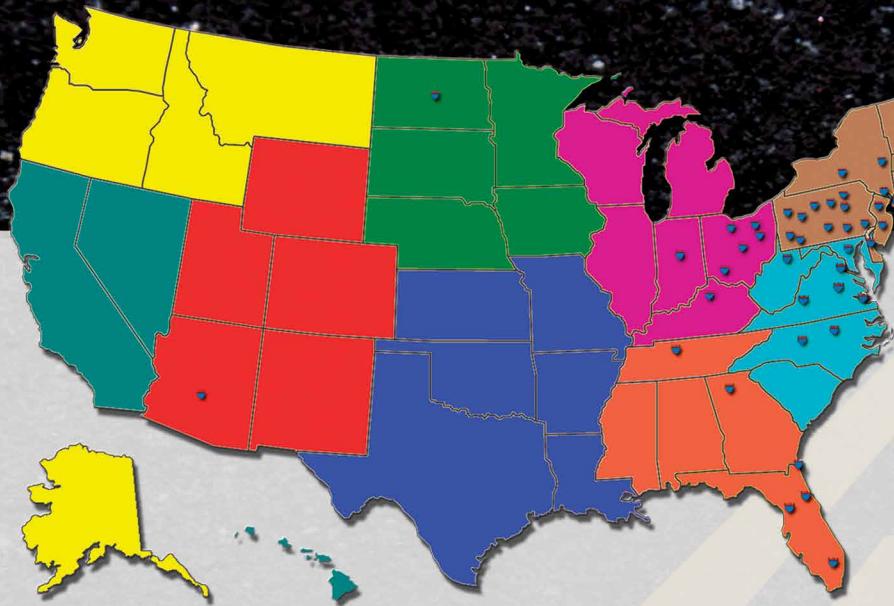
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Harrisburg	383
Long Island	52
Mid-Allegheny	111
New York Metro	87
North Central New Jersey	177
North East Penn	130
Pittsburgh	563
Southern New Jersey	198
Southwest Penn	318
Williamsport	125
Subtotal	3,446

Mid-Atlantic Region

Blue Ridge	69
Carolina Piedmont	43
Carolina Triangle	228
Chesapeake	228
Greater Hampton Roads	133
North Central	
West Virginia	32
Old Dominion	92
Potomac	259
Subtotal	1,084

Southeast Region

Central Florida	47
Georgia	407
Gold Coast	7
Middle Tennessee	158
Northeast Florida	215
Tampa Bay	93
Subtotal	927

Great Lakes Region

Central Ohio	201
Circle City	50
Cuyahoga Valley	123
Derby City	86
Lake Erie	136
Northwest Ohio	44
Triko Valley	160
Subtotal	800

North Central Region

Central Dacotah	123
Subtotal	123

Rocky Mountain Region

Phoenix Sonoran	130
Subtotal	130

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Contractor	6%
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