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Table of Contents

President’s Message.................................................................3
ASHE Scholarships Update .......................................................5
Flood Recovery ........................................................................6
Diverging Diamond Interchange................................................9
JR Taylor Memorial Bridge ......................................................11
Changes in Central Ohio .......................................................18
ASHE National Conference Invitation/Registration ...............21
Lake Champlaign Bridge: Part 3 ..............................................28
Reelfoot Lake ........................................................................30
Recipe for Safety ....................................................................33

Advertisers
AECOM .................................................................IBC
ARCADIS .............................................................14
Arora and Associates, PC .............................................12
ASHE North East Penn .............................................IFC
Berding Surveying .........................................................10
Buchart-Horn, Inc. .........................................................16
Cardno TBE ..............................................................12
Erdman Anthony .............................................................2
Fulcrum International .....................................................14
Gannett Fleming .............................................................12
Gibson-Thomas Engineering Co. ..................................14
HDR Engineering, Inc. ...................................................12
Johnson, Mirmiran & Thompson, Inc. ................IBC
Jones-Stuckey Ltd. Inc. ...................................................BC
Keller Engineers, Inc. ................................................IBC
Mc Cormick Taylor ........................................................IBC
McKim & Creed .............................................................8
McMahon Associates, Inc. ........................................IBC
Michael Baker Corporation ........................................IBC
Parsons Brinkerhoff .......................................................20
Pennoni Associates ..........................................................12
Reynolds, Smith and Hills, Inc. ................................10
Rub-R-Road .................................................................16
Sci-Tek Consultants ........................................................1
Sucevic, Piccolomini & Kuchar Engineering, Inc. ................................................................14
Urban Engineers .............................................................BC
URS Corp. .......................................................................4

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The projects below provide a brief sampling of our recent successes. If you’d like to know more, please give us a call.

Lake Champlain Bridge Replacement between Crown Point, NY, and Chimney Point, VT
Owner: New York State Department of Transportation, Region 1
Erdman Anthony was selected to provide erection engineering support in the initiative to replace the Lake Champlain Bridge—developing structural calculations to ensure safe, step-by-step steel erection, and preparing plans for the multi-girder approaches, delta frames, and tied-arch span.

Mills Road Pedestrian Bridge, Montgomery County, PA
Owner: Pennsylvania Department of Transportation
Erdman Anthony provided preliminary engineering, final design, and construction services for the rehabilitation of a 130-foot, two-span steel truss bridge over Skippack Creek that provides a pedestrian/equestrian link in the Evansburg State Park trail system.

SR A1A, Ft. Lauderdale
Owner: Florida Department of Transportation, District 4
Erdman Anthony provided roadway design and land surveying services on this one-mile, 3R project. Services included milling and resurfacing, sidewalk/ADA construction, signing and pavement marking, street lighting, signalization, and landscaping.

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Wow. Three-quarters of my presidency is over. They say time flies when you are enjoying yourself and this year has been moving very fast. Everyone I have met and been with the past few months has been great. I am feeling more positive about the future than ever, and I believe most of our membership feels that way too.

One thing that makes me feel good about the future is the almost $1.2 million in scholarship support ASHE is providing to so many deserving young people throughout the country. The Albany Section is supporting the Future City Competition in their area; the Phoenix Sonoran, and Old Dominion Sections made their first scholarship awards this year; Middle Tennessee doubled their scholarship awards this year to $6000; and the Central Florida and Tampa Bay Sections are setting up endowment funds at Central Florida University and at The University of South Florida, respectively. These investments in our future that will pay great dividends as the next generation takes over as leaders for both ASHE and our industry.

Hopefully 2011 was the bottom in this country’s neglect of its transportation infrastructure. 2012 may be the year the politicians wake up to the need to provide a well-maintained and expanded highway network through the country and we get the ship turned around. Last year Virginia officials increased the amount of funding available to their highway system. In North Carolina, the legislature declined to reverse an automatic gas tax increase of over three cents per gallon. Georgia stands ready to vote on regionally based sales taxes for transportation projects later this year. Recent articles in Pennsylvania have said that transportation funding is one of the top five issues facing the state. Ohio, Maryland, New Jersey and Arizona are also discussing ways to increase funding for transportation projects. Eventually this swing in public sentiment will find its way to Washington DC.

There seems to be agreement that the system needs additional revenue. However, there is a lack of consensus on how to provide the needed funding. While I doubt any major long term solutions will be found before the next election, I believe that 2013 will bring a renewed focus on the need for a long term reauthorization.

The ASHE National board met in January and joined the Carolina Triangle Section for their winter quarter meeting. It was a wonderful opportunity for the Board to see the great Section that Charlie Flowe and I call home, and get to make new friends over dinner. At that meeting we spent a lot of time updating the ASHE National Strategic plan. Final details on this planning effort will be coming shortly.

I spent a wintery January evening in Pennsylvania with some hearty Franklin Section members at their annual venison dinner. We have had a mild winter in North Carolina so it was fun to see so much snow. The first of February I joined the Chesapeake Section to help sell ASHE at the Maryland Transportation Builder’s Quality Initiative Conference in Baltimore. I have really enjoyed these opportunities to get out and meet so many wonderful ASHE folks. Being with you, the members, at the various events I have attended this year has been the best part of the job.

Speaking of being together at events, make plans to join me and the ASHE Southwestern Section for the 2012 National Conference at Seven Springs Resort in Seven Champion, Pennsylvania, from June 7-10. (See pages ??? for full details.) If you want to increase your knowledge base, meet other people who truly care about the highway industry, build relationships with them, and just have a good time, there is no better investment than to attend an ASHE National Conference. All reports say this is a beautiful setting and I am sure it will be one of the best conferences ever. Hope to see you there!
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ASHE members continue to support students interested in highway industry careers by funding various Section scholarship award programs. Money raised for scholarships during 2011 was $156,605, for a total of $1,167,662 since the inception of the ASHE Scholarship Program in the 1980s.

Several notable accomplishments in the 2011 scholarship fund raising endeavor include:

**Albany Section**
This Section's first scholarship fundraiser netted $2,000, which was presented to the Future City Competition, a local organization that promotes engineering at the Middle School level. The Albany Section officers felt they could provide a greater impact and ASHE name recognition by supporting this organization instead of having a single recipient.

**Central Florida Section**
A scholarship endowment at the University of Central Florida was started with $5,000.

**Middle Tennessee Section**
This Section doubled its’ annual scholarship fund raising of $3,000 to $6,000.

**Old Dominion Section**
This Section made its’ first scholarship presentation, a $2,000 award.

**Phoenix Sonoran Section**
This Section’s membership made its’ first scholarship award, a $1,500 presentation.

**Tampa Bay Section**
A scholarship fund of $8,000 was established at the University of South Florida.

All Section are encouraged to support a scholarship program in order to keep the highway industry supplied with qualified people in the future.

### ASHE Scholarship Awards Presented by Regions/Sections

<table>
<thead>
<tr>
<th>Region</th>
<th>Awards Given Since Beginning of Scholarship Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Lakes Region</td>
<td>$1,000.00 $5,500.00 $3,000.00 $14,000.00 $15,500.00</td>
</tr>
<tr>
<td>Mid-Atlantic Region</td>
<td>$18,103.00 $36,000.00 $2,000.00 $6,000.00 $2,000.00</td>
</tr>
<tr>
<td>Northeast Region</td>
<td>$37,500.00 $4,000.00 $30,000.00 $92,350.00 $27,000.00</td>
</tr>
<tr>
<td>North Central New Jersey</td>
<td>$77,000.00 $23,782.00 $15,000.00 $32,250.00</td>
</tr>
<tr>
<td>Potomac Highlands</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$44,500.00</td>
</tr>
<tr>
<td>Mid-Atlantic Region</td>
<td>$154,103.00</td>
</tr>
<tr>
<td>Northeast Region</td>
<td>$2,000.00 $37,500.00 $4,000.00 $30,000.00 $27,000.00</td>
</tr>
<tr>
<td>North Central New Jersey</td>
<td>$77,000.00 $23,782.00 $15,000.00 $32,250.00</td>
</tr>
<tr>
<td>Potomac Highlands</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$767,282.00</td>
</tr>
<tr>
<td>Rocky Mountain Region</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>Southeast Region</td>
<td>$42,500.00 $35,400.00 $68,377.00 $16,000.00 $38,000.00</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$200,277.00</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>$1,167,662</td>
</tr>
</tbody>
</table>
After soaking rains from Hurricane Irene in late August 2011, Tropical Storm Lee dropped an additional 6 to 12 inches of rain in early September across PennDOT District 3. The storm was categorized as a 500- to 1,000-year event in parts of the area. PennDOT’s District 3 region includes the counties of Bradford, Columbia, Lycoming, Montour, Northumberland, Snyder, Sullivan, Tioga and Union.
PennDOT District 3 is one of 11 engineering Districts. The District maintains approximately 2,900 bridges and 4,500 miles of roadway across nine counties in the north central region of the state. Through the county maintenance offices and the District office in Montoursville, there are 1,018 employees. District 3 has specialized forces, with unique skills like underwater bridge inspection teams and soil boring crews.

Areas of the region were devastated by record rainfall associated with Hurricane Irene, followed two weeks later by Tropical Storm Lee. Sullivan County was affected the worst by Hurricane Irene with severe flooding causing the collapse of a bridge on Route 487 in Lopez. District staff designed the new structure in just over a month and let the project with an aggressive construction schedule in order to have the new bridge open by the end of the year. Unfortunately, Hurricane Irene was just a small sample of what was still to come.

*Tropical Storm Lee’s path was a direct hit over District 3. The storm dropped 6 to 12 inches of rain across the District and was categorized as a 500- to 1,000-year event in parts of the area. To put this in perspective, consider that the design of modern bridges typically only considers the 100-year storm as a risk-assessment check flood, and anything above the 500-year storm is not taken into consideration when designing the hydraulic opening of a new structure.*

As quickly as Tropical Storm Lee moved in, public communication, damage assessment and recovery measures were implemented by the District, all with the primary goal of maintaining public safety. With this goal in mind, inspection teams, comprised of employees from all areas of the District, were sent out to locate and assess damage. Actions to communicate road and bridge closures to the public and to open roads to stranded people immediately went into motion.

As the damage mounted, it rapidly became apparent that the District required assistance. *Assistance came from other PennDOT districts’ that weren’t as drastically impacted, as well as consultant and contracting firms.* Bridge inspection teams were sent from Districts 1, 2 and 10, which allowed the District 3 design teams to get back into the office and start working to repair damaged bridges and roadways. Additional engineering support was sent from Districts 9, 10 and 11, management staff was sent from Districts 2 and 10 and equipment was sent from Districts 1, 2, 9, and 10. *In the end, more than 1,800 bridges and 3,000 miles of roadway were inspected.* The assessment of damage and the recovery effort reflected dedication to public service and cooperation among PennDOT’s employees and the engineering and contracting communities.

*Over all, these storms resulted in an estimated $54 million in damage, with 1,975 damage sites including nine bridges that require full replacement, 400 others requiring repairs and approximately 12 miles of roadway needing reconstruction.* Department forces handled 78 percent of the damage sites and the rest were contracted out, including 53 projects critical to public safety that were implemented by force account contracts soon after inspection.

There is no doubt that District 3’s recovery will be an ongoing process for some years to come. However, with team effort among the state employees, engineering firms and the contracting community, District 3 was able to overcome this huge test and continue to move on and serve its primary client, the public.
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Facing escalating traffic at the US 129 Bypass and Bessemer Street Interchange in Alcoa, Tennessee, city officials, in cooperation with the Tennessee DOT, hired Gresham, Smith and Partners (GS&P) to create a custom-fit solution. GS&P selected a unique geometric design, the Diverging Diamond Interchange (DDI), at a time when no such interchange existed in Tennessee.

Engineers gleaned valuable best practice information from other DDI projects designed and constructed elsewhere in the United States, and incorporated those lessons learned into the Alcoa design. The final configuration did not require the existing bridge in the interchange to be replaced but did efficiently manage the increasing traffic volume, saving millions of dollars in construction costs compared to other typical interchange designs. Upon completion in December 2010, the interchange became the first-of-its-kind in Tennessee and only the fifth to be completed and operational in the United States.

The DDI design provides optimal traffic management efficiency and decreases congestion due to the free flowing condition of the heavy left turn movement onto southbound US 129 Bypass. To navigate the motoring public through the interchange, the plan incorporates specifically designed signing, lighting, signals and pavement superelevation. Earth berms incorporated at the crossovers help minimize headlight glare and provide landscaping areas. The geometry of the DDI makes wrong way entry onto the ramps more difficult, leads to reduced speeds and promotes traffic calming.

Further contributing to the elements of green and sustainable design is the reduced impervious footprint of the DDI compared to other interchange configurations. Minimizing pavement, maximizing vegetated islands and incorporating detention areas enabled a drainage design that works with the existing downstream stormwater network. This results in reduced peak discharge and cost savings in both materials and Right of Way, while minimizing disruption to adjacent businesses. The need for fewer signals results in less energy consumption and lower maintenance costs. Less delay supports improved air quality, and fewer lanes result in less stormwater run-off.

For the single lane directions, shoulders are utilized and lane widths increased to allow emergency vehicles room to pass. Supplemental near-side traffic signals were placed adjacent to the stop bar in addition to overhead signals. Curbing helps to clearly define the driver’s path, and curb radii were designed to accommodate truck turning movements. For driver comfort and safety, a median barrier is provided after traffic switches over to the left side of the roadway between the two crossover intersections.

Due to the lack of public knowledge and experience regarding the functionality of the interchange design, public awareness meetings and education initiatives were used to help ease concern and increase familiarity with how the interchange would operate. A driver simulation model was created to allow the public to virtually drive through the corridor. During all phases of this project, including construction, public education initiatives included development of a project website, driver perspective meetings, brochures and news/media advisories. The goal was simple - for the entire community to have the knowledge and understanding of the new facility once the DDI was opened to traffic. This expanded public outreach campaign helped the community and was instrumental in the successful opening of the DDI.

Both the City of Alcoa and TDOT are pleased with the completed interchange. When construction began, Alcoa’s City Engineer Andrew Sonner P.E., commented “The design is more efficient, costs less money and the level of service was actually better than a traditional-type clover leaf intersection.” As with any new system, and particularly with this first-of-its-kind interchange in Tennessee, GS&P will continue to work with the City of Alcoa to monitor and evaluate the signs, markings and signal timing to continue to optimize traffic flow.
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To accommodate stormwater for the I-595 improvements in Florida, RS&H designed an innovative shared-use drainage system using ponds in nearby golf courses. The result: over $60 million in right-of-way savings, plus improved greens for the community. No denying that’s a win.
Jon Richard (J.R.) Taylor spent his childhood in the Allegheny County, (western Pennsylvania) community of Bethel Park, frequently riding his bicycle on the railroad tracks along Clifton Road (SR 3004).

J.R. grew up to be a superintendent for the family business, Century Steel Erectors Company, working on many projects in the greater Pittsburgh region until his life was cut short at the age of 43.

Named to honor the memory of J.R., the J.R. Taylor Memorial Bridge was constructed to serve walkers and bikers on the Montour Trail that has since replaced the railroad tracks from J.R.'s childhood.

J.R. Taylor Memorial Bridge

Justin A. Sewart, P.E., Structural Project Engineer, HDR Engineering, Inc.

PROJECT DESCRIPTION

The J.R. Taylor Memorial Bridge completes a long awaited, critical link in the trail by carrying the Bethel Park Branch of the Montour Trail over Clifton Road, eliminating a dangerous at-grade crossing for users of the trail. The bridge also enhances safety for the community as it is used by children living in the community who walk to school at the George Washington Elementary School located along the trail at the eastern approach the bridge. The Taylor family reached out to the Montour Trail in 2004 after seeing a sign placed near the proposed bridge site asking for assistance to eliminate the at-grade crossing. Viewing the project as a fitting memorial for their son, the Taylor family devoted themselves to the completion of the project.

The Montour Trail is a multi-use non-motorized recreational rail-trail near Pittsburgh, PA. The trail is part of the Great Allegheny Passage (GAP) trail system that stretches over 330 miles from Pittsburgh to Washington, DC. This structure connects the former east and west termini of the Bethel Park Branch of the trail. At the project location, the trail alignment is skewed across Clifton Road. The project site features and the alignment of Clifton Road below precluded construction of a multi-span bridge. As a result, a single span structure with a span length of roughly 200 feet would be needed to provide adequate lateral clearance for the state route below.

Early in the planning process, the Montour Trail Council, with encouragement from the Taylor family, desired to construct a signature structure appropriate to memorialize J.R. and acknowledge local ironworkers. After evaluating suitable structure alternatives, a truss was selected as the preferred structure type. Also, because the bridge was intended as a memorial to an ironworker, a fabricated truss that would be erected on-site by ironworkers, in lieu of a prefabricated truss, was preferred. Significant to the lasting memorial, the steel fabrication was provided at cost by the American Bridge Company and the structure was erected using equipment donated by the Century Steel Erectors Company. Additionally, 53 volunteer ironworkers and eight operating engineers donated their time to complete the assembly and erection of the bridge. Among the volunteers were J.R.'s son, Dakota Taylor, and nephew, Michael Taylor.

The preferred design utilized a variable depth Warren truss, with no verticals, creating an ‘open’ feeling for users of the bridge (See Photo 1).
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Rolled shapes were utilized for the members to minimize the cost and simplify the fabrication of the structure (see Photo 4). W12 shapes were chosen for all of the truss members and the floorbeams, while W10 shapes were selected for the stringers. W12 and W8 shapes were utilized for the top chord struts and bracing. The design called for a total of 73 tons of A709, Grade 50 steel (approx. 67 lb/sf).

**BOTTOM CHORD REDUNDANCY**

Because the bridge crosses a state route and federal funding was provided, the project was administered through the Pennsylvania Department of Transportation. As such, the design and delivery of the project was subject to PennDOT and AASHTO design requirements, reviews and PennDOT project delivery guidelines. Given the selection of a through-truss for the bridge, PennDOT required the design team to incorporate structural redundancy into the design of the truss, particularly the fracture critical bottom chord members. Coordination between PENNDOT and the design consultant resulted in the development of a bottom chord configuration that provides for a degree of internal redundancy within the members.

_J.R. Taylor continued p. 15_
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The internal member redundancy of the bottom chords was achieved by bolting cover plates to each flange of the wide flange section. The plates were sized to carry the entire bottom chord force in the event of a fracture of the rolled shape at the operating load level. The redundancy plates run the full length of the structure with staggered splice locations for the redundancy plates and rolled shapes (See Figure 5 and Photo 6).

GUSSET PLATE DESIGN

The J.R. Taylor Memorial Bridge was constructed after the collapse of the I-35W deck truss in Minneapolis, Minnesota, and the ensuing attention paid to gusset plate design and performance. Following this event, the Federal Highway Administration (FHWA) released a detailed guideline for rating existing gusset plates. Prior to this publication, official documentation for the load factor design of gusset plates was limited to a page in the 1985 AASHTO Truss Guidelines and a section in the LFD code providing basic guidelines for unsupported edges and design by the method of sections (axial, bending and shear). Other publications and research did provide additional information concerning the design of gussets for member forces using the Whitmore method, block-shear methods and the validity of designing gusset plates using the method of sections.

The gusset plates for the J.R. Taylor Memorial Bridge were designed in accordance with the applicable AASHTO specifications for unsupported edges and the method of sections. Refer to Figure 7 and photo 8 for typical structure joints. The method of sections is accomplished by cutting various sections through the gusset plate, summing forces on the section and designing for the resulting axial, bending and shear stresses. Yielding under principle stresses was also prevented. In addition to the prescribed AASHTO requirements, the gusset plates were analyzed for the Whitmore method and block-
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shear resistance. In accordance with the Whitmore method, the stress at the end of a member-bolted connection based on a spread angle of 30 degrees from the beginning of the connection was compared to yielding and fracture for tension members and the critical buckling stress of a unit plate width for compression. The AASHTO LFD specifications do not provide specific information about block-shear rupture. However, the AASHTO LRFD specifications do provide guidance. The AASHTO LRFD equations, modified by setting all resistance factors to 1.00, were used to check the bolted connections of tension members.

COST-SAVING MEASURES
All of the truss members, along with the bracing and floor system, were fabricated from common rolled steel sections. The selection of rolled shapes during the design eliminated the need to fabricate any specialized, built-up steel members. In addition, the approach wingwalls at the abutments were constructed out of inexpensive, corrosion resistant gabion baskets. Noteworthy to the project cost-savings measures was the overwhelming participation from the community and local businesses to make this project a reality. This project benefitted from the generous support of donated services, labor and equipment during planning, design, fabrication and construction. Employing cost-saving measures such as these was instrumental in successfully delivering a signature structure for the J.R. Taylor Memorial Bridge, given the limited funding available for the project. Also noteworthy was the creative display of generosity from American Bridge Company who, in addition to fabricating the truss at cost, salvaged plate steel left over from the bridge to construct a 16-spot, 700 pound, bicycle rack for the use of students at the George Washington Elementary School (see Photo 9).

ASSEMBLY AND ERECTION
Each component of the truss, along with the floor system, was shipped to the site and stored in the parking lot of a local business adjacent to the site. Assembly of the truss was accomplished in two days, with the help of 53 ironworkers and eight operating engineers (see Photo 10). During the design process, it was assumed that the completed truss would be lifted into place by two cranes, one at each end of the truss. Upon completion of the assembly process, however, the truss was lifted into place by a single 500 Ton crane, taking only 18 minutes to set the truss on its bearings.

SUMMARY
The J.R. Taylor Memorial Bridge is significant in both design and construction. Although this structure is a pedestrian bridge, the structural analyses and detailing inherent to a truss design combined with the development of a redundant bottom chord greatly increased the design effort typical of a customary trail structure. Attention to these details was vital to the success of the project. In truss designs, issues such as redundancy, gusset plate design, deflection checks, vibration analysis, and erection procedures must be considered in the design process. Careful and detailed attention to these issues allowed the project to proceed successfully through design, fabrication, assembly and construction. The cost-saving measures employed in the design of the truss and the substructure, helped to keep the cost of the project in check, given the complexity of the structure. The participation of many contributors was also critical to the viability of the J.R. Taylor Memorial Bridge, as the funding available for the project was limited.

A lasting and fitting memorial to a fallen iron worker, the J.R. Taylor Memorial Bridge serves as a testament to what can be accomplished when engineers, fabricators and constructors join forces with the community toward completion of a common goal.
When the US 33/SR 161-Post Road interchange was constructed in the 1960s in Dublin, Ohio, the surrounding area consisted mostly of farmland and the city’s population was less than 700.

Today, with more than 41,000 residents, planned development and rapid traffic growth within the interchange area are catalysts for significant roadway modifications to improve access, safety and traffic flow.

Changes in Central Ohio
Improve Access, Safety and Traffic Flow

The City of Dublin worked with Burgess & Niple (B&N) and the Ohio Department of Transportation, to complete a detailed analysis of the US 33/SR 161-Post Road interchange and adjacent roadway network. The project scope included traffic operations analyses, environmental documentation, preliminary and detailed design and final plan development to reconstruct the interchange and secondary roadways. Following completion of the study, priority was given to the SR 161-Post Road and Industrial Parkway area, also known as the UNI-161-12.98 Industrial Parkway Project.

The SR 161-Post Road and Industrial Parkway area is heavily traveled by trucks accessing nearby businesses and serves local traffic to the recently opened Dublin Methodist Hospital. Traffic volume at this intersection is expected to increase with the anticipated development of the adjacent Central Ohio Innovation Corridor, planned by the City of Dublin.

Opened to traffic in October 2010, the roadway design will support projected traffic volumes for the next 20 years, as well as address safety and access concerns. Project components include:

- Expansion of SR 161-Post Road between Eiterman Road and Cosgray Road from two lanes to four lanes
- Relocation of 1,700 feet of Industrial Parkway as a four-lane divided roadway on a new alignment
- Design and construction of a roundabout at SR 161-Post Road and Industrial Parkway
- Design and construction of a roundabout on the relocated portion of Industrial Parkway
- Complex utility relocation and street lighting
The City of Dublin received $1 million in Federal Stimulus Funds through the American Recovery and Reinvestment Act (ARRA) for this project. Overall project construction cost was $5.4 million.

Roundabouts Manage Truck Volume with Room to Grow

A traffic operations analysis conducted within the project area resulted in the selection of roundabouts for the intersections of SR 161-Post Road and Industrial Parkway and Old Industrial Parkway Connector. The analysis indicated that roundabouts would perform significantly better than signalized intersections and would improve safety and access, reduce traffic delays and increase long-term capacity.

The larger of the two roundabouts, located at the SR161-Post Road and Industrial Parkway, was designed to address traffic projections for interim and ultimate design years of 2020 and 2030. The two-lane roundabout was designed so that it can be expanded to include additional lanes by altering pavement markings and making minor lane additions to two of the approaches.

Because of the high truck traffic volume on Industrial Parkway – 11% of the total traffic volume – the interior geometrics of the SR161-Post Road and Industrial Parkway roundabout were designed to safely accommodate side-by-side truck movements. A dedicated right turn bypass lane from westbound SR 161-Post Road onto northbound Industrial Parkway was designed to route truck traffic off of the roundabout directly onto Industrial Parkway. This is one of the few roundabouts in Central Ohio designed to include a dedicated bypass lane.

Access to existing area businesses was maintained with the inclusion of a smaller roundabout on the relocated portion of Industrial Parkway, approximately 1,000 feet north of SR 161-Post Road. The design of this second roundabout was coordinated with the City of Dublin and the Union County Engineer’s Office to provide access to properties along a remaining section of Old Industrial Parkway, and to serve future commercial development east and west of the relocated Industrial Parkway.

Both roundabouts will improve safety throughout the project area. Because the only exiting movement permitted from a roundabout is a right turn, the occurrence of crashes that result in injury is substantially reduced. Roundabouts deliver slower vehicle speeds – under 30 miles per hour – which allow drivers more time to judge and react to their surroundings. Slower vehicle speeds also lessen the severity of crashes.

Complex Site Challenges Met with Sound Solutions

One significant project challenge was the configuration of the new SR 161-Post Road/Industrial Parkway roundabout near an existing elevated water tank that serves the City of Dublin. Additional utilities located within the project site also posed a number of challenges for designers and contractors.

To accommodate relocation of multiple underground utilities, the alignment of the SR 161-Post Road/Industrial Parkway roundabout was configured to provide sufficient space in the southeast corner of the intersection, between the traffic lanes and the existing water tank, to satisfy minimum separation requirements for the various buried lines. Overall, the project relocated more than 4,000 feet of gas line and approximately one mile of 16-inch water main, and replaced 2,400 feet of existing above ground electric and communication lines with underground conduit systems.

Another challenge involved drainage at the site. The existing SR 161-Post Road was a two-lane road with adjacent side ditches for drainage. When the road was expanded to four lanes with curbs and gutters, storm sewer trunk lines were required to collect surface drainage. Because SR 161-Post Road forms the boundary separating two watersheds, two separate storm sewer trunk lines – one on each side of SR 161-Post Road – were used to maintain the existing drainage pattern.

In addition to maintaining the drainage pattern for the two watersheds, another benefit of the separate storm sewer trunk lines was that they were easier to construct than a single, larger sewer. Because the project area is relatively flat, and the existing ditches that serve as the outfalls for the new storm drainage system are shallow, the two storm sewer trunk lines had fewer minimum cover height issues. Post-construction storm water management measures also were more cost-effective to implement than if a single, larger sewer was used.

Sustainable Features Yield Environmental and Aesthetic Benefits

In addition to improving access, traffic flow and safety, the two roundabouts incorporated into the UNI-161-12.98 Industrial Parkway Improvement Project offer both sustainable and aesthetic benefits. Improved traffic flow and capacity means fewer vehicles are idling at a congested intersection, reducing air pollution from cars and trucks. Electricity isn’t needed to power traffic signals and signal maintenance is no longer required. The free-flowing traffic reduces ambient noise in the area, creating additional environmental benefits. The roundabout center island landscaping also enhances roadway aesthetics.

Looking Ahead

The UNI-161-12.98 Industrial Parkway Improvement Project marks the first major portion of the Dublin northwest corridor roadway improvements to be completed. In addition to planned management of projected traffic volumes for the next 20 years, the solution improves access to local businesses and the recently opened Dublin Methodist Hospital. The project will serve increased traffic volume anticipated with future economic development, including the Central Ohio Innovation Corridor, planned for this growing suburban community.
MOVING TOWARD SUSTAINABLE TRANSPORTATION

PARSONS BRINCKERHOFF

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2012
ASHE National Conference
Seven Springs Mountain Resort | June 7-10, 2012

Learn More Here!
www.ashe2012.org
www.7springs.com

Something for Everyone
Guest Programs
Flight 93 Memorial Tour
Fallingwater Tour
Cooking Demonstration
Seven Springs Tour
Stone Villa Winery Tour

Resort Attractions
Trillium Spa
Golf
Hiking & Biking
Horseback Riding

All Located in the Scenic Laurel Highlands!

Conference Agenda
Technical Development
Professional Networking
Industry Exhibitors

Please see the following pages for full details on the ASHE 2012 Conference!
Life is a Highway and the Southwest Penn Section is honored to host the 2012 ASHE National Conference at Seven Springs Mountain Resort June 7th thru June 10th. The 2012 Conference Committee is committed to providing our ASHE members and families a rewarding experience for people of all ages and interests.

**Accommodations and Attractions**
Located in Champion Pennsylvania, Seven Springs is nestled high in the scenic Laurel Highlands of Western Pennsylvania. Offering guest accommodations in a perfectly appointed 416-room, 10 story high-rise hotel and conference center, this family-friendly resort offers a host of activities for the entire family spanning a broad range of interests – from the top-rated golf course to miniature golf; from horseback riding to horse-drawn wagon rides; from outdoor adventuring to the graceful tranquility of the Trillium Spa. Certain to be an enjoyable experience for our members and their families, opportunities abound to step away, relax and take advantage of the many amenities Seven Springs Mountain Resort has to offer. We encourage you to visit the informative resort website at www.7springs.com to learn more of its beautiful setting and the wealth of opportunities available for your entire family.

**Professional Networking**
The 2012 Conference will provide our ASHE members a great opportunity to meet new colleagues and reunite with old friends from across the nation during scheduled conference events.

The Icebreaker Reception will feature a delicious barbeque, a strolling magician and live music. The 2012 Opening Session and Annual Business Meeting will focus our vision for the highway industry and include timely messages from keynote speakers. During the Past Presidents Luncheon we will share a great meal, recognize our ASHE leadership and be addressed by our country’s very first president. Friday night offers a world-class seafood buffet followed by Las Vegas Style Entertainment. Saturday night’s President’s Reception and Annual Gala Banquet will include live music from the Brass Knuckles Band and entertainment by hypnotist Erick Känd. You won’t want to miss these great opportunities to network, relax and be entertained with your friends and family.

**Technical Development**
The 2012 Conference offers you a very strong technical program committed to professional development featuring current and state-of-the-art highway topics. Owner perspectives and needs; materials technologies; research trends; the latest design advances; and contractor’s insights will be featured in a host of presentations covered in three technical tracks.

Technical Track 1 will present PennDOT highway safety & traffic engineering initiatives; transportation funding; linking planning and NEPA; and tunnel inspection, maintenance and rehabilitation.

Technical Track 2 will present a diverging diamond interchanges workshop; university research; traffic engineering topics; and ASHE New York presentations.

Technical Track 3 will present Pennsylvania Turnpike topics; geosynthetic reinforced soils; safety in the next highway bill; PennDOT design-build update; and pavements concrete overlays.

**Guest Programs**
The 2012 Conference will provide an enjoyable experience for our members and their families. ASHE-sponsored conference programs will include outings to the Stone Villa Winery, Frank Lloyd Wright’s Fallingwater, and the Flight 93 Memorial. On-site, attendees may enjoy a cooking demonstration by Elements of Taste and a guided outdoor walking tour of Seven Springs. Golfers joining the ASHE outing Saturday morning will enjoy the dramatic beauty of Seven Spring’s top-rated course, flowing seamlessly through the mountain terrain.

The 2012 ASHE Conference will be an experience that will provide your entire family lasting and enjoyable memories from the beautiful Laurel Highlands of Western Pennsylvania. Life is a Highway and we hope your ‘highway’ will lead you to the 2012 National Conference at Seven Springs Mountain Resort!

For More Information and Updates, Visit the 2012 ASHE Conference Website

www.ASHE2012.org
Conference Cancellation Policy: ASHE reserves the right to cancel tours, programs, or events if there is insufficient registration or for any other reason. ASHE is not responsible for cancellation charges assessed by hotels, airlines or travel agencies, or other losses incurred due to cancellation of tours, programs and/or events. Conference refund requests received via email info12@ashe2012.org on or prior to May 31st will be honored; however will be subject to a $25 administrative fee. NO CONFERENCE REFUNDS AFTER MAY 31st.

REGISTRATION FORM
Register online or get more information at www.ashe2012.org

<table>
<thead>
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<th>LAST NAME</th>
<th>FIRST NAME</th>
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<td>ASHE SECTION</td>
<td>NATIONAL BOARD POSITION</td>
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NAME AS YOU WOULD LIKE IT TO APPEAR ON BADGE COMMENTS OF SPECIAL NEEDS (ACCESS/DIETARY)

CHECK ONE

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<td>NON-ASHE MEMBER</td>
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<td>SPEAKER (Qualifying for free one day registration)</td>
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* There is no charge for children under 10

CONFERENCE REGISTRATION SUBTOTAL $ N/GOLF REGISTRATION SUBTOTAL $ N/ACTIVITIES REGISTRATION SUBTOTAL $ GRAND TOTAL $

Make checks payable to: 2012 ASHE Conference ASHE 2012
2012 ASHE Conference Mail completed form to:
2012 ASHE Conference ASHE 2012
2012 ASHE Conference 126 Kaider Rd. Uniontown, PA 15401
2012 ASHE Conference

Registration questions may be directed to Michael Kilgore at 724-439-5715 or info12@ashe2012.org

Registrants are responsible for booking their own hotel rooms through Seven Springs Mountain Resort directly. For Hotel Reservations:
Seven Springs Mountain Resort
777 Waterwheel Drive, Seven Springs, PA 15622
Tel: (866) 437-1300
One-bedroom suite $165.00/night plus tax
May 7th, 2012 (Cut-off for discounted rate)
http://www.7springs.com/

YES ☐ NO ☐

This rate is for single or double occupancy and includes breakfast the following morning for up to 2 adults. There is no charge for children 17 and younger staying in the same room as their parents but breakfast would be at an additional charge.
GOLF OUTING
Seven Springs Mountain Resort
Saturday, June 9, 2012
Registration Begins 7:30AM – Shotgun starts 8:30AM

REGISTRATION FORM
Register online or get more information at www.ashe2012.org

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Dress Code: Collared shirts and soft spikes are required.

Refund Policy: Refund requests received in written form on or prior to May 31st, will be honored; however, will be subject to a $25 administrative fee. NO REFUNDS AFTER MAY 31st.

NOTE: Priority will be given up to May 15, 2012 to golf outing foursomes that have at least two conference registrants, or individual golf outing registrants who are also conference registrants. After May 15, 2012, any remaining openings for golf outing will be made available to interested foursomes and individuals not registered for the National Conference based on the chronological order payment is received. Golf tee times will be available Thursday June 7th at 9:00 AM.

INCLUDES: Light snack: hot dog at the turn

Number of golf registrations ____ x $85 = $_______
Golf Tee Sponsor ____ x $200 = $_______
♦ Golf Subtotal $_______
♦ Transfer subtotal to the Conference Registration form.

Skill and door prizes will be awarded at the event.

Need transportation to the golf course [ ] YES [ ] NO

Club rentals are available through Seven Springs Mountain Resort.
Call: (800) 452-2223, ext. 4000 for pricing and availability

For questions contact: Bill Gross - Golf Committee Chair at bill.gross@hdrinc.com or (412) 497-6017
## Attendance and Activities Registration

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<td>3:00 PM to 6:00 PM</td>
<td>Hospitality Room</td>
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<tr>
<td>6:00 PM to 10:00 PM</td>
<td>Exhibits Open</td>
<td>N/C</td>
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<td>7:00 PM to 10:00 PM</td>
<td>ASHE 2012 Icebreaker Reception (casual attire)</td>
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<td><strong>FRIDAY, JUNE 8, 2012</strong></td>
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<td>Breakfast (No charge for hotel registrants)</td>
<td>N/C Hotel Registrants Only</td>
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<td>7:00 AM to 5:00 PM</td>
<td>Exhibits Open</td>
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<tr>
<td>8:30 AM to 10:00 AM</td>
<td>Opening Assembly (Annual Business Meeting)</td>
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<td>Cooking Demonstration Elements of Taste</td>
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<tr>
<td>10:15 AM to 12:00 PM</td>
<td>Track 1 PennDOT Highway Safety &amp; Traffic Engineering Initiatives</td>
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<td>Track 2 Diverging Diamond Interchanges Workshop</td>
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<td>Track 3 Pennsylvania Turnpike Topics</td>
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<tr>
<td>12:00 PM to 1:30 PM</td>
<td>National Past Presidents/Robert E. Pearson Award Luncheon</td>
<td>$15*</td>
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<tr>
<td>1:30 PM to 2:00 PM</td>
<td>Past Presidents’ Meeting</td>
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<tr>
<td>1:30 PM to 2:30 PM</td>
<td>Guided outdoor walking tour of Seven Springs</td>
<td>$5</td>
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<tr>
<td>1:30 PM to 2:50 PM</td>
<td>Track 1 Transportation Funding / Linking Planning and NEPA</td>
<td>Including</td>
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<tr>
<td>1:30 PM to 2:50 PM</td>
<td>Track 2 University Research / Traffic Engineering Topics</td>
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<td>1:30 PM to 2:50 PM</td>
<td>Track 3 Geosynthetic Reinforced Soil / Safety in the next Highway Bill / PennDOT Design-Build Update</td>
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<td>2:50 PM to 3:10 PM</td>
<td>Break</td>
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<td>3:00 PM to 4:00 PM</td>
<td>Section/Region Presidents, Secretaries, Directors Meeting</td>
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<tr>
<td>3:00 PM to 5:00 PM</td>
<td>Stone Villa Winery</td>
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<tr>
<td>3:10 PM to 4:30 PM</td>
<td>Track 1 Tunnel Inspection, Maintenance and Rehabilitation</td>
<td>Including</td>
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<tr>
<td>3:10 PM to 4:30 PM</td>
<td>Track 2 ASHE New York Presentations</td>
<td>Including</td>
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<tr>
<td>3:10 PM to 4:30 PM</td>
<td>Track 3 Pavements – Concrete Overlays</td>
<td>Including</td>
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<td>4:30 PM to 6:00 PM</td>
<td>Hospitality room</td>
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<tr>
<td>7:00 PM to 10:00 PM</td>
<td>Dinner – Seafood Buffet (casual attire)</td>
<td>$50</td>
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<tr>
<td>9:00 PM to 11:00 PM</td>
<td>Las Vegas Style Entertainment</td>
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<td>Hospitality Room</td>
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<tr>
<td>6:45 AM to 8:30 AM</td>
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<td>N/C</td>
<td>Hotel Registrants Only</td>
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<tr>
<td>7:30 AM to 2:00 PM</td>
<td>Golf outing</td>
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<td>Please use golf form on page 2</td>
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<tr>
<td>8:15 AM to 11:15 AM</td>
<td>Flight 93 Memorial</td>
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<tr>
<td>12:00 PM to 4:00 PM</td>
<td>Tour of Frank Lloyd Wright’s Falling Water With Bag Lunch (*Children 6-12)</td>
<td>$20</td>
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<td>$15*</td>
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<tr>
<td>2:00 PM to 5:00 PM</td>
<td>Hospitality Room</td>
<td></td>
<td>Included</td>
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<tr>
<td>6:00 PM to 7:00 PM</td>
<td>Reception/cocktail party</td>
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<td>Included</td>
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<tr>
<td>7:00 PM to 9:00 PM</td>
<td>Annual Banquet/Installation of officers (business attire)</td>
<td>$50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00 PM to 11:00 PM</td>
<td>Get Hypnotized &amp; The Brass Knuckles Band</td>
<td></td>
<td>Included</td>
<td></td>
</tr>
<tr>
<td>SUNDAY, JUNE 10, 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00 AM to 8:30 AM</td>
<td>Breakfast (No charge for hotel registrants)</td>
<td>N/C</td>
<td>Hotel Registrants Only</td>
<td></td>
</tr>
<tr>
<td>8:00 AM to 10:00 AM</td>
<td>Committee chairs debriefing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:30 AM to 12:00 PM</td>
<td>National Board Meeting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00 PM</td>
<td>Check-out time</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total:** $_______

**Transfer subtotal to the Conference Registration form**
**Sponsor Information**

<table>
<thead>
<tr>
<th>Sponsor Level</th>
<th>Inclusions</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Platinum Record</strong></td>
<td>Full page ad in program book Two free registrations Golf Foursome* OR equivalent value conference activity Placement on Sponsor display board Rotating ad on front page of website Logo and link in sponsor section of website</td>
<td>$5,000</td>
</tr>
<tr>
<td><strong>Gold Record</strong></td>
<td>Half page ad in program book Two free registrations Placement on Sponsor display board Logo and link in sponsor section of website</td>
<td>$3,000</td>
</tr>
<tr>
<td><strong>Silver Record</strong></td>
<td>Quarter page ad in program book One free registration Placement on sponsor section of website Logo and link in sponsor section of website</td>
<td>$2,000</td>
</tr>
<tr>
<td><strong>Bronze Record</strong></td>
<td>Quarter page ad in program book Placement on sponsor display board Logo and link in sponsor section of website</td>
<td>$1,000</td>
</tr>
<tr>
<td><strong>Golf Tee Sponsorship</strong></td>
<td>Sponsor display boards on the Tee</td>
<td>$200</td>
</tr>
<tr>
<td><strong>Advertisement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full page Inside (Full page 4” X 8 ½” Glossy)**</td>
<td>$500</td>
<td></td>
</tr>
<tr>
<td>Half page Inside (Half page 4” X 4 ½” Glossy)**</td>
<td>$350</td>
<td></td>
</tr>
<tr>
<td>Business Card (1/4 page 4” X 2” Glossy)**</td>
<td>$250</td>
<td></td>
</tr>
<tr>
<td><strong>Premium Booth</strong></td>
<td>Exhibitor booth located near the bar and food***</td>
<td>$1,000</td>
</tr>
<tr>
<td><strong>Standard Booth</strong></td>
<td>Standard exhibitor booth***</td>
<td>$850</td>
</tr>
</tbody>
</table>

* Limited availability on the golf foursomes
*** Please visit our website www.ashe2012.org for exhibit booth locations and availability

** Please E-Mail Camera-Ready Artwork, Logo and website to Alan Bailey: rabailey@spkengr.com no later than May 11th, 2012. Make your checks payable to “ASHE 2012” If you have any questions contact Alan Bailey, P.E. at 724-439-1600
The new Lake Champlain Bridge at Crown Point, NY opened to traffic November 7, 2011, twenty-five months after its abrupt closure in late 2009. During those twenty-five months, under a State Emergency Declaration for both New York and Vermont, the existing 1929 bridge was demolished and removed from the lake, a temporary ferry service constructed and operated on a 24 / 7 / 365 basis, and a unique Network Tied Arch replacement bridge structure designed and constructed.

Hundreds of local bridge users from the surrounding communities of Essex County, New York, and Addison County, Vermont, joined the elected and transportation officials for the ribbon cutting. The opening ceremony and parade was complete with vintage automobiles, and nearly a dozen attendees were honored as having been present at the original bridge’s opening ceremony in 1929, affectionately known as the 29ers. The reopening ceremony wasn’t as grand as that in 1929, but it was certainly appreciated more. Never having known a bridge at this location, those in ’29 were awed by the new engineering feat. By 2011, the bridge crossing was so intertwined in the fabric of daily life that its lost would be devastating.

Twenty five months from closure to opening would appear to be an untenable task, especially considering that little to no design work had even begun prior to the bridge closure. The environmental review process alone could potentially take years. In order to streamline the process and timeline, the states’ emergency declarations allowed for expedited reviews and unprecedented cooperation from the reviewing and affected agencies. The process was not skirted, only delayed, as many of the agency and environmental requirements and commitments were deferred and addressed under the final, but separate, site restoration contract(s) to be let following the new bridge opening. This concept provided the consultant design team (fortunatley already under contract) of HNTB Corporation of New York City and subconsultants CHA, Inc. of Albany, NY; Fitzgerald & Halliday, Inc. of Hartford, CT; and MJ Engineering and Land Surveying of Clifton Park, NY, the ability to focus the majority of their efforts and resources on the bridge and highway design, and the preparation of construction bid documents.

The Bridge Demolition and Debris Removal Contract was completed first, allowing for bridge demolition two months after the October 2009 closure. Debris removal continued for the entire 2009 / 2010 winter, with the demolition contractor in a constant struggle with frozen lake conditions and the severe winter weather common in the Adirondack Mountains. The temporary ferry terminal was designed and constructed during the same winter, opening to 24-hour service in February 2010 to the relief of the local community which had been enduring a 90 mile one-way detour since the bridge closure. The replacement bridge was designed, and contract documents prepared, during the same winter period, and the Bridge Replacement Contract was let in April 2010. This contract was awarded in May 2010 to Flatiron Construction Corp., the same contractor that rebuilt the I-35 Bridge over the Mississippi River in Minneapolis after its tragic collapse.
The new Champlain Bridge is a 2200’ long, 8-span multi-steel girder design with cast-in-place concrete deck. The main channel span is a 400’ steel network tied arch with pre-cast concrete deck panels, and provides a 300’ navigation channel at an average of 75’ of vertical navigable clearance. The concrete U-wall abutments were founded on micropiles, used to minimize disturbance to the archaeologically-sensitive substrate below the abutments. On the Vermont shore, remnants of the 1731 French stockade Fort Pointe-à-la Chevelure, which the 1929 bridge approach was purportedly built upon, was uncovered during the new abutment construction. The concrete bridge piers were founded on 6’ diameter drilled shafts with rock sockets. These shafts were pushed through an average of 40’ of muck and sediment at the lake bottom, and then drilled into bedrock below. The tapered portion of the piers at waterlevel was faced with locally-quarried granite to protect the concrete from ice abrasion, one of the weaknesses of the original bridge.

**Proposed Bridge Elevation**

Extreme weather is an important consideration on any construction project, and the 2010 and 2011 construction seasons saw their fair share of extremes. The year 2010 was a relatively dry year which provided minimal construction downtime. However, the dry conditions created a near historically-low lake level in the fall of 2010. This created havoc for the temporary ferry service as the ferryboats were at risk of grounding as they docked at the ferry terminal, churning up sediment on every trip. Extreme snowfall was problematic during the 2010 winter months, and by the spring of 2011, lake levels rose to a new highwater mark (over 1’ higher than the 1869 record) due to the snowmelt. The fluctuation between the fall 2010 and spring 2011 lake level was nearly 9’, well over the historically anticipated fluctuation of 4’. Lake Champlain is a waterbody that also typically freezes over in the winter months, so controlling ice formation around the bridge and on the ferry course was an around-the-clock operation.

As the approach spans progressively and concurrently grew from both shorelines, the center arch structure was quietly being constructed in dry dock two miles to the north. On a calm day in August 2011, amid a huge crowd of spectators, the arch span was floated to the bridge site and ever-so-slowly lifted into place, completing the connection once again between the states. During the 1929 bridge opening ceremony, then New York Governor Franklin D. Roosevelt said that the Champlain Bridge was a marriage between the states of New York and Vermont; never should they divorce. During the 2011 reopening ceremony, FDR’s remarks were again repeated, adding that the two-year construction was just a temporary separation that had been amicably reconciled.
Reelfoot is a shallow natural lake located in the northwest corner of Tennessee just east of the Mississippi River. It was formed by the earthquakes of 1811-1812 and covers approximately 15,500 acres. This nationally significant and unique natural resource is the largest natural freshwater lake in Tennessee and one of the largest in the country. In addition to providing a highly productive fishery, the lake provides nesting and feeding habitat for the bald eagle and is located in the “Mississippi Flyway” which is used by many types of waterfowl. Reelfoot Lake and surrounding wetlands were designated as “Outstanding Natural Resource Waters” by the Tennessee Water Quality Control Board.

In 1931, a combination spillway and bridge carrying State Route 21 was constructed over Running Reelfoot Bayou, the lake’s outflow. The spillway consists of twenty 10-foot x 9-foot concrete culverts with manually operated radial gates. In the 1990s, a joint study by the US Army Corps of Engineers (USACE) and Tennessee Wildlife Resources Agency (TWRA) determined that the existing structure had outlived its design life and was “functionally obsolete”. There was significant seepage underneath the structure endangering the stability of its foundation that could lead to complete failure of the spillway and a substantial loss of lake volume. The bridge was later deemed “structurally deficient” resulting in emergency repairs.

In 1999, the USACE completed a study of locations to construct a new spillway, one that included replacement of the existing...
spillway. It was determined that a new spillway could not be built at the same location of the existing spillway due to the complexity of construction. A site located approximately 1000 west of the existing spillway was selected. This proposed site of the new spillway would be located off of State Route 21 and would require a new bridge over the proposed channel leading to the new spillway. The new spillway would consist of six 20-foot gates, each weighing 53,000 pounds, with the center two gates operating automatically by lake level control sensors.

In 2002, US Representative John Tanner petitioned then Tennessee Governor Don Sundquist for state assistance in getting the new spillway constructed. In 2003 the Tennessee Department of Transportation (TDOT) began planning studies for relocation of the bridge over the spillway, construction of the new spillway and the removal of the existing spillway/bridge.

The environmental studies identified several areas of concern requiring special design considerations that included:

**Historic Designation** – The Tennessee State Historical Preservation Office, determining that the existing spillway was historic, prevented removal of the old spillway. Plans eliminated removal of the existing spillway/bridge and developed a method of closing the spillway/bridge to prevent future seepage.

**Wildlife** – A bald eagle nest was discovered adjacent to the site. To protect the eagles during their nesting period, construction was not permitted during October 15th to May 31st in areas within 660 feet of the nest.

**Wetlands** - To mitigate affected wetlands, an off-site wetland mitigation area had to be selected within the same drainage basin. With land donated by TWRA, plans were developed to create a man-made wetland.

The final design included a new highway bridge and approaches, closure of the existing spillway, 5,700 feet of spillway inlet and outlet channel and updates to the previously designed spillway structure. To meet stringent requirements set by the Tennessee Department of Environment & Conservation (TDEC), several enhanced measures were used in the Erosion Prevention and Sediment Control (EPSC) plans. These included use of an enhanced water barrier between the construction site and the lake, numerous sediment basins with skimmers, vehicle wash racks and daily inspections of EPSC measures.

The construction contract was awarded in July 2009 for approximately $20,000,000. The project is currently underway with an expected completion of summer of 2012. Once complete, the new spillway will be turned over to TWRA and U.S. Fish and Wildlife Service (USFWS) for operations.

Extensive coordination between TDOT, TWRA, USACE, USFWS and TDEC was involved throughout the project. This project is an example of how, with innovation and inter-agency cooperation, a transportation project can be planned, designed and constructed to save and protect a natural resource while minimizing the impact to highly environmentally sensitive areas.
Over the past five years, New Jersey has averaged 640 fatalities each year, with over 70,000 injuries due to motor vehicle crashes. While the trend for deaths has been decreasing since 2006, 2011 saw an 11% increase in deaths through mid-December in New Jersey. So what’s happened to the momentum? What do highway engineers need to do to reverse this trend? Safety needs to be made a priority throughout the process as opposed to a single step in the process.

Members of the ASHE Southern New Jersey Section (ASHE SNJ) decided that safety issues in New Jersey are a top priority so they formed the Southern New Jersey Safety Committee. The group came together in September of 2009 to discuss what they should be doing as highway engineering professionals to reduce crashes and increase safety. Early committee members reached out to their respective networks in the public, private, and academic organizations to recruit a diversified membership willing to participate in safety activities.

The Committee’s vision is simple: “Assist highway design, construction, and maintenance professionals in reducing injuries and fatalities on highways in Southern New Jersey through increased education, relative to the latest safety technologies, and improved access to useful research in the field of highway safety.”

The committee does this in a variety of ways. Highway professionals are educated through a monthly Safety Page on a specific safety topic included in the monthly ASHE SNJ newsletter and placed on the ASHE SNJ Website (www.ashenj.org/safety). These pages are developed to raise awareness of safety topics and technologies that could and should be incorporated into highway design and construction. Recent topics include ADA/Pedestrian Safety, MUTCD Sign Retroreflectivity, Red Light Running Cameras, and 4E’s of Safety.

One ASHE SNJ dinner meeting per year is dedicated to highway safety with a featured safety topic presented by expert speakers to educate the ASHE membership of a new technology or project. The Safety Committee also holds some of its regular monthly meetings jointly with other engineering organizations such as the Institute of Transportation Engineers (Mid-Atlantic) and the County and Municipal Traffic Engineers Association to reach other traffic and transportation safety professionals and raise awareness of emerging safety issues, topics and technologies. These opportunities provide a forum for questions and discussions relative to the development and implementation of safety programs, projects, and the latest technologies.

The Safety Committee is dedicated to educating future highway engineers through outreach with regional engineering colleges and universities. Through sponsorship of the ASHE SNJ Safety website, it is anticipated that scholarships will be made available to engineering students. Our intent is to reward students for developing new initiatives to be considered for projects dedicated to furthering highway safety. The committee believes it is important to engage new engineers in highway safety practices and encourage their participation in the safety engineering profession.

The committee’s most recent endeavor is a partnership with the FHWA to assist in the implementation of the Highway Safety Manual (HSM). The manual itself dovetails with the vision of the Safety Committee providing an analytical tool to quantify the potential safety impacts of planning, design, construction, operations and maintenance decisions. The goal of the partnership is to develop case studies showing use of the manual, and eventually to calibrate the predictive methods for safety stakeholders from NJ, PA, and DE for the HSM. The committee is excited about this venture and looks forward to incorporating safety into all aspects of the decision-making process.

The recipe is simple, the rewards satisfying. Consider starting a Safety Committee and save a life today!

Participation in the Safety Committee does not require membership in ASHE, but simply a willingness to improve roadways and intersections within the region. Contact Joe Fiocco joe@fioccoengineering.com or Pat Ott pat@mboengineering.com for additional information on how you can start a similar committee in your Section of ASHE.
Membership

Northeast Region
Albany.................................................................94
Albnoa..............................................................202
Central New York.................................................51
Cleartfield.........................................................85
Delaware Valley................................................361
East Penn..........................................................84
First State........................................................155
Franklin.........................................................202
Harrisburg.........................................................346
Long Island.......................................................33
Mid-Allegheny...................................................100
New York Metro................................................140
North Central New Jersey.................................145
Northeast Penn..................................................139
Pittsburgh........................................................516
Southern New Jersey..........................................212
Southwest Penn................................................295
Williamsport.....................................................141
Subtotal.........................................................3301

Mid Atlantic Region
Blue Ridge..........................................................72
Carolina Piedmont..............................................46
Carolina Triangle...............................................223
Chesapeake.......................................................161
Greater Hampton Roads...................................117
N. Central West Virginia.....................................48
Old Dominion....................................................80
Potomac..........................................................167
Potomac Highlands..........................................43
Subtotal.........................................................967

Southeast Region
Central Florida..................................................46
Georgia..........................................................364
Gold Coast........................................................7
Middle Tennessee...............................................152
Northeast Florida..............................................236
Tampa Bay........................................................104
Subtotal.........................................................809

Great Lakes Region
Central Ohio.....................................................173
Circle City.........................................................49
Cuyahoga Valley...............................................108
Derby City........................................................57
Lake Erie........................................................125
Northwest Ohio................................................40
Trio Valley.........................................................121
Subtotal.........................................................673

North Central Region
Central Dacotah................................................115
Subtotal.........................................................115

Rocky Mountain Region
Phoenix Sonoran...............................................91
Subtotal.........................................................91

Total Membership.............................................6056
Professional Status.............................................60%
Government....................................................13%
Consultant......................................................69%
Contractor........................................................7%
Other............................................................11%