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Welcome to this special edition of the SCANNER. Those of you familiar with the SCANNER probably do not notice anything very different about this edition. It includes technical articles submitted by the sections; it has the President’s Message; it has about the same number of advertisements - so what is so special?

This edition is special because it is being distributed throughout the nation, not just the states where we have Sections. The National Board of Directors and the Public Relations Committee have worked hard to identify transportation leaders throughout the country in both the public and private sectors.

This SCANNER is being mailed along with the ASHE brochure and a cover letter from me telling them about ASHE. The primary purpose of this expanded distribution is to give ASHE exposure in areas where we do not yet have Sections with the hopes of sparking interest in ASHE from those leaders.

In the last edition of the SCANNER, I noted that the National Board of Directors is developing a plan for growing ASHE throughout the country while maintaining our Society’s culture and philosophy. I would like to use this column to provide more information about this endeavor.

The first step to developing this growth plan is to devise a plan for reorganizing the ASHE Regions to include all fifty states. Last year the National Board of Directors adopted a concept plan that maintains nine Regions based primarily on geographical area. The borders of the Regions, as shown on the map to the right were recommended after reviewing the structure of several other professional organizations, including the Institute of Transportation Engineers, the American Society of Civil Engineers, American Public Works Association, etc. This concept adds five Regions west of the Mississippi River and consolidates the nine existing regions into four.

The next step will be to develop a process for accomplishing this reorganization. This plan needs to identify appropriate methods and timeframes for consolidating the existing regions and forming the new regions. Perhaps this is best done all at one time or perhaps it will be best to slowly reorganize as new sections are added.

Should we be proactive about our growth and target specific areas to try to form new sections and develop timeframes for reorganizing the regions, or should we remain more reactive and simply continue to respond to inquiries when they come in and look for triggers for changing the national structure of the organization? These are things that the National Board is discussing.

At this point the National Board members agree that ASHE needs to have a growth plan to address the many requests we are receiving for new sections; however, we also realize that we need input and support from the members to make the plan a success.

National Board members will be providing information and soliciting input when we attend Section and Regional meetings. You can also provide input by emailing any and all National Board members (our email addresses are on the website.) Likewise, we will utilize the website to keep members informed of proposals as they are developed.

The need to develop a formal growth plan comes from the numerous inquiries we have received from throughout the United States. Currently, the New Sections Committee is pursuing several leads for potential new Sections outside of our current service areas, including Dallas, TX; Phoenix, AZ; Indianapolis, IN; Detroit, MI; Salt Lake City, UT; St. Louis, MO; Portland, OR; Boston, MA; Chicago, IL; and Minneapolis, MN. There is even interest in starting a section in Hawaii (can’t wait for them to host a National Conference.)
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Prestonsburg, KY
Arched Bridge
Project Background

As part of its goal to widen Pennsylvania’s primary mainline toll roadway from four lanes to six lanes, the Pennsylvania Turnpike Commission undertook the challenge to replace the Allegheny River Bridge. The project’s full scope consists of replacement of the existing 56-year old bridge over the Allegheny River (Figure 1), reconstruction of 7,850 feet of approach roadway, reconstruction of the Allegheny Valley Interchange ramps, replacement of three other bridges, and construction of several major retaining walls.

Roadway Realignment

The approach roadway typical section consists of a 12’ right shoulder and three 12’ lanes (eastbound and westbound) with a 10’ median. The overall out-to-out reconstructed roadway width is 106 feet. The new project alignment is down river and parallel to the existing bridge. Surrounded by historic properties and thereby eliminating most alignments that stray too far from the existing, the new alignment represents a balance between right-of-way demand and constructability concerns.

An important project objective is to minimize impacts to the University of Pittsburgh Applied Research Center to the west and Oakmont Country Club to the east of the Allegheny River. Since both properties are identified as historically significant, large retaining walls using top-down construction methods are being employed to minimize right-of-way impacts.

Another important project objective is keeping two traffic lanes open in each direction during construction. Once the new bridges are completed, traffic will be shifted onto the new alignment in phases, allowing completion of the approach roadways.

Replacement of Allegheny River Bridge

The new Allegheny River Bridge consists of dual bridges carrying the Turnpike’s eastbound and westbound lanes. The typical section for each bridge includes a 12’ right shoulder, three 12’ lanes, and a 10’ left shoulder. Both new bridges are 2,350 feet long, consisting of six spans at 285’, 380’, 380’, 444’, 532’, and 329’, respectively, from west to east. Both span the main and back channels of the Allegheny River, Interchange Ramp H, Freeport Road, Norfolk Southern Railroad, Fourteen Mile Island, and the Allegheny Valley Railroad. A cast-in-place segmental concrete box girder was determined to be the best bridge type for the site (See Figure 2).

Each box girder has tapering webs of varying depth that trace a parabolic profile from pier to pier. Superstructure depth ranges from 26’-2” at the piers to 11’-2” at mid-span. The typical out-to-out dimension of each superstructure is 61’-4½”. Balanced

Figure 2 – Rendering of bridge typical section

Allegheny” continued p. 22
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When the North Carolina Department of Transportation (NCDOT) began constructing a 6.8-mile bypass on US 17 around the city of Washington, NC, they had to contend with a major crossing of the Tar River as well as adjoining environmentally sensitive wetlands. The project, located on North Carolina’s coastal plain in Beaufort County, features a 2.8-mile, 4-lane structure over the Tar River and wetlands.

NCDOT hired the Flatiron-United JV Design-Build team (Flatiron-United) to develop the design and construction of this challenging project, and a team from Earth Tech’s North Carolina operations as the team’s engineer of record.

To minimize the construction footprint in these environmentally sensitive areas, the Flatiron-United team developed a new and innovative top down construction approach using a unique overhead gantry. This approach results in minimal impact to the wetlands and accelerated construction schedule when compared to conventional construction techniques. This design-build project, the Department’s largest design-build contract to date, was awarded to Flatiron-United in February 2006 for $192 million and is scheduled for completion in November 2010.

A pair of 592-ft. long, 750-ton gantries are now in operation, one at each end of the bridge and working towards the middle of the structure. The gantries were designed and fabricated by DEAL, an Italian firm, and Berminghammer of Ontario, Canada, with direction from Flatiron’s Vice President of Engineering, Elie Homsi.

The self-launching truss system performs the complete sequence of construction activities – from driving the 30-in. square prestressed concrete piling, to setting the pre-cast post-tensioned bent caps and 72-in. modified Bulb-T girders, to handiing materials for construction of the cast-in-place concrete deck. The world’s first application of the pile driving operation from an erection gantry is the most unique feature of the system and is the essential element that truly eliminates the need for equipment and temporary access trestles and ground work in the fragile wetlands.

Construction activities are on-going simultaneously across three spans (typically 120-ft in length) in an assembly line progression. As a span is completed and deck cured, the gantry is launched ahead to begin the pile driving on the next span. The dramatic reduction in wetland disturbance offered by this “true top down” construction operation was well received by the US Army Corps of Engineers, North Carolina Division of Water Quality, North Carolina Department of Natural Resources, US Coast Guard, and other environmental agencies during the permitting process.

Over 80% of the bridge (2.3 miles) is on tangent horizontal alignment with a continuous 70-ft. deck width (carrying 4 lanes of traffic), thus providing ideal repetitive conditions for this construction gantry operation (Fig. 1). However, the remaining 0.5 miles on the north end of the structure is complicated by the separation into independent north and southbound spans in a horizontal curve. As shown in Figure 2, the north gantry features a wider transverse support beam straddling both northbound and southbound spans, and is thus capable of performing simultaneously all of the construction operations of both superelevated deck sections of the split structure. A vertical clearance of 45 ft. is provided over the Tar River navigational channel.

The structure design is largely controlled by the construction equipment and operational loadings, as opposed to normal service load conditions. Since this area is often in the path of hurricanes making landfall on the North Carolina coast, the bridge and gantry were designed to withstand 100 mph wind loads during the construction period. Normal construction activities may proceed until wind speeds reach 45 mph, at which time the gantry is secured in place in a short-term out of service condition. Once wind speeds exceed 64 mph, the gantry is retracted to a position over a completed span and securely anchored in place. This section of the Tar River is also subject to tidal action and the potential scour from storm surge intensifies the loading to the substructure elements. Earth Tech performed a sophisticated 2D Flow Model scour evaluation to predict this scour potential.

Flatiron/United’s innovative, patent-pending, gantry operation, with its pile driving capabilities, is truly state of the art in bridge construction.
Conference Accomodations
The Westin Atlanta Perimeter North, located at 7 Concourse Parkway, Atlanta, Georgia 30328, is less than 30 minutes from downtown Atlanta and is situated on a private lake. Hotel features include an outdoor pool, 24-hour room service, valet service and free self-parking facilities and a business center.

Rooms will be offered at a discounted rate of $125. Make reservations by calling 770.395.3900 and referencing the ASHE 2009 conference.

Places of Interest in Atlanta
Atlanta now features the world’s largest aquarium, the Georgia Aquarium. In addition, the brand new World of Coca-Cola opened in May of 2007. While visiting downtown, make sure you have lunch at The Varsity. The Varsity is the world’s largest drive-in restaurant.

If you’re interested in shopping, Underground Atlanta is a shopping and entertainment district located downtown. Atlantic Station is midtown’s new urban renewal project located on a former brownfield turned mixed-use development. Lenox Mall and Phipps Plaza are two world class shopping malls. Both Lenox and Phipps are known for their high-end stores and celebrity sightings. Closer to the conference hotel is Perimeter Mall, which has an Apple Store, Bloomingdale’s, Brookstone, Dillard’s, Franklin Covey, Macy’s, Nordstrom, and Wolf Camera - just to name a few.

Atlanta has great theaters and museums to visit while you are here: Martin Luther King Jr. National Historic Site, Atlanta History Center, Atlanta Cyclorama and Civil War Museum, Carter Center and Presidential Library, Rhodes Hall and the Margaret Mitchell House and Museum.

Those that are looking for outdoor activities should visit: Piedmont Park, Atlanta Botanical Gardens, Zoo Atlanta, Grant Park or Stone Mountain, which is the largest piece of exposed granite in the world. Six Flags Over Georgia Theme Park is also a short distance from the heart of the city.

Atlanta Restaurants/Night Life
Near the conference hotel, there are a number of great restaurants: The Cheesecake Factory, Maggiano’s, Seasons 52, Wildfire, Goldfish and Garrison’s, just to name a few. Each restaurant has its own “flavor,” so make sure to try several.

For music and dancing, try the clubs and bars in: Virginia Highlands, Buckhead, Underground and Midtown. Each area has places to park and walk between several bars and clubs. You can have a pint at an Irish pub and sing karaoke all in one place!

Transportation
Atlanta is home to the busiest airport in the world - Hartsfield-Jackson Atlanta International Airport. Fortunately, Delta, AirTran, and many other carriers offer very competitive rates to fly to/from Atlanta.

Once you arrive in Atlanta, convenient public transportation is provided through the MARTA rail system. The rail system serves the airport, downtown, midtown and Buckhead along with many other locations. MARTA also operates several bus systems.

If you chose to brave the traffic, you can access I-285, I-85 and I-75 from the conference hotel. Good luck!
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Earth Tech - Transportation - Project Engineer - Alexandria, VA
Bolton Perez & Associates - Transportation - Project Engineer - Miami, FL
Introduction

McCoy Associates, Inc. was contracted by the City of Akron, Bureau of Engineering to provide environmental and engineering design services for both the preliminary and final development phases of this challenging project.

According to a quote from Don Plusquellic, Akron’s long time mayor, “Akron is undergoing a significant transition in the U.S. 224 corridor because of the emergence of new business on the immense property once owned by Goodyear Aerospace along the north side of the project area. The aging infrastructure was no longer a good fit and wasn’t functional for where this commercial area is going.”

Project Purpose

The purpose of the project was to improve the safety and operational efficiency of the subject section of US 224 and facilitate access to the major Lockheed-Martin defense contracting facility and other surrounding businesses and residential areas. Previous roadway improvement projects had been completed west of Kelly Road (SUM-277-224-0.00/6.31-10.22) and east of S.R. 241 (SUM 224-13.16). The SUM-224-11.24 project incorporated improvements in the key transitional section between these previously constructed projects.

Safety Issues

The subject section of U.S. 224 (28,000 vehicles per day traveled) was classified as a principal arterial, divided with guardrail, having two median crossovers and multiple direct at-grade access locations to businesses along the south side of the roadway.

One of the old median crossovers situated in the area of these businesses posed a substantial safety hazard as motorists attempted to maneuver into these properties from the westbound lanes. Business owners along the south side of U.S. 224 voiced their concerns about safety and convenience of access to their establishments, citing many instances of accidents and customer complaints regarding hazardous accessibility. Anticipated future development around the U.S. 224/S.R. 241 intersection would further contribute to these safety concerns. The need for a safe access via service road was apparent to the design team.

Lockheed-Martin Access

Compared to current design standards, the previous oblong entrance/exit ramp servicing the Lockheed-Martin complex was determined to be geometrically obsolete. The prior ramp required entering traffic to stop and wait for gaps along eastbound U.S. 224, a four lane divided highway with a 55 mile per hour speed limit. Numerous accidents in this section had been attributed to the deficient ramp. As a major project stakeholder, Lockheed-Martin access was a primary project component.

Solutions

Three alternatives and the No-build were evaluated during the preliminary development phase of the project. The public gave input and various options were closely evaluated. The urban arterial alternative with service road and a new loop ramp access to Lockheed-Martin was determined to most effectively meet the project’s purpose and need and was advanced to final design.

Summary

A cooperative partnership was forged between the project team members and construction was initiated in 2005. Team members included The Ruhlin Company, the City of Akron, Ohio Department of Transportation (District 4), and McCoy Associates. Construction was completed in 2006 at a cost of approximately $17,932,000.

The US 224 improvement project was a culmination of innovative “green” design which provides this portion of Akron an improved mode of transportation, a safer and more pleasurable commute, and improved access to one of our nation’s technological leaders in providing security for our nation’s future.
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Reversible Express Lanes

Tampa Hillsborough County Expressway

Joseph C. Waggoner and Kimberlee B. DeBosier, PE

As with many urban areas, the city of Tampa and the surrounding region suffers from too many drivers and not enough road capacity. The Lee Roy Selmon Crosstown Expressway (Selmon Expressway) links Brandon on the east, continues through downtown Tampa and ends at the South Tampa corridor on the west. The amount of traffic heading from Brandon to downtown Tampa was more than the Expressway could handle. To address this severe traffic congestion, the Tampa Hillsborough County Expressway Authority (THEA) developed a unique set of reversible express lanes (REL) between Brandon and downtown Tampa.

The REL is a 3-lane, 10 mile reversible express toll lanes facility. Approximately 60% of the REL is on structure, built as an elegant concrete segmental bridge. By using only six feet of space within the existing median it dramatically reduced the cost of the project and the impacts to the community and the environment.

This is really the first road to address urban congestion by combining innovations of land-based concrete segmental bridges, reversible express lanes, all electronic tolling, and full electronic control. This was accomplished all within the existing right-of-way.

THEA constructed scenic gateway entrances at both ends of the REL (Brandon and Tampa) to provide direct access to the reversible lanes and to enhance mobility with those areas. In addition to their value as transportation projects, these gateways feature major investments in urban architecture, landscaping and public facilities.

During the morning peak period, the REL operates westbound from Brandon to Downtown Tampa. In the evening peak period, the REL operates eastbound from Downtown Tampa to Brandon.

A number of advanced features for driver information, traffic control and safety are part of the REL. Dynamic message boards instruct motorists of the status of the express lanes; special signals, controls and gates ensure motorists do not enter the system traveling in the wrong direction; and electronic toll collection via SunPass® and video tolling enhance traffic movement and capacity.

Additional lanes on the REL dramatically increased the capacity of the eastern end of the Selmon Expressway. Before the opening of the REL, traffic on the existing Selmon Expressway was at Level of Service “F” during the peak hours of operation. The trip time from the east averaged between 30 and 40 minutes in the morning commute. Since the opening of the REL, traffic is free flowing with a Level of Service rating of “A”.

This unique, beautiful and affordable solution to congestion on Tampa’s Selmon Expressway has won over 20 awards for the design, operation, and its contribution to the community. The REL has also been awarded the premier award in the toll industry: the International Bridge, Tunnel and Toll Association’s (IBTTA) President’s Award. In addition, the REL is performing above expectations, providing non-stop trips for commuters and other travelers headed to downtown, resulting in significant increases in traffic capacity and toll revenue and a stress-free, reliable trip for the customer.

Joseph C. Waggoner is the Executive Director of the Tampa-Hillsborough County Expressway Authority. His education and 28-plus years of experience in the development of a variety of transportation modes have given him a broad perspective on key issues in transportation.

Kimberlee B. DeBosier, PE is President of Bayside Engineering, Inc., a civil engineering and surveying firm in Tampa, Florida, and a member of ASHE Tampa Bay. Ms. DeBosier served as Chair of the Board of Directors of the Tampa-Hillsborough County Expressway Authority from 1999 to 2003.
The new Long Island Section was chartered on Friday evening October 3, 2008. In attendance were the entire National Board that consisted of six Past National Presidents; Sandy Ivory, Rodney Pello, Richard Prentice, Charlie Flowe, Perry Schweiss and David Jones.

Thomas Ruckel, the new incoming Section President welcomed the group. David Jones, National Treasurer provided a power point presentation of the benefits of belonging to ASHE. Al Algazi, Region 6 National Director, welcomed the group to Region 6 and Rich Clifton, National President, made the introduction of the new officers after which the members of the new Section signed their charter.

Long Island Section Board of Directors:
Thomas Ruckel, P.E., President; Andrea Luft, Vice President; Kenneth Pritchard, P.E., Secretary; Andrew Narus, P.E., Treasurer; William Barrett, P.E. and Scott Spittal, P.E., Membership; Stavros Timotheo, PLS, Presentations & Presentation Venues; and Charles Manning, P.E., Region 6 Liaison.

ASHE Operating Manual Updates

Shirley Stuttler, Operating Manual Chair

The following areas of the ASHE Operating Manual have been revised:

ASHE SCANNER Advertising Rates & SCANNER Guidelines - Reflects new cutoff dates for the fall and winter issues.

Conference Guidelines
Policies & Procedures - Removed item M - “A National Board Meeting is scheduled at the Conference hotel facility in the fall prior to the upcoming Conference.....”
Responsibilities of National Board - Revised from three to: “Four years in advance of a Conference, hold a National Board Meeting at the proposed conference site....”

ASHE National By-Laws
Article III - MEMBERS Assessment Date - Change to “Each Section shall be advised of the annual National Dues Assessment in May of each year.”
Article V - MEETINGS OF NATIONAL BOARD MEMBERS - Wording changed from National Directors to National Board.
Article VII - OFFICERS - The National Secretary and National Treasurer terms of office were revised to Three Year Term (May Serve Three Consecutive Terms). This item will be effective June 1, 2009.

National Organization
National Secretary and National Treasurer terms of office - revised to three year term (May Serve Three Consecutive Terms). This item will be effective June 1, 2009.
Introduction & Regional Organization - Long Island Section was added to Region 6 listing.
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Warwick Boulevard

In cooperation with and by the request of the City of Newport News, the Virginia Department of Transportation (VDOT) took the initiative to widen 2.2 miles of Warwick Boulevard from four to six lanes. The project was designed by HSMM/AECOM and constructed in three phases by Basic Construction Company, Suburban Grading and Utilities, and EV Williams Inc., respectively.

Spanning from the intersections of J. Clyde Morris Boulevard to Nettles Drive, this complex major widening project encompasses a highly traveled urban roadway affecting citizens, businesses, a major university, museum, hospital and residents. At the time of design, the roadway carried an average of 47,000 vehicles per day, and the number is expected to grow to 57,000 by 2030.

Located within the immediate vicinity of the project are several major area attractions, including the Mariners’ Museum, Christopher Newport University campus, public city parks, Riverside Regional Medical Center and an assortment of medical offices, residential housing, commercial businesses and other retail offices. Both VDOT and the City worked closely together to ensure that the project features fit into the surrounding historical community. Additionally, during the Right-of-Way phase of the project, all overhead utilities were placed underground to improve the aesthetics and safety.

During this project, the team implemented new communication methods and collaborated with the City of Newport News and other stakeholders to ensure that the traveling public was safe and well informed. They took a very personal approach to customer service by holding community meetings and creating a unique website (www.warwickboulevard.org) to post current project information and to allow citizens to correspond directly with members of the project team. This effort led to the creation of an email subscription list, whereby, citizens, and business owners could sign up to receive a weekly status on the project.

With a total estimated cost of $93M for design, right-of-way and construction, the Warwick Boulevard Improvement Project is a key roadway expansion project for the region designed to improve traffic flow, safety and appearance along one of Newport News’ major corridors. Because of several concerns and risk factors regarding construction of such a large project, VDOT and the City of Newport News determined that the best course of action would be to split construction into three separate phases.

When originally planned, the project consisted of one contract to widen a 2.2-mile segment of heavily traveled roadway with a five-year construction duration. This posed significant impacts to businesses, college students and commuters, and imposed a significant bond issue with construction contractors, limiting the number of competitive bids VDOT and the City received for the original design. In order to reduce these impacts, VDOT and City Officials determined that it was necessary to split the construction of the project into three separate phases.

Splitting the project into three different construction phases had several advantages: each project was smaller and more manageable; less risk and smaller contracts lead to better bid prices; specialty contractors were used for the utility work and the road building; and, a shorter construction schedule provided less disruptions to the traveling public, residents, and business owners. Phase I completed on time and under budget by $1 million. Phase II completed six months ahead of schedule and over budget by $1 million due to additional work added to the contract. Phase III is currently on budget and is scheduled for completion in winter 2009.
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Road Safety Audit in Practice
Larry I. Bankert, Jr., P.E., PTOE & Stephen R. Thompson

Have you ever observed or experienced a near-crash and wondered if a crash must occur at the location before potentially dangerous roadway characteristics are improved? Although limited infrastructure improvement dollars tend to be directed to locations with the worst crash histories, crashes are not the only indicator of potential improvement opportunities. One tool finding increasing use is the Road Safety Audit (RSA).

An RSA is not just a review of crash history, but is a proactive process to determine potential hazards. Essentially, an RSA is an exploration of roadway characteristics with the goal of reducing risk before the fatality occurs.

An RSA is not meant to replace components of the design process – including the safety review. An RSA is a means of supplementing the design process with expert experience, contributing to the safest roadway design and operations possible for all road users.

An audit team typically functions independent of the design team throughout the project development, providing a different perspective to the roadway design and operations process. Rather than proceeding with a focus on design guidelines and standards as is appropriate for design teams, the audit team identifies deficiencies or problems that are incompatible with the function or classification of a particular corridor, which often exceed design standards.

PennDOT has been conducting Road Safety Audits with its work force in a variety of forms for the past ten years. The positive influence an RSA’s independent audit process can have on the typical corridor improvement design process is exemplified by a recent agreement between PennDOT and Pennoni Associates Inc. (Pennoni) to perform an RSA along a several mile corridor in northwestern Pennsylvania.

A foundational premise in the argument for an RSA is the deep and diverse expertise of independent auditors. For the example of the PennDOT RSA agreement, the Pennoni audit team was composed of three transportation engineers with individual work experience tenures of 14 years, 17 years, and 35 years.

Not only did these professionals possess solid work experience but their areas of expertise varied. The team was comprised of a traffic engineer, a highway engineer, and a highway maintenance engineer. While each of these areas of expertise is common in transportation engineering, the expertise of each team member complemented the others, resulting in a more thorough audit than may have occurred otherwise.

Team members were not affiliated with PennDOT at the time of the audit, but all worked for or with PennDOT for many years in the past which made them knowledgeable of the needs and wants of the motoring public. Their expertise and knowledge, combined with their present independence of the project development constraints of time and money, resulted in a powerful assessment of the safety of the corridor.

The audit team’s observations were guided by a series of checklists focusing on general topics, alignment and cross-section, intersections, auxiliary lanes and turn lanes, non-motorized traffic, signs and lighting, traffic signals, physical objects, delineation, and pavement. While this list of topics for consideration in the RSA seems typical of the topics for design consideration, one of the characteristic of the RSA that makes it valuable is the perspective from which these topics are considered.

The checklist on alignment and cross section guided the team through their observations of such roadway characteristics as sight distances, design speed, overtaking, readability by drivers, widths, shoulders, and batter slopes. While this list of characteristics may sound like a list of geometric parameters, the RSA team looked beyond the quantifiable metrics to the quality and interconnectedness of these characteristics.

Rather than measure the sight distances associated with the horizontal and vertical curves along the corridor and compare them to current design standards, the audit team was more interested in the consistency of the sight distances along the corridor. A particular sight distance may meet design standards, but be significantly shorter than the other sight distances in the corridor, creating an anomaly in driver expectations. The anomalous sight distance may lead to an incorrect expectation for some drivers, as the geometry along most of the corridor has established an expectation in speed and attentiveness that is not met in the shorter sight distance. The result may be drivers carrying more speed through the corridor than is appropriate for the shorter sight distance, despite its meeting standards based upon hard measurements and design speed.

Another way the independent RSA may positively supplement the typical design process is in the audit team’s consideration of all road users. While design standards certainly provide dimensions for shoulders, turn lanes, and bike lanes, the RSA team worked to see the interactions between cars, buses, emergency response vehicles, bicycles, and pedestrians. Visualizing these interactions required observation of not only the roadway geometry, but the roadside development, from an audit team with much experience. How the roadside is developed and how that development is advertised and accessed will influence the flow of traffic within the roadway and the interaction of vehicles – motorized and non-motorized – as well as operator purpose, whether a leisurely bicycle ride or responding to a fire.

These and other, more detailed observations by the safety auditors led to a series of recommendations to the design team. These recommendations are typically accompanied by a report including the series of checklists that guided the team’s observations as well as mapping, diagrams,
Al Algazi, P.E.  
**Region 6 National Director**

Al has more than 35 years experience in the transportation industry of which 28 years were with the NJDOT and more than six with Hardesty & Hanover where he currently is employed as Director of Engineering in the West Trenton office. He manages bridge projects, research future opportunities, develops new clients and prepares proposals.

Al attended Polytechnic Institute of New York where he received a B.S. in Engineering, the College of New Jersey for their Business Administration Program, and also received his M.S. from New Jersey Institute of Technology in Engineering Management. He is a licensed professional engineer in both New Jersey and Pennsylvania. He is also a certified Public Manager from the Rutgers University NJDOT program.

Al is married to Judee, a teacher. They have two sons; Jonathan (30), a computer Engineer with Lockheed Martin, married to Wendy, a financial auditor with Blue Cross/Blue Shield, and Jason (25) an investor banker with TD Securities in New York City, is single. The family welcomed recently a new granddaughter, Jordyn, who is nine month old.

Al joined the South Jersey ASHE Section ten years ago. Within one year he joined the Southern New Jersey Section’s Board as the Director of Public Relations.

He was Chair of the Membership Committee for the Southern New Jersey Section. He was instrumental in increasing membership by almost 100 new members within year.

He was Region 6 Director and Treasurer, for about 6 years, representing the Southern New Jersey Section.

In 2003 he chaired the Region 6 Annual Seminar held at the College of New Jersey. Almost (300) attended the seminar. The seminar raised more than $13,000 mostly dedicated to the ASHE 2007 National Conference held in Atlantic City.

In 2003 Al was challenged by Rod Pello, at the time ASHE National President, to initiate a new Section in New York City. One year later the New York Metro Section was chartered. Today it has approximately (180) members.

In 2004, Al was asked by David Jones to join the New Sections National Committee. To date, Al has been in Boston and Syracuse. The Syracuse section was chartered two years ago.

As co-chair and treasurer of the 2007 National Conference in Atlantic City, he was also instrumental in creating the Region 6 ASHE Scholarship tax exempt organization, saving sixteen thousand dollars that went to student scholarships in the five sections of Region 6. He is also the treasurer of the Region 6 scholarship tax exempt organization.

Al currently serves ASHE in the following roles: Region 6 President, National New Section Committee member, New Student Chapters, National ASHE Young Engineer and Member Engineer Awards of the year criteria. He was recently involved with the chartering of the new Section in Long Island New York on October 2, 2008.

Richard N. Cochrane, P.E.  
**Region 5 National Director**

Richard Cochrane is currently the Assistant District Executive for Construction in PennDOT’s District 4-0. He has been employed by the Pennsylvania Department of Transportation for 34 years. During that time he has worked in Districts 11 and 4, as well as in PennDOT’s Central Office in both research and pavement management.

For 17 years, he managed large construction projects and other construction activities in District 4 including the Casey Highway in Lackawanna County. Prior to his current assignment, Mr. Cochrane has been the Portfolio Manager in District 4 and served as acting County Manager in Pike County. He also served as acting District Executive for eight months.

He is also an avid bicyclist and private pilot, and has an interest in the history of transportation and public works.

Mr. Cochrane is a graduate of the Pennsylvania State University, with degrees in Civil Engineering and Public Administration.

Charles L. Flowe, P.E.  
**National Secretary**

Charlie is a Charter Member of the Carolina Triangle Section of ASHE. Charlie served on the Carolina Triangle Section Formation Committee and served as Director, 2nd Vice President, 1st Vice President, President and Past President of the Section. At the National Level, Charlie has served as National Director, National 1st Vice President, National President and National Past President along with chairing and serving on numerous committees. During the past year, he provided support to Terry Conner as his apprentice, learning the responsibilities and duties of the office of National Secretary.

Charlie earned a BS degree in Civil Engineering at North Carolina State University in 1983. He is a registered professional engineer in four states. He has been employed as a consultant to the highway industry since college graduation and has held the various titles of Bridge Engineer, Head of Structure Design, and Projects Manager for Transportation Design. Charlie is currently one of the owners of TGS Engineers in Cary, North Carolina, where he holds the title of Vice President and Principal-in-Charge of the highway and hydraulic design practices for the firm.

Charlie and Lynnell celebrated their 32nd wedding anniversary in May. They have three children, Rachel, Daniel and Sam, ranging in age from 30 to 19. They are very active in
Frank O’Hare, P.E., P.S.
Region 1 Director

Frank has been a member of the Central Ohio Section since 1985 and served as the Section President in 1995-1996. He was the first Region 1 President, and also served on the 1992 and 2004 National Conference Committees. In the fall of 2006, he was awarded ASHE Central Ohio’s Person of the Year Award. In his current ASHE position as the Director for Region 1, he represents Cuyahoga Valley, Central Dacotah, Central Ohio, Derby City, Lake Erie, Northwest Ohio and Triko Valley Sections on the National ASHE Board. Currently he is working with many others to expand ASHE westward.

He received his BSCE Degree in 1974 from Purdue University where he worked in the Civil Engineering Testing Lab as a technician. He co-oped with the Indiana Department of Highways during college, working on a survey crew (smart end of the chain) and performing construction inspections.

Frank has 32 years of diverse engineering experience and is employed as a Senior Project Manager for CT Consultants located in Columbus, Ohio. He has worked extensively with local, state and federal clients in the areas of project management, preliminary and final design, corridor studies and project planning, development of design criteria, contract management and construction administration. His diverse background also includes serving as project manager for large civil projects including dams and locks, bridges and highways. He is a Registered Professional Engineer in Ohio, Indiana, Michigan, Kentucky and West Virginia. Frank is also a Professional Surveyor in Ohio and Land Surveyor in Indiana.

He is presently the Vice President of the City of Gahanna Planning Commission.

Frank has been a member of the American Society of Civil Engineers since 1975, Columbus Engineer’s Club since 1985, Society of American Military Engineers and the American Council of Engineering Companies of Ohio where he has been Past Chairman of the Transportation Committee. Frank is Past President of Peace Lutheran Church in Gahanna. He is an Eagle Scout.

His wife, Kathleen, and he have been married for 33 years and reside in Gahanna, OH a northeast suburb of Columbus. Kathleen is a kindergarten teacher for Columbus Public Schools. Their only daughter, Molly, is married and is also a teacher in Columbus.

The family pet is a cat named Duesenberg, which was named after the classic cars that were built in his and his wife’s home town, Auburn, Indiana. During the winter, Frank and Kathy can be found cheering on the Columbus Blue Jackets Hockey Team. Frank enjoys boating, fishing and traveling. He also is a collector and operator of Lionel trains.

A surprise for many people is that his full name is Pierre Francis O’Hare II, but he has been called Frank or Frankie since he was a child.

Shane Vorce, P.E.
Region 2 Director

In 2002, Shane joined the Mid-Allegheny Section of ASHE and has been actively involved ever since. He has held several positions within the organization such as serving on the Section’s Board of Directors as the Section’s Regional Director, and serving as the Secretary for the Region 2 Board of Directors. Some tasks that Shane has been involved with over the years include the review and update of the Section’s By-Laws, creating and maintaining the Section’s Mid-Allegheny Club sponsorship board and most recently, organizing the first annual Region 2 Educational Seminar held at the PennDOT District 10-0 Offices.

Shane received a Bachelor of Science degree in Civil Engineering in 1991 from the Pennsylvania State University. From that point forward, he was able to obtain a diverse background of experience working in the inspection, construction and consulting fields. Over the course of 16 years, Shane’s experience has put him in the position he is at today. Shane is currently the Monroeville Transportation Division Manager for Pennoni Associates Incorporated, where he manages highway, bridge and transportation projects. He is a licensed Professional Engineer in Pennsylvania.

Shane and his wife, Dana, have been married for 15 years and reside in North Huntingdon, an eastern suburb approximately 30 minutes outside of Pittsburgh, PA. They have four children, Luke (13), Drew (11), Leah (9) and Hanna (7). Both Shane and Dana keep busy running the kids to their activities such as baseball, basketball and gymnastics.

Outside of work, Shane’s interests include involvement in his son’s local baseball organization. He is the Treasurer for the organization, but also coaches both his sons’ baseball teams. During the spring 2008 season, Shane coached his son, Drew’s, team to a second place finish. In addition, Shane helped coach his oldest son, Luke’s, summer tournament team to three first place and one second place finish.
cantilever construction utilizing form travelers is used to erect the superstructure in 16’ segments. Over 50,000 CY of concrete, 3,000 tons of reinforcing steel, and 1,500 tons of post-tensioning tendons are required for the superstructure. The substructure consists of cast-in-place concrete twin wall piers on deep foundations. The river piers average 100’ in height.

Retaining Walls
Vertical retaining walls (Figure 3) were the solution to cope with the hilly terrain, limited right-of-way, and preservation of historic properties. With rock near the ground surface and wall heights exceeding 70 feet, soil and rock nail walls were designed at two locations. While at sandy soil sites, cantilevered and tied-back soldier beam walls were designed. Also within the project limits two reinforced earth retaining walls have been constructed to support ramp traffic at the Allegheny Valley Interchange.

Construction
Walsh Construction Company of Chicago, IL, was awarded the $190 million construction contract for the project. The approximate cost of items directly related to the new Allegheny River Bridge construction is $105 million or approximately $346/SF of deck area. The new Allegheny River Bridge (Figure 4) is scheduled to open for traffic in July 2010 with final project completion scheduled for October 29, 2010.

Project Partners
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SAI Consulting Engineers, Inc.
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Project Management and Construction Inspection Services for the Owner
McTish, Kunkel & Associates in conjunction with: Figg Bridge Inspection, Inc.; Jeff Zell Consultants, Inc.; and Monaloh Basin Engineers, Inc.
Contractor
Walsh Construction Company
Contractor’s Engineer
T. Y. Lin International
PROPOSED ASHE FEDERAL PROGRAM POSITIONS

1. There needs to be a federal presence in transportation to insure safe and efficient movement of people and goods throughout the country. The federal role should be focused on those facilities vital to interstate commerce, safety, facilitating knowledge creation and transfer, and other actions designed to enhance the country’s ability to compete in a global economy.

2. All revenues generated from transportation user fees should be reserved for use for transportation purposes. Should Congress deem the USDOT an efficient vehicle to promote other interests (not directly related to the movement of people and goods), then the funding for these programs should come from other, non-user fee sources.

3. Since the federal gas tax was last increased in 1993, inflation has eroded over 50% of the buying power of this static, 18.4 cents per gallon for gasoline and 24.4 cents for diesel fuel, tax. Revenue sources need to be indexed to maintain more of their buying power over time.

4. Projections indicate that non-petroleum based energy sources will in the future power a growing portion of the vehicle fleet. This shift from petroleum based fuel will further erode the current gasoline/diesel usage based revenue structure. Congress is to be commended for the establishment of Study Commissions to evaluate long term transportation needs and funding structures. Actions should be taken to broaden the revenue base for transportation funding in keeping with the findings of these study groups.

5. Current projections indicate that the revenue stream to the federal highway trust fund will not be adequate to fund current spending levels starting in 2009. Congress needs to take immediate action to insure dependable funding to the transportation industry. Uncertainty and/or shortfalls in future revenues will cause disruption in the multi-year project development process and ultimately result in reduced project delivery, more congestion, increased vehicle crashes and a reduction in the number of jobs supported by the federal-aid highway program.

6. Federal environmental, air quality, and planning regulations should be streamlined and made concurrent/consistent to the maximum extent possible. The provision of safe, efficient mobility with minimum overall environmental impacts should be made a goal for all federal agencies.

7. It is believed that the state’s and their local government partners, through the federally mandated cooperative planning processes, are in the best position to assign project priorities and make decisions on how to allocate scarce revenues to various project categories within each state. Federal programs should be focused in areas that are of true federal interest, and be structured in broad program areas where states and local governments have the maximum flexibility to match the available federal funds to the most pressing needs within their jurisdiction.
We hope that the expanded distribution of this edition of the SCANNER will generate inquiries about ASHE from these and other new areas so that we can gauge how much interest there is in starting new sections in underserved areas. We hope that from this “shotgun” approach we will learn which areas are ready for more targeted actions. Those of you working for companies with offices in areas not currently served by ASHE can help this effort by talking about ASHE with staff in those areas.

The above list of potential new sections shows that there is already much interest from many places throughout the country; so why do we need to do more to generate further expansion? While we are hopeful that we will get many new inquiries from the expanded distribution of the SCANNER the goal is not necessarily to accelerate expansion but, rather, to manage it. Those of you that have been involved in forming a new section of ASHE know that the key to success is developing a strong core of leaders to get things started. It is also helpful if the area has a strong transportation program so that there are enough transportation workers in the area to support a section.

Hopefully, the inquiries that we receive from the expanded distribution of the SCANNER will help us to better identify those areas where we have the maximum chance of success.

There is a saying in business that if you are not growing then you are dying. I am not sure if that also applies to professional organizations, such as ASHE, but I do not really want to find out. Of course, uncontrolled growth can be just as harmful to an organization as no growth at all. To keep ASHE strong and vibrant it is important that we develop a growth plan that allows us to expand at a proper rate and into the right areas while continuing to properly serve our existing members. Most importantly, the plan must allow us to grow in a way that maintains our culture and our core values. Our goal must be to open ASHE to those that want to be a part of our organization and not to change our organization to try to fit into the places where we think we want to be.
ASHE Profile
The SCANNER is published quarterly by the American Society of Highway Engineers and delivered to over 6,000 readers nationwide.

- 16% are State D.O.T. Employees
- 67% are Engineering Consultants
- 7% are Contractors
- 12% are Related Professions
- 49% of the membership has a professional status

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- Chesapeake: 151
- Old Dominion: 57
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- Carolina Triangle: 197
- Georgia: 504
- Middle Tennessee: 133

Region 9
- Tampa Bay: 82
- Central Florida: 174
- Northeast Florida: 275
- Gold Coast: 59

Total: 6198

Professional Status: 50%
Government: 14%
Consultant: 67%
Contractor: 7%
Other: 12%