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Celebrating 75-Years of Toll Funded Transportation

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Witman Engineers & Consultants, LLC, working with Allan Myers, prepared a rock fall protection system to support the excavation for the installation of a permanent soldier pile retaining wall along the PA Turnpike in Montgomery County. The rock fall system captured and controlled rock fragments that could break away from the rocky face of the excavation. The system is comprised of resin rock anchors, wire rope, and chain link fence with geo fabric.

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So as we celebrate our 100th anniversary, Gannett Fleming congratulates the Pennsylvania Turnpike on this 75-year milestone. Thank you for allowing us to be a part of your history.
PA’s Act 89 Could be a Model for Fixing the Highway Trust Fund

by Robert E. Latham, CAE, APC Executive Vice President

States Have Acted – The Public Supports
Pennsylvania’s Act 89 of 2013 is a responsible approach to solving the state’s long-term transportation funding problem without severely impacting transportation users. The law’s funding components eliminate the cents-per-gallon gas tax on motorists, moving the collection point to the distributor level via the Oil Company Franchise Tax. Act 89 still relies on user fees, rather than general taxation, so those who create wear and tear on the transportation system continue to pay a greater share for its upkeep.

This bill did not come without a cost to users of our transportation system. However, a remarkable aspect of Act 89 is the minimal cost to the traveling public. The cost to the average motorist starts at 70 cents per week the first year and grows to $2.50 per week in five years.

Polling shows the public will support increased transportation investment:
• More than 90 percent agree that transportation funding is an important issue, including 54 percent who believe it is the most important issue currently facing the commonwealth.
• Multiple polls have shown that a majority – as many as 58 percent – are willing to pay at least an additional $10 per month to relieve congestion and improve safety.
• Polling shows that people understand the connection between improving the transportation system and creating jobs, both in the short and long term.

Highway Trust Fund Revenue Needs
Pennsylvania, along with all other states, still relies heavily on apportionments from the Highway Trust Fund (HTF) for its capital highway and transit investment. Even with the passage of Act 89, roughly 40–45 percent of Pennsylvania’s capital program is funded via the HTF.

Recently, the Congressional Budget Office (CBO) reported that an additional $8 billion will be needed before Dec. 31, 2015, to maintain the FY 2014 funding level of approximately $54 billion per year. That is the equivalent of a 10-cents-per-gallon increase in the federal gas tax, just to tread water. By contrast, the 2007, Report of the National Surface Transportation Policy and Revenue Study Commission estimated that annual transportation investment at all levels of government combined should be somewhere between $228 and $272 billion per year.

Motor Fuel Refinery Excise Tax Proposal (MFRE)
More than 130-billion gallons of gasoline and more than 37-billion gallons of diesel fuel for highway travel are refined each year by the petroleum industry. Excluding taxes, these sales annually generate about $500 billion in industry revenues. It is proposed that Congress eliminate the current cents-per-gallon gasoline and diesel tax and replace them with a federal “Motor Fuels Refinery Excise” (MFRE) tax similar to Pennsylvania’s Oil Company Franchise Tax.

Such action would:
• Provide a reliable revenue stream for the HTF to meet national transportation investment needs.
• Move the collection point “upstream.” The MFRE would be sent directly to the U.S. Treasury from either 51 corporate entities that own U.S. petroleum refineries or the 151 refinery facilities. Currently, 1,250 motor fuels facilities are responsible for accurately collecting federal motor fuels excise taxes. This would make HTF revenue collection more efficient.

MFRE could be considered a cost of doing business by the refinery industry just as it pays federal excises for electricity, communications (telephone) permits, etc. Only petroleum refined for motor fuel to be sold in the U.S. would be subject to the excise. Refineries would pass through the fee ultimately to the highway user but, it is likely a percentage would be absorbed in the market.

It’s a concept that passed in Pennsylvania. It is successful, as it allows for funding growth in the system and it is popular with voters. It’s time to seek new bold ideas. That is why the Keystone Transportation Funding Coalition and APC back this proposal.

“It is proposed that Congress eliminate the current cents-per-gallon gasoline and diesel tax and replace them with a federal ‘Motor Fuels Refinery Excise’ tax similar to Pennsylvania’s Oil Company Franchise Tax.”
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Congratulations on the
PA TURNPIKE’S
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of Excellence in Transportation
Seventy-five years later it’s difficult for us to comprehend the intense curiosity and wonder with which people viewed the opening of the Pennsylvania Turnpike. Today, we marvel at the possibility of commercial space travel as Elon Musk seeks to make it reality. People quickly move on. A great line from the movie “Apollo 13” observed that, “since Neil Armstrong walked on the moon, people now view a trip to the moon as exciting as a trip to Pittsburgh.” That was just two years after the first lunar landing. I have made the trip to Pittsburgh, the moon waits.
But, we all know the history, the excitement, and the precedent created by the Pennsylvania Turnpike. And today, the Pennsylvania Turnpike Commission (PTC) is establishing the road as a 21st century facility. In addition to space travel, people on earth still need good roads.

So, we congratulate the Turnpike on another milestone. This issue of *Highway Builder* joins others in the APC archives celebrating the “Granddaddy of them All.” Enjoy Dan Cupper’s history of the pike. But, also note the innovations such as the total reconstruction and widening plan. PTC’s traffic operations are a model for other facilities and continues to innovate. Check out the coming tollbooth exhibit at the state museum and consider contributing to that exciting opportunity.

Finally, APC and the entire construction industry recognizes the leadership of Turnpike CEO Mark Compton. Mark is the driving force behind “Orange Squeeze” and “Orange Improvement.” He recognized the need to actually do something about work zone safety and communication with the public about road projects, dovetailing with APC’s Transportation Policy and Education Foundation’s research on public attitudes and need for information.

Last year, Mark helped generate the Transportation Quality Initiative and has been a driving force behind it as we seek to improve our working relationships, technical prowess, and workforce skills. We appreciate Mark’s leadership and that of the Turnpike executive and engineering team as we continue to do our part in making the Pennsylvania Turnpike a national model into the future.

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As you know, the Pennsylvania Turnpike reaches a significant milestone in a few months when our historic toll road turns 75 years old. Known as America’s First Superhighway, the original, 160-mile highway opened to traffic just after midnight on Oct. 1, 1940. When it first opened, the Turnpike ran from Middlesex, near Carlisle, to Irwin near Pittsburgh. It broke new ground as the nation’s first limited-access, four-lane highway with no stoplights, stop signs or cross traffic – cutting three hours off the trip from Harrisburg to Pittsburgh.

The PA Turnpike forever changed the way America traveled. Indeed, the engineering concepts developed on the Turnpike were the foundation for a national transportation network that would touch the lives of every American – The Interstate Highway System. But the law that created our interstate system was signed more than 16 years after the PA Turnpike opened.

Originally, the Turnpike was made up of 11 toll plazas, 11 service plazas, and four maintenance facilities. Today, the Turnpike has more than tripled in length and oversees 68 fare-collection facilities, 17 service plazas, and 27 maintenance facilities across the state.

In 1941, our first full year of operations, some 2.7-million vehicles traveled our Turnpike. Last year, nearly 194-million vehicles traveled the toll road. To put it another way, the PA Turnpike today sees about as much traffic in an average work week as it did in our first full year.

As chairman, I am indeed proud of the rich history of the Pennsylvania Turnpike Commission and the impact we have made here in our home state and beyond. But I am even prouder that our legacy of innovation in the ground-transportation industry lives on through the unprecedented investment in our highway, our continued commitment to innovation – including an award-winning smartphone app – and our steady focus on how customers will travel tomorrow’s Turnpike.

I want to recognize the countless contributions of the highway design and building industry, and specifically all of the members of the Associated Pennsylvania Constructors over the years; without your hard work, cooperation, and commitment, the Pennsylvania Turnpike could not have made it to our first birthday – much less our 75th. Of our many business partners, yours is truly special because it’s literally where the rubber hits the road. We consider ourselves fortunate to continue to call you allies as we look down the road towards the next 75 years on the Pennsylvania Turnpike.

Sincerely,
Sean Logan
PA Turnpike Commission Chairman
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GREETINGS:

I am delighted to commemorate the 75th anniversary of the opening of the Pennsylvania Turnpike.

On October 1, 1940, just after midnight, the original section of the Pennsylvania Turnpike welcomed its first motorists to travel the 160 miles of the four-lane superhighway between Carlisle and Irwin, setting the national standard for limited access, modern interstate highways and serving as the blueprint for creation of America’s Interstate Highway System.

Now in its 75th year, the original 160-mile route has been expanded to 552 miles, carrying more than 190 million vehicles a year. Today, the Pennsylvania Turnpike is in the process of rebuilding the entire roadway to meet contemporary safety standards. More than 110 miles have already been widened and reconstructed, and the work continues as the Pennsylvania Turnpike remains committed to putting motorists’ safety first.

As Governor, and on behalf of all citizens of the Commonwealth of Pennsylvania, it is my pleasure to congratulate the Pennsylvania Turnpike on its 75th anniversary. Please accept my best wishes for continued success.

TOM WOLF
Governor
2015
My congratulations to the Pennsylvania Turnpike Commission on the 75th anniversary of America’s First Superhighway. What a transition we have seen during those years! From an initial 160-mile link between Carlisle and Irwin to a modern network of high-speed, critical routes totaling more than 550 miles.

All along the way, the Turnpike has evolved with the times: upgraded rest areas, E-ZPass toll systems and expanded capacity to handle ever-increasing traffic loads. And the Turnpike also became the stopgap when Pennsylvania needed additional resources for all of transportation.

We at the Pennsylvania Department of Transportation have been strengthening our ties to the Turnpike and are exploring and implementing ways we can work together and improve service delivery and promote efficiencies.

I look forward to serving as a Turnpike Commissioner and helping oversee this critical element of our transportation network.

Sincerely,

Leslie S. Richards

PennDOT Secretary and Turnpike Pennsylvania Commissioner
To an engineer, the Pennsylvania Turnpike represents a bold, historic precedent in American superhighway design. To a bondholder, it is a dependable return on investment dollars. To a contractor or subcontractor it means months or years of work.
To a historian, the Turnpike is one of the last great expressions of President Franklin Roosevelt’s New Deal, and surely one of the most enduring. To the 15,000 people who built the first 160 miles in a shade less than two years, it was a gigantic project squeezed into an impossibly short timetable.

To economists, the Turnpike represents an old financing tool – tolls – that has regained currency after being out of public view and favor for decades. And, finally to more than 190-million motorists and truckers a year, it is a highway that offers savings in time, fuel, and vehicle wear.

In their rush to get to the next exit, it’s likely that most of those travelers today consider the Turnpike to be just another road. Yet, when the first stretch of 160 miles from Carlisle to Irwin opened on Oct. 1, 1940, it was absolutely unique in American transportation. It was the nation’s first superhighway, forming the blueprint for creation of the federally sponsored Interstate Highway network – 43,000 miles of multiple-lane, divided, limited-access roads that American motorists very much take for granted today.

“In an era of jet travel, magnetic levitation trains, and eight-lane interstates, it’s hard to imagine the curiosity and pure marvel generated by what is today commonplace,” wrote Frank Cozzoli, a staff writer of the Harrisburg Patriot and Evening News. “People were so enamored with the highway, they actually drove it for no reason at all, often stopping at the modern service plazas, treating themselves to ice cream at the Howard Johnson’s fountain, and then returning home.”

DIFFICULT TASK

Getting the highway built was anything but easy. The existence of an abandoned railroad right-of-way, the never-completed South Pennsylvania Railroad of 1885, prompted discussion in the mid-1930s of reusing that alignment – complete with nine partially completed tunnels – for an express highway. Depression-weary Pennsylvania state government couldn’t afford to build it, but the idea of putting 15,000 people to work to help relieve the state’s severe unemployment was appealing.

So the notion of building it as a toll road was conceived, and on May 21, 1937, Gov. George Earle signed Act 211 into law, creating the Turnpike Commission but not assigning any money to it.

Backers of the toll concept, principally Walter A. Jones of Pittsburgh, a millionaire oil executive who was chairman of the Commission, tried to sell bonds on Wall Street. But the idea was too new for conventional investors recovering from the Depression, and the offering was withdrawn. The key to building the road came when President Roosevelt – convinced of the military value of the road – approved a Public Works Administration (PWA) grant that eventually amounted to $29.25 million and the purchase by the federal Reconstruction Finance

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The project almost went forward as a Works Progress Administration job – with all federal relief workers and no contractors – but A.E. O'Brien, an Associated Pennsylvania Constructors official, personally intervened (see Highway Builder, October 1980) to expose the potential for conflict of interest and corruption.

**FIRST CONTRACT**

Designing and building the Turnpike was a massive undertaking. Ground was broken on Oct. 27, 1938, on a 10-mile stretch near Newville, Cumberland County, that would involve excavation of 850,000 cubic yards of earth and rock. The contract amount was $458,058 – a sum that today would buy a very small bridge. L.M. Hutchison of Mount Union, who was an APC officer at that time, submitted the lowest of 23 bids.

First concrete was poured on Dec. 13, 1938, on the foundation of an eight-foot reinforced concrete culvert near Newville. Two days later, Walter Jones and Turnpike Chief Engineer Samuel W. Marshall addressed APC’s convention in Harrisburg. One of the other speakers discussed “German Highways,” a reference to the Autobahn system after which the general Turnpike design was patterned.

With such a short deadline for construction, time was too precious to design the project in its entirety before work began. Because the PWA was scheduled to go out of existence in mid-1940, the Turnpike Commission was supposed to have the highway substantially complete within 20 months (later extended). Within a year of the groundbreaking, some 1,100 engineers were at work grinding out design plans while construction was already underway on sections already contracted.

**AROUND-THE-CLOCK**

By working two and three shifts, with huge spotlights blazing through the night in some of the most rural areas, the 155 contractor firms completed the job in 23 months. The design standards were striking for that era – no grade was steeper than 3 percent; no curve was sharper than 6 degrees (and all were designed with spiral easements and superelevation); and 110 miles of the 160-mile total was on straightaways.

Each lane was 12 feet wide, with a 10-foot-wide grass median strip. Seven tunnels, averaging a mile each, were constructed as the means of avoiding the climb over the Alleghenies. Not only did they keep the motorist off the foggy mountaintops, but they also sliced the accumulated climb from 13,000 feet, via U.S. Route 30, to just 3,990 feet.

In many cases, Turnpike construction workers found that they were resented by hotels and restaurants in local communities, who believed that
the superhighway would dry up their travel and tourism trade on U.S. Routes 22/William Penn Highway, and 30/Lincoln Highway. Signs reading “No Turnpike Workers” were posted in some restaurant windows. (In the end, as it turned out, the Turnpike had almost the exact opposite effect along U.S. 30, bringing many more travelers to the region than had been there before.)

Some property owners were resentful too. The right-of-way directly used only about 40 miles of South Pennsylvania Railroad roadbed, the rest coming from adjacent landowners. With no legal requirement or tradition of holding public hearings or conducting environmental assessments, the Turnpike could and did quickly condemn land by eminent domain proceedings. Many farmers tried to obstruct the contractors’ crews, and one, Harry Gongaware, strung barbed-wire fence around his property, which happened to be the site of the Irwin toll plaza. An injunction settled that issue.

WORKERS IN TENTS

Conditions were crude out in the largely isolated parts through which the right-of-way passed. Near the western end of the road, housing was so short that some workers lived in tents. A primitive telephone service was hastily installed just for the construction, and contractors had to contend with old wooden crank phones connected to operators. One contractor grew so frustrated with that system that, in a fit of anger, he yanked the phone from a wall.

One of the more unusual sights that greeted the contractors on the project was that of a hiker, Henry G. Sample, an electrician from Greensburg who walked the entire route in 10 days in the summer of 1939, his hobby being visiting large construction sites. Carrying a camera, a knapsack and a canteen, he moved from site to site and slept on beds of sawdust that the contractors had given him. He gave this account of the workforce: “I saw no shovel leaners.” He undoubtedly saw survey crews, and one of the typical unskilled jobs – that of chainman on such a crew – paid $85 a month.

HISTORY ATTRACTS

The historical importance of the Turnpike was obvious even as it was being built. George Briner of Carlisle went to work on a Turnpike crew, driving a petroleum truck, soon after graduating from Dickinson College with a degree in history. “I just wanted to say I worked on the first superhighway,” he said. “I didn’t care what job I did.”

Milton Brumer, the Turnpike’s chief engineer for tunnel design, expressed much the same sentiment when he recalled, “we were blazing the way.” He finished his work in 1939, before the highway was completed, and went on to other projects, his career culminating in the design of the Verrazano Narrows Bridge in New York. (After retiring to Florida, he returned to Harrisburg during the 50th anniversary celebration for a reunion with early Turnpike veterans. One of the most ironic features of his visit was that he had never traveled through any of the completed Turnpike tunnels, all of which he designed, until a couple of employees took him for a visit to Blue Mountain, Kittatinny Mountain and Tuscarora Mountain Tunnels, and the abandoned Sideling Hill Tunnel.)

CONSTRUCTION CHALLENGES

The estimated completion date of June 29, 1940, was jeopardized when rainy weather dominated the spring of that year. On June 21, a Bedford newspaper reported: “Rains occurring for (most of April and May) prevented the contractors from swinging into top speed until just a few weeks ago. Reports from the 24 contractors show that they lost a total of 198 working days because of rain.” Nevertheless, trade journals of every description were filled with accounts of the highway’s progress, and on July 29, 1940, it suddenly was propelled into national prominence by Life magazine, which published a four-page photo feature. One of the photos showed a female graduate civil engineer, Margaret McNally, whose company held a contract to pave 25 lane-miles near Bedford.

Because much of the construction work was rushed, there was little time for advance investigation into subterranean rock conditions, with surprising and, in some cases, unpleasant results for contractors. One contractor hit unusually hard rock and ended up wearing out 3,000 drill bits a week while boring holes for explosives; the same firm was responsible for excavating a nearby cut and found virtually no rock at all, but it didn’t make up for the loss on the other work. Unusual conditions cropped up on numerous other jobs as well, including the sudden release of a seam of sand in Kittatinny Tunnel.

The project was not without its share of incidents. There were labor troubles between established unions and local people who wanted Turnpike jobs in Somerset County. Twenty-one sticks of dynamite were found under a bridge in Bedford County, and some sabotage of equipment was reported. Fights sometimes broke out in the workers’ camps. And at least 19 workers died in construction accidents, four of them in August 1939 in a rock fall inside Laurel Hill Tunnel.
MIDNIGHT OPENING
Finally, the great road that everyone was calling the "Dream Highway" was completed. It was opened Oct. 1, 1940 at 12:01 a.m. Because of partisan political considerations, no special ceremonies were held. (President Roosevelt, who several times was reported to be planning to attend a proposed dedication, was running for an unprecedented and controversial third term. In three years since the original Commission was named, the majority on the Commission swung from Democratic to Republican.)

Along the highway, 10 service plazas offered travelers Howard Johnson's food and Esso gasoline. An immediate success, the Turnpike handled an unbelievable 27,000 vehicles on the first Sunday it was open, and 30,000 the second Sunday. In its first year the road carried 2.4-million vehicles, compared to the Commission's own estimates of 1.3 million and the U.S. Bureau of Public Roads' pessimistic estimate of 261,000. By comparison, the highway now carries some 190 million vehicles a year, or more than 520,000 a day. The 2.4-million annual vehicles that traveled in 1940-41 represents less than five days' worth of traffic at 2015 volume levels. Probably the most striking aspect of the Turnpike's opening was that it cut an arduous, six-hour drive across Pennsylvania's mountains via the winding, hilly William Penn or Lincoln Highways to about 2-1/2 hours for the fastest motorists.

TRAFFIC IS CUT
With no speed limit the first six months (it was 70 mph thereafter), motorists could travel as fast as their cars and their nerve would allow. But the intervention of World War II, with gasoline and tire rationing and a 35 mph fuel-conservation speed limit, sharply cut the civilian traffic. Soon, the income from tolls was insufficient to cover the highway's $6,000-a-day operating expense and the Commission reported a $374,000 loss for the fiscal year ended May 31, 1943, relying on its financial reserves to meet interest and fixed charges until traffic began to pick up with the end of the war.

When the postwar economy began to return to normal, the Commission dusted off its plans to expand the highway east to Philadelphia and west to Ohio. The 100-mile Philadelphia Extension was begun on Sept. 28, 1948, and opened on Nov. 20, 1950. To mark the Turnpike's tenth anniversary and the opening of the Philadelphia Extensions,

Highway Builder editorialized: "Here is a quasi-public agency, created by government, functioning much the same as a private enterprise in order to furnish a facility which might well have been impractical, for either government or private enterprise to provide."

In the meantime, work had begun on the 67-mile Western Extension on Oct. 24, 1949, and it was opened from Irwin to the Ohio line on Dec. 26, 1951. For 1952, the first year the Turnpike was truly a statewide road, traffic volume grew to 11-million vehicles.

The 33-mile Delaware River Extension was completed on Nov. 17, 1954, the Delaware River Bridge connection with the New Jersey Turnpike was opened May 23, 1956, and the 110-mile Northeastern Extension from Norristown to Scranton was opened on Nov. 7, 1957, bringing the total mileage to 470 miles.

HECTIC PERIOD
Eddie Urban, who served as Turnpike public relations director from 1950 to 1956, recalls the frenzied activity of those expansionist years. "They were exciting days because we were extending the Turnpike," he said. "There was a lot of pomp and ceremony."

Part of his job was to travel to the Philadelphia area and speak to groups who were opposing the Turnpike's proposed route through the northern suburbs: "We were going through hallowed ground – George Washington slept at a tavern right near where the road went through."

The alignment choice was "a hot topic" for a while, he said. There was no corresponding objection to the right-of-way for the Western Extension, he recalled, since it passed largely beyond the then-outer reaches of Pittsburgh's northern suburbs.

Urban also accompanied a large diorama explaining the Pennsylvania Turnpike to other states that were then considering building Turnpikes of their own. He specifically recalls traveling to Florida, Ohio, and New Jersey – all of which soon did build toll superhighways.

By the time Pennsylvania's initial toll-road expansion ended, the system reached 470 miles in length. More was planned, but the passage of federal legislation in 1956, creating the toll-free Interstate Highway system with its 90 percent federal funding guarantee, put an end to toll-road growth. The Pennsylvania portions of Interstate 79, I-80, I-81, I-90 and part of U.S. Route 15 (Harrisburg to Gettysburg) all were proposed in legislation as Turnpike extensions before the Interstate Act came along.

Some of these were well advanced in planning. What is now I-90 in Erie County was once described as the “Top of the T” in Commission news releases, the stem of the T being a proposed north-south highway linking Pittsburgh and Erie, which is today I-79. Core borings had been taken and the design was so far advanced on the “Top of the T” that when the Interstate Act was passed, the Turnpike engineers simply packed up the plans and sent them to the Pennsylvania Department of Highways. As a result, I-90 was one of the earliest Interstates on which bids were awarded.
BYPASS BUILT

In the 1960s, expanding demand caused the Commission to undertake more than $100 million in capacity-enlarging improvements that were sorely needed in the postwar automobile-culture expansion era.

Traffic backups of 10 miles or more on holiday periods became common where the four-lane highway squeezed down to two lanes for the tunnels. In 1962, the Laurel Hill bypass was begun, eliminating Laurel Hill Tunnel when it opened on Oct. 25, 1964. The Turnpike’s first twin tunnel was opened, at Allegheny Mountain, on March 15, 1965. A 13-mile Ray’s Hill-Sideling Hill bypass just east of Breezewood was opened on Nov. 26, 1968, eliminating the Turnpike’s shortest original tunnel (Ray’s Hill at 3,532 feet) and its longest original tunnel (Sideling Hill, at 6,782 feet). The same day, twin tunnels were opened at Tuscarora Mountain, Kittatinny Mountain, and Blue Mountain Tunnels.
In 2015, the tunnels remain in daily service, with an unresolved future for the Allegheny Tunnel, which has reached capacity, harking back to the miles-long backups at peak-travel holiday periods. Studies show that boring a new tunnel would cost $750 million, while a more environmentally and politically sensitive open cut would cost half that.

**MUCH CHANGE**

Today, the Turnpike carries 190-million vehicles a year and long ago welcomed its two-billionth traveler. In Western Pennsylvania, the 16-mile Beaver Valley Expressway and the 13-mile Amos K. Hutchinson Bypass at Greensburg were built to aid economic development. Also the Mon/Fayette Expressway, which is eventually projected to link Pittsburgh and Morgantown, W.Va., has mixed federal highway funding with Turnpike bond revenue. The Southern Beltway has been opened from Greater Pittsburgh International Airport to U.S. Route 22, with further planning to connect to the Mon-Fayette Expressway. The addition of these feeder roads has lengthened the Turnpike mileage to 552 miles from its original 160-mile distance between Carlisle and Irwin.

Much of the original four-lane alignment on that first section and on the original extensions became obsolete with the explosion of traffic volume. Over the last 15 years, the Turnpike has completed some 112 miles of total reconstruction, most of it widened from four to six lanes in the process. The cost to widen and improve the roadway is as much as $25 million a mile, compared to a cost of $70 million to build the entire 160-mile highway in 1940.

In the Philadelphia area, a portion of the Turnpike has been widened to six lanes, and the 17-lane Mid-County interchange with I-476, the Blue Route, opened in 1992. North of Allentown, a second Lehigh Tunnel – the first highway use of the New Austrian Tunnel Method in this country – eliminated the Turnpike’s last remaining two-lane section of highway when it opened Nov. 9, 1991.

While the original 160-mile Turnpike featured no large bridge structures, the extensions of the 1940s and 1950s did, and some of the iconic bridges of those years have simply worn out. As a result, the Commission replaced the 2,300-foot-long Allegheny River Bridge near Pittsburgh and the 5,900-foot-long Susquehanna River Bridge near Harrisburg. As an example of inflation, the Susquehanna Bridge replacement cost $89 million, while the entire 100-mile Philadelphia Extension cost $100 million in 1949 dollars.

A computerized fare-collection system went into service in 1987 – largely in response to increased volume – and has been expanded several times since. In 2015, the Turnpike is in its 15th year of participating in the E-ZPass program, an automated tolling system that reads transponders on vehicles as they pass and charges customers accordingly. The old paper-ticket system is still in effect on most of the highway, but more than 75 percent of Turnpike travelers use E-ZPass because it offers as much as a 35 percent discount over cash fares. The Turnpike has 1.6-million E-Z-Pass accounts with 2.2-million transponders – a fraction of the 25-million E-ZPass tags that are issued by 25 toll agencies in 14 states. In early 2016, the first instance of All-Electronic Tolling will be instituted on the Turnpike at the Delaware River Bridge, where a bridge toll will be collected westbound only.

Another change to the original ticket system is that on the western end, motorists get and surrender their paper tickets at a Warrendale mainline toll plaza, in order to facilitate direct, nonstop connections with I-79, a West Virginia-to-Erie Interstate that was originally planned as a Turnpike extension. Likewise at the eastern end of the Turnpike, a long-awaited direct connection with I-95, the nation’s longest north-south Interstate, will involve the construction of a new mainline toll plaza at Neshaminy and the elimination of toll tickets east of there.

Tolls have risen, partly from the costs of general inflation and partly from the effects of Pennsylvania General Assembly Act 44 of 2007 that was later amended, which required the Turnpike to pay $450 million a year to help fund non-toll roads and transit projects. The original 160-mile toll for a passenger car was $1.50, or slightly less than a penny a mile. Currently, the cost to drive between those original endpoints of Carlisle and Irwin is $19.40 cash or $13.78 with E-Z-Pass.
CUSTOMER ENHANCEMENTS
Services have been altered to meet the needs of the times. Motorists
who need help can call *11 to reach the Traffic Operations Center in
Highspire in case of breakdown, accident, or running out of fuel, or
to report incidents or conditions. Another system is in place as well
— traveler-assistance callboxes positioned every mile along the entire
roadway, offering a link to the same Traffic Operations Center. The
center can dispatch police, fire, or ambulance services as needed.

Fast-food restaurants, including well-known brands such as Starbucks,
Burger King, Steak 'n' Shake, Auntie Anne's Pretzels, Sbarro's, Quizno's,
and Pizza Hut, are featured at all of the service plazas. In another change
from the past, some plazas feature seasonal farmers’ markets offering
local produce — a concept that was rejected in the original 1940 plan for
amenities. In a nod to evolving technology, electric-vehicle charging
stations are now available at some service plazas. Other modern features
include ATMs, Wi-Fi, and A-Plus convenience stores.

In a throwback to the original 40-year contracts with Howard Johnson's
restaurants and Standard Oil Co., the current providers, HMSHost
Corp. and Sunoco Inc. of Philadelphia signed 30-year agreements that
call for $170 million in private investment in the remaining service
plazas (several of the original plazas have been closed over the years
due to declining patronage at those locations). Under this arrangement,
a modernizing program began in 2007, and as of mid-2015, 16 of 17
plazas have been upgraded with expanded facilities, with the 17th –
Valley Forge — scheduled to open in August 2015. In a nod to history,
the original mother-ship service plaza, South Midway, was modernized
without jeopardizing the classic look of its 1940 stone-farmhouse exterior.

Dan Capper, a Harrisburg-based transportation writer, is the author of
"The Pennsylvania Turnpike – A History, the official history of the nation's
first superhighway."

Editor's Note: This article originally appeared in Highway Builder’s 50th
anniversary tribute to the Pennsylvania Turnpike in 1990. It has been
updated and appended to reflect current Turnpike history.
The Pennsylvania Turnpike Commission (PTC) is teaming up with the State Museum of Pennsylvania to celebrate two notable events in 2015: the Turnpike’s 75th anniversary and the 50th anniversary of the opening of the State Museum on North Street in Harrisburg. To mark these occasions, the PTC and the State Museum are working on a long-term exhibit featuring the Pennsylvania Turnpike and the role it has played in transportation history.

As part of a series of planned capital improvements to its major exhibit galleries, the State Museum in 2014 committed to major upgrades to its Hall of Industry and Technology. The new gallery, to be renamed the Hall of Industry and Transportation, will be renovated in stages over the next several years with new exhibits designed to highlight the important stories significant to Pennsylvania’s industrial and transportation heritage.

The inaugural exhibit, which will open this fall, will focus on the Pennsylvania Turnpike – the nation’s original four-lane, limited-access motorway – and arguably a Pennsylvania icon. The Turnpike’s design and construction were considered technological marvels, and the opening of its original section – over the rugged Allegheny Mountains that separated Pittsburgh and Harrisburg – revolutionized the movement of people and goods from east to west. As America’s First Superhighway, the Turnpike also set the standard for modern interstate highways after World War II.

“The Pennsylvania Turnpike represents the continuation of a long tradition of transportation innovations which have occurred in Pennsylvania, like the Conestoga wagon,” said Curtis Miner, Ph.D., senior curator of History & Fine Arts Collections at the State Museum of Pennsylvania. “An original Conestoga wagon sits in the State Museum today along with a Piper Cub aircraft and several early Pennsylvania-made automobiles.”

The aim, according to Miner, is to extend the transportation theme into the 20th century by adding a new section devoted specifically to the legacy of the Pennsylvania Turnpike as the nation’s first modern, limited-access highway.

Two major never-before-exhibited artifacts will anchor the new 2,000-square-foot exhibit: an original c. 1940 Turnpike tollbooth from the Irwin Interchange and a c. 1970 electronic “road-conditions” control...
board from an early Turnpike dispatch center. Both of these objects are in the permanent collection of the State Museum and have been restored and reassembled for display.

The tollbooth will be arranged within a period setting intended to evoke the heyday of mid-century Pennsylvania Turnpike travel. Dozens of other items from the museum's permanent collections, including historic photographs, films, memorabilia, and scale models will also be displayed to help tell the story of the Turnpike’s development and its impact on modern automobile travel.

This new exhibit is set to be unveiled Oct. 1, 2015, which is the actual date the Turnpike opened to traffic 75 years ago.

Much of the funding for the new exhibit was raised by private donations from firms in the road design and construction industry in the commonwealth, without whom the display would not have been possible.

The original Turnpike laid the groundwork for the nation’s interstate system. And, as a leader in transportation, the Pennsylvania Turnpike will now be prominently featured in the State Museum’s Industry and Transportation Gallery for all to enjoy.

The scheduled opening of the Turnpike exhibit coincides with the 50th anniversary of the State Museum and Archives Building in downtown Harrisburg, which was officially dedicated in October 1965. The mid-century modern complex, recently listed to the National Register of Historic Places, is located directly across from the State Capitol at Third and North streets and also serves as the headquarters of the Pennsylvania Historical and Museum Commission (PHMC), the state agency which administers it. The museum will be sponsoring a series of special programs and exhibits throughout the fall to mark the building’s anniversary. To learn more visit http://statemuseumpa.org/.
In spring 2015, the Pennsylvania Turnpike Commission (PTC) announced the launch of a major safety initiative to urge motorists to slow down in work zones. The campaign—which comes less than a year after Turnpike maintenance employee Bill McGuigan was killed in a Chester County work zone—will tout “Operation Orange Squeeze,” where state troopers conduct speed enforcement from construction vehicles inside work areas.

“All of us at the Turnpike were deeply affected by Bill’s unfortunate death, especially his colleagues at the Devault maintenance facility. We are determined to do whatever we can to get motorists to slow down,” said PA Turnpike CEO Mark Compton. “The commission is committed to raising awareness about the harsh consequences of speeding in work zones. Bill left behind a wife and two grown daughters whose lives were shattered when the state police knocked on the door that day to bring the sad news.”

McGuigan, of Ardsley, was killed June 1, 2014, when he was struck by a truck that apparently entered the closed lane in which he was working. He was the second Turnpike Maintenance Department employee to be killed in less than a year. Michael R. San Felice of West Norriton, was
killed Oct. 22, 2012 in a crash in Montgomery County. San Felice was picking up debris on the shoulder when a vehicle left the roadway and struck a maintenance vehicle which in turn struck San Felice.

“Over the years, more than 30 Pennsylvania Turnpike employees have lost their lives while performing their duties; many of these tragedies happened in work zones,” said PA Turnpike Chairman Sean Logan. “Our highway workers and their families are counting on us to help protect them, and their safety is our main concern.”

The work zone campaign includes advertising, media relations, and public outreach tactics with a goal of changing how motorists drive in work zones. It includes three appeals:

1. A direct appeal from actual maintenance workers to drivers
2. An emotional appeal reminding motorists of the devastation experienced by family members of workers who have been killed
3. And a selfish appeal that reminds drivers what they can lose if pulled over in a work zone.

“We have put together a campaign that the public will remember, and we hope it will make our customers think as they drive in our work areas,” Logan said. “If we can prevent just one more tragedy, our efforts will have been productive.”
The campaign launched in May 2015 in the Philadelphia region where the two most-recent employee fatalities occurred — and is moving statewide throughout the summer.

As part of the campaign, the Turnpike Commission is asking travelers to visit www.OperationOrangeSqueeze.com to learn more about the importance of safe driving in work areas and to join other motorists in a safe driving pledge. By encouraging motorists to sign the safe driving pledge and to express why they are doing so, the commission is hoping drivers will stop and think more personally about what impact their driving choices can have on themselves, their own families and others on the roadway.

The Turnpike has teamed with Pennsylvania State Police Troop T – the unit in charge of Turnpike patrols – to activate Operation Orange Squeeze. Troopers will be inside construction vehicles (including the Turnpike’s orange dump trucks) running radar within work zones while another trooper waits outside the work zone to pull over and cite offenders.

“Drivers won’t know where or when our troopers will be cracking down, so they should always obey the posted speed limit and travel with headlights on in work zones,” said Lieutenant David L. Cain, Troop T commander. “Motorists who are cited in a work zone travelling 11 mph or more over the speed limit could face around $200 in fines plus a 15-day suspension of their license.”

The danger that workers face every day on the road is significant. Last year alone there were 150 crashes in Turnpike work zones. With nearly 60 active Turnpike construction projects worth $1.2 billion planned for 2015, there will be thousands of workers on the toll-road system this year.

“There is no greater priority for this commission than the safety of our workers,” Compton said. “We are committed to doing whatever it takes to tackle this issue and save lives. We hope our message will impact how drivers act in all work zones, not just the ones on our roadway.”
A safe, reliable, and growing ground-transportation network drives economic growth. The proof can be found from one end of the Pennsylvania Turnpike’s 550-mile system to the other. But there may be no better example of that maxim than at the Valley Forge Interchange and the surrounding area.

Since its development in 1950, the Valley Forge Interchange has helped to transform the King of Prussia area located in Upper Merion Township, Montgomery County into a highly developed, vibrant economic community.

King of Prussia is one of the largest employment centers in the suburban Philadelphia region, and the King of Prussia Mall is the nation’s largest shopping complex – based on shopping area square-footage and housing.

Beyond retail, the region is home to a growing tourism and hospitality business made possible by the access to major interstates, including the Pennsylvania Turnpike, (Interstate 76/I-276) at the Valley Forge Interchange (Exit #326) and the Northeastern Extension (I-476), state routes 422, 202, 320, the Blue Route (I-476), and the Schuylkill Expressway (I-76).

The area is also home to more than 3,700 companies and roughly 200 more that have headquarters or regional offices in the vicinity. The growth continues today as suburban development pushes forward dotting the landscape with residential buildings.
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Two All Electronic Tolling facilities planned for 2016 rollout

Like many toll agencies across the country, the Pennsylvania Turnpike Commission (PTC) continues plans to move toward a cashless, All Electronic Tolling or AET system. A new electronic tolling point in Bucks County will become the PTC’s first-ever AET facility in January, 2016; then, in the summer of 2016, the Beaver Valley Expressway (the tolled portion of Interstate 376) on the western side of the Turnpike system near Ohio will be converted to AET.

These two initial deployments – to be completed without layoffs of any current employees – will serve as AET pilot projects to evaluate technologies, systems and procedures before any additional steps are taken. Any future electronic tolling conversions will be implemented in a “controlled, judicious manner,” said PTC Chairman Sean Logan.

“We intend to carefully observe these AET pilots to identify and address any issues before significant and irreversible decisions are made about future conversions,” Chairman Logan said. “We will be analyzing payment and enforcement procedures, customer and employee impacts and AET conversion costs prior to advancement of this new tolling system.”

Chairman Logan said the PTC will assess the effectiveness of the two AET pilot projects and appoint a monitor to report to commissioners on the operational status and impacts of conversions to customers and the agency.

When it opens, the Delaware River Bridge AET facility will replace the existing Delaware River Bridge toll plaza at milepost 359 near the New Jersey line. Cash will not be accepted at the electronic tolling point – comprised of twin overhead gantries for westbound motorists only. Customers coming onto the PA Turnpike from New Jersey will pay a flat toll via E-ZPass – currently used by about 80 percent of drivers at that location – or with a new “Toll-by-Plate” system. The Toll-by-Plate system will use cameras mounted on the gantries to capture a license-plate image. Toll invoices will then be mailed to the vehicle’s registered owner. E-ZPass will continue to be the most affordable way to travel.

When electronic tolling begins at the Delaware River Bridge, the start- and end-point of the PTC’s trip-based system will move to a different location about six miles to the west. The new Neshaminy Falls Toll Plaza, now being constructed at milepost 353, will become the eastern limit of the Turnpike’s ticket system. In addition, tolls will no longer be collected (or tickets issued) at the Delaware Valley/U.S. Route 13 Interchange (#358) – though motorists will still be able to get on and off the PA Turnpike/I-276 as they can today. That toll plaza, along with the Delaware River Bridge toll plaza (#359) will be decommissioned on the day of the conversion to All Electronic Tolling and demolished shortly thereafter. Here’s what travelers can expect when the new tolling systems are in place in January, 2016:

- Eastbound cash customers will stop at the Neshaminy Falls Toll Plaza to surrender their toll tickets and pay cash. Eastbound E-ZPass customers can proceed through the Neshaminy Falls Toll Plaza at 55 mph via express lanes on the left or via standard 5 mph E-ZPass lanes on the right. At that point, all eastbound customers can either exit at the Delaware Valley Interchange (U.S. Route 13) or cross over the Delaware River Bridge into New Jersey without stopping or paying any additional tolls.

- Westbound customers entering Pennsylvania (including E-ZPass and non-E-ZPass customers) will drive at 55 mph beneath the overhead gantries immediately after crossing the Delaware River
Heading west on the PA Turnpike, after crossing the Delaware River Bridge from New Jersey. These gantries signify the tolling zone, where all customers pay a flat toll without stopping via E-ZPass or Toll-by-Plate (license-plate billing). From there, all westbound customers can exit at the Delaware Valley Interchange (U.S. Route 13) without stopping or paying an additional toll, or they can continue west on the PA Turnpike to the Neshaminy Falls Toll Plaza, where cash customers will stop at a designated lane to take a toll ticket at the entry point onto the Turnpike’s trip-based system. Westbound E-ZPass customers can proceed through the Neshaminy Falls Toll Plaza at 55 mph via express lanes on the left or via standard 5 mph E-ZPass lanes to the right. The Neshaminy Falls Toll Plaza becomes the entry point onto the Turnpike’s trip-based system for E-ZPass customers as well.

“This is a vital project for the commission and the region and an essential first step in creating a long-awaited direct link between the Turnpike and I-95,” Chairman Logan said. “Along with the Beaver Valley Expressway conversion, it will allow us to gain insight regarding the performance of AET technology and business rules and provide extra time to educate customers about this significant change.”

Commissioners have made no decision regarding a timeframe for AET conversions on the Turnpike’s east-west mainline, Northeastern Extension or other western expansion roadways. “There is presently no schedule for extending AET beyond the two pilot sites,” Chairman Logan said.

Congratulations to the Pennsylvania Turnpike Commission on your 75th Anniversary
On Oct. 1, 1908, Ford Motor Co. put the Model-T car on the market at a price of $825. Due largely to its affordability and durability, it became one of the best-selling vehicles of all time and is among the most famous cars in the world. It had to be durable, because there were only around 18,000 miles of paved roads in the United States at the time. Precisely 32 years later, on Oct. 1, 1940, the Pennsylvania Turnpike opened, blazing new ground as America’s First Superhighway. It would spur a national boom in toll-highway construction and lay the groundwork for our interstate system in the mid-1950s.

It is really just happenstance that these two motoring traditions share a birthday. But this coincidence brings me to my point: Not unlike Model-T owners today, we who are charged with the care of the Pennsylvania Turnpike system are fully committed to maintaining and restoring a piece of American history. (And not unlike with classic car enthusiasts, this avocation becomes a passion that can consume many of our waking hours.)

Turning 75 is a great milestone. But it means that we have to completely rebuild major portions of our 550-mile system from the ground up. We are in the midst of a major capital plan to rebuild and expand the Turnpike, investing more than $600 million a year in road and bridge improvements. Today, we have more than $1.7 billion worth of active construction projects underway across our system.

In addition to the improved safety and mobility for travelers, our reconstruction projects also benefit our state’s economy. Over a five-year period, the PA Turnpike’s capital plan will generate $8.3 billion in total economic output, $236 million in local and state tax revenues, and 95,000 full- and part-time jobs for the commonwealth.
‘What’s Coming Down the Pike’

Joseph B. Fay Company (Fay), an i+iconUSA company, has contributed to the Pennsylvania Turnpike’s conservation through various demolitions and reconstructions. Fay first performed work for the PA Turnpike in 1991 (almost 25 years ago) as a subcontractor removing a bridge deck. Since then, Fay has completed many projects for the Turnpike Commission; the largest one involving a full-depth reconstruction and widening of 6.8 miles of Turnpike between mileposts 31.04 and 37.82. Fay replaced five mainline bridge structures, as well as extended four-arch culverts, two box culverts, and several pipe culverts. According to the superintendent that led the work, “This project was a true partnering effort with the Turnpike, PennDOT, and the local community. Using equipment from this project, Fay created new community sports fields for Pine Township, one of the communities neighboring the project.”

Fay is currently working with the Commission to replace Turnpike Bridge WB-400 (Thorn Hill over PA Turnpike), a three-span girder bridge, with a two-span precast concrete bulb-tee beam bridge. This project is in support of the PA Turnpike Commission’s commitment to completely rebuild the roadway for three lanes of traffic in each direction.

Fay congratulates the Pennsylvania Turnpike on 75 years of infrastructure excellence and for its future vision.

The total reconstruction program has been in place for the last 15 years. Our production over that time has been averaging 7.6 miles of Turnpike reconstructed per year. We have approximately 450 miles of roadway that must be completely rebuilt from the ground up and widened from four lanes to six. With 114 miles completed to date, that leaves 336 miles to be reconstructed. At the current production, it will take almost 45 years to complete the total reconstruction. At this rate it will mean that even the youngest pavement could be as old as 100 years old – well beyond its useful life – before it gets replaced.

Initially, reconstruction projects were averaging $10 million per mile. Over the years, the projects have become more complex, now averaging more than $15 million per mile – much higher in urban areas. For example, the Turnpike’s milepost 242 to 245 reconstruction project – just now getting underway in York County – is being widened at a cost of more than $25 million per mile.

Reconstruction costs will continue to increase, even in this low-bid environment. With the enhancement of the capital plan in 2011, we are accelerating the design of total reconstruction projects. Our goal at this funding level is to be somewhere around 13 miles per year. Based on this funding, we could reduce the time to complete total reconstruction to 26 years from the original pace of 45 years. However, even with this boosted spending level we are racing against the clock due to the age of our system – working to stay ahead of pavement deterioration to provide a fit roadway for tomorrow. But it’s a challenge we’re up to. Like obsessed Model-T owners, our motivation is keeping our system as new and relevant today as it was back in the day – not only for the 190-million motorists each year, but for future generations of Turnpike customers and caretakers.
On May 22, 2015, Pennsylvania Turnpike Commission (PTC) CEO Mark Compton publicly unveiled the Turnpike’s “Orange Improvement Zone” campaign – a new, innovative approach to better inform motorists, nearby residents, and the public about the progress, the necessity, and the long-term benefits of construction improvement projects.

“In the past, we would put up a sign saying, ‘Your Toll Dollars at Work’ and hope our customers got the message,” Compton said. “Today, we plan to communicate with motorists and the public through a variety of methods, including social media channels like Facebook, Twitter, and Instagram. The goal is to offer regular updates on the construction project and to help the public better understand the reason for the construction and the benefits of the improvements.”

The campaign was announced at a news conference on the site of the Turnpike’s newest reconstruction and widening project on the west shore of the Susquehanna River in northern York County.

“With the passage of Act 89 and the increase in roadway construction that is the result, the Commission felt we needed a new, more accessible way to communicate with our customers during the construction season,” Compton said. “Our goal for the Orange Improvement Zone campaign is to help alleviate some of the frustration that comes with construction by keeping our motorists aware of what is happening – and why – in our zones.”

In addition to social media channels, the Orange Improvement Zone campaign will feature a variety of outreach efforts, including billboards, mailings, community engagement, press releases, and newspaper and radio ads.

Some of the information offered by the Orange Improvement Zone campaign will include:

- **Updates** – Information on the progress of the construction project, as well as information on any expected delays due to road work or details of the construction phase
- **Safety** – Information and tips on preventing accidents in work zones
- **Benefits** – Information on how the construction will improve driving conditions, commute times, and safety
- **Jobs** – Information on the economic impact of the investment in rebuilding the roadways and the effect it will have on businesses that have transportation needs

Compton said he views the Orange Improvement Zone campaign as another innovative way the PTC is connecting with motorists, neighbors, and the public. He said he hopes that future construction projects adopt Orange Improvement Zone outreach efforts. “Importantly, this campaign meets several key objectives of the commission’s strategic plan, including enhanced safety and enhanced communications,” he said.
The PTC recently announced that it has partnered with Waze (http://www.waze.com), which provides a real-time, crowd-sourced navigation app powered by the world’s largest community of drivers. The PTC is the first toll-highway operator in the United States to join the Connected Citizens Program, which is designed to promote greater efficiency, deeper insights, and safer roads.

The PTC presently makes traveler information available through various methods of communication. Travelers can get Turnpike alerts by calling 866-976-TRIP (8747) or visiting the Travel Conditions Map online at www.paturnpike.com/webmap. The Turnpike’s smartphone app, TRIP Talk, streams audio advisories to iPhone and Droid users so they can keep their hands on the wheel and eyes on the road. To download the free app, visit www.paturnpike.com/triptalk.

For information on the campaign and the York County project, go to: http://www.orangeimprovement.com/ or follow @orangeimprovement on Twitter, PA Turnpike on Facebook or #orangeimprovement.

The Orange Improvement Zone campaign was launched this spring on a major PA Turnpike improvement project between the Susquehanna River Bridge and the Harrisburg West Interchange (#242) to completely rebuild and widen Interstate 76 from four lanes to six lanes with a 26-foot median.

“This project will serve as a test site, if you will, for the new campaign,” said CEO Mark Compton. “If it’s successful here, we will eventually deploy the Orange Improvement Zone concept at work zones across our system.”

The $94 million construction project will result in a new, wider roadway from milepost 242 to milepost 245; roadway work will get under way this summer.

Compton said the widening project is to be completed by spring 2018; construction and widening activities on the mainline Turnpike will be wrapped up by the fall of 2017.

This 3.5-mile section of the roadway, part of the “Philadelphia Extension” of the original Turnpike, was constructed in the late 1940s and opened to traffic in 1950.

The construction contract was awarded to Trumbull Corp., Pittsburgh, while Erdman Anthony Inc., Mechanicsburg, is handling construction-management services.

“This year, the Pennsylvania Turnpike turns 75 years old,” Compton said at a media conference overlooking the project in Fairview Township, York County. “While we have rebuilt more than 110 miles from the ground up, we need to continue advancing these efforts to ensure our system is ready to meet the demands of today and tomorrow.”

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**Pennsylvania Turnpike**

I-476 MP20 to MP25

Montgomery County, PA
“There have been a lot of changes over the years, obviously. At the start, the Ops Center was strictly a dispatch center. Now, we’re a fully-integrated traffic management center. We coordinate with dozens of partners. Thanks to smartphones, the Internet and cloud computing, we’re now in a position to send out – and receive – critical information in real time with the more than 500,000 motorists who rely on our system daily.”

Manager of Traffic Operations Robert Taylor, PE, PTOE, notes that, “the Operations Center is the heartbeat of the Turnpike, and it always has been. But over the years, we’ve really had to change the way we look at how we manage incidents and how we share information with our partners and with our customers.”

The Ops Center has grown from a handful of staff to a team of more than 50 professionals charged with monitoring all activities over a 550-mile interstate system among dozens of agencies and private-sector partners.
MULTI-AGENCY COMMUNICATIONS & COORDINATION

At the outset, the center essentially dispatched Turnpike vehicles. Today, the center manages all communications among, literally, hundreds of partner agencies and organizations, from Pennsylvania State Police to more than 150 local fire and ambulance companies across the Turnpike’s 550 miles.

In short order, the center coordinates:
- Nine Pennsylvania State Police barracks that comprise Troop T, which is dedicated to and funded entirely by the Turnpike
- More than 100 fire and EMS companies under contract with the Turnpike system-wide
- Contracted tow trucks, K-9 dogs, life-flight choppers, and other third-party partners
- Hazardous-materials (HazMat) response teams
- The Maintenance, Fare Collection & Engineering departments at the Turnpike Commission
- Private-sector construction firms working on the Turnpike system

“All of the agencies we coordinate are assigned to every 10th of a mile across our system. We’re coordinating on each section in each direction 24/7. When we have an incident, we notify motorists and our partners for 90 miles out in each direction from the scene,” Taylor said. “It’s a lot of moving parts.”

ABOUT OUR CUSTOMERS

As the heartbeat of the agency, Bretzman and Taylor both stressed the need to rapidly pump information out to the motorists who rely on the Turnpike each day.

“We treat our customers the same way that we treat our partners, both internal departments here at the Commission, and every outside agency we work with,” Bretzman says. “We want to get them timely, accurate, and usable information. We are here to ensure they are safe – and safety starts with knowledge about what’s happening on our system.

“We know when we’ve had an incident immediately, and we can look ahead and help customers avoid congestion or backups that can occur. That means we’re helping them avoid secondary collisions. But it only works if we can get them the information that they need.”

In addition to website updates and email notifications, the team has a variety of Intelligent Transportation System (ITS) tools at its disposal to share information with the public, including:
- Highway Advisory Radio
- Dynamic Message Signs
- Video Cameras and Loop Detectors
- The TRIP Talk app, which provides hands-free, audio, traffic advisories to customers, making them aware of incidents while assuring that both hands remain on the wheel
- A voice-activated travel information hotline, 866-976-TRIP (8747).

“Right now, we are developing our ITS long-range plan. So we know that we’ll add to the 70 or so active cameras we have on the system today,” Taylor said. “We know that, with additional cameras, we’ll be much more efficient at capturing information on a real-time basis which means we can alert our customers much more quickly.”

The Turnpike has also launched a new partnership that will allow motorists to more easily share information with the agency and fellow drivers about road conditions. The Turnpike recently announced a partnership with navigation app Waze. Information entered into the app from turnpike drivers will be seen in the Ops Center.

“With both TRIP Talk and Waze, we’re really entering a whole new arena. We know that our data and our information is very valuable and important, and we know that we have a lot of customers on the road who can provide timely information,” Bretzman said.

“We need to be very careful about vetting that information and making sure that our customers always, always put their safety and commonsense first. Both hands on the wheel and eyes on the road. Always.”

CELEBRATING 75 YEARS

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The PTC’s three unfinished Mon/Fayette and Southern Beltway projects have been dormant for about five years due to lack of funding. As a result of new funding provided by Act 89, work is now under way to advance the:

- Southern Beltway from U.S. Route 22 to I-79
- Southern Beltway from Interstate 79 to the Mon/Fayette Expressway
- Mon/Fayette Expressway from PA Route 51 to I-376

For the first time, a viable financial plan has been developed that funds these projects through completion without the need for additional funding sources.

The U.S. Route 22 to I-79 project is the first to advance to construction. This project will start at the southern end of the existing Southern Beltway that runs from the main entrance of Pittsburgh International Airport to U.S. Route 22 near Bulger in Washington County. The $14 million bridges that will carry the Southern Beltway over Route 22 are now being constructed by Mosites Construction Co. The remainder of the 13-mile U.S. Route 22 to I-79 project will be bid in six sections beginning in 2016. Completion is anticipated by 2019-2020 and will ease congestion on I-79, the Parkway West, U.S. Route 22, and PA Route 50. The total cost of this project is $670 million.

The Southern Beltway project from I-79 to the Mon/Fayette Expressway has been dormant since the Environmental Impact Statement (EIS) was approved in May 2009. The route established in the EIS is 13 miles through northern Washington County, connecting I-79 near McDonald with the Mon/Fayette Expressway near Finleyville. The project has been divided into six design sections; the next step is to perform pre-final and final design. Design will be followed by construction. The project is estimated to cost $816 million. Dates for the construction phase have not been established.
Design of the Mon/Fayette project from PA Route 51 to I-376 was started in 2004 and suspended in 2009 due to lack of funding. The design effort is being restarted and the project is being amended to eliminate the 10-mile leg along the north shore of the Monongahela River from East Pittsburgh to the I-376 interchange at Bates Street. This $2 billion leg was eliminated because it required many residential and business displacements, had numerous environmental impacts, and was unaffordable given available funding.

The amended project will connect PA 51 in Jefferson Hills with the Parkway East (I-376) in Monroeville. This 14-mile expressway follows the alignment in the EIS approved in 2004. The Turnpike is currently getting design and environmental firms under contract to pick up the design where it was suspended and to perform the environmental evaluations required to allow the project to proceed to construction.

Significant cost reduction ideas are being incorporated into the amended design, such as reducing the median to 26 feet; incorporating All Electronic Tolling; and re-aligning the crossing of the Monongahela River at Duquesne to reduce the span and cost of the river crossing. The total cost of this project is $1.75 billion.
‘Rising Stars’ Discuss HTF and other Policy Issues at 20th Annual Young Executive Development Program

Fifty-four emerging leaders in the transportation design and construction industry participated in an intensive “boot camp” introduction to the federal legislative and regulatory processes, then descended on Capitol Hill to press their members of Congress to fix the Highway Trust Fund (HTF) and pass a long-term surface transportation bill. The Young Executive Development Program (YEDP) participants, selected from a pool of candidates nominated by their employers, completed a two-and-half day “101 Introduction to Federal & State Advocacy for Transportation Infrastructure Market Development and Protection” program.

They were in Washington April 13-15 as part of the American Road & Transportation Builders Association Transportation Development Foundation’s (ARTBA-TDF) 20th Annual Young Executive Development Program, which was held in conjunction with the ARTBA Federal Issues Program and Transportation Construction Coalition Fly-In.

There have been more than 600 graduates in the program since the program launched in 1995. YEDP fellows this year represented 22 states and Canada.

The YEDP sessions focused on federal highway program funding, grassroots advocacy, future challenges facing the nation's infrastructure, P3s, and professional development. Senior ARTBA staff provided an overview of the association’s role in shaping federal transportation policies and regulations.

Participants also heard the perspectives of U.S. Secretary of Transportation Anthony Foxx, House Transportation & Infrastructure Committee Chairman Bill Shuster (R-Pa.), T&I Committee Member Rep. Reid Ribble (R-Wis.), and Rep. Earl Blumenauer (D-Ore.) about the HTF crisis and reauthorizing the federal surface transportation program.

“It’s an honor to be a part of ARTBA’s Executive Development Program and to work side-by-side with a diverse group of industry professionals. Transportation leaders play a vital role in advocating for federal highway funding, which is a critical component to improving the nation’s crumbling infrastructure. This program helps the participants coordinate their efforts when it comes to working with legislators.”

★ Scott Zeevaart, P.E., vice president and Transportation Division director, Gannett Fleming Inc.
APC-member companies were well represented in the YEDP class of 2015, including:

- **Nicholas Amrhein**, principal consultant, strategic consulting, Parson Brinckerhoff, Denver, Colo.
- **Paul Armano**, lead civil highway/bridge engineer, Parsons Brinckerhoff, Oakland, Calif.
- **Crystal Cummings**, consultant, Parsons Brinckerhoff, Brooklyn, N.Y.
- **David Dodson**, project manager/design manager, CH2M HILL Inc., Sparks, Nev.
- **Christopher Foley**, civil/structural engineer, AECOM, Virginia Beach, Va.
- **Daniel Haake**, project manager/transportation planner, CDM Smith, Indianapolis, Ind.
- **Will Hawthorne**, project engineer, CH2M HILL Inc., Winter Garden, Fla.
- **Mike Jenkins**, senior project manager, AECOM, Wausheka, Wis.
- **Elizabeth Justison**, project manager/senior supervising manager, Parsons Brinckerhoff, Oakland, Calif.
- **Lara Karamatsu**, senior civil engineer, Parsons Brinckerhoff, Honolulu, Hawaii
- **Brian Lee**, pursuit manager, The Lane Construction Corp., Fort Worth, Texas
- **Rico Lepore**, senior project engineer, Parsons Brinckerhoff, Heathrow, Fla.
- **Michelle Martin**, civil engineering department manager/senior supervising engineer, Parsons Brinckerhoff, Virginia Beach, Va.
- **Paul Nasados**, project administration engineer, High Steel Structures LLC, Lancaster, Pa.
- **Christopher Nazar**, associate, CDM Smith, Denver, Colo.
- **Brian Reynolds**, lead engineer, Parsons Brinckerhoff, Nashville, Tenn.
- **Michelle Roberts**, construction manager, RK&K, Springfield, Va.
- **Dan Sporik**, civil engineer, AECOM, Baltimore, Md.
- **Craig Suhoskey**, senior project manager/client accounts manager, AECOM, Downingtown, Pa.
- **Alex Wright**, lead engineer, Parsons Brinckerhoff, New York, N.Y.
- **Scott Zeevaart**, vice president and Transportation Division director, Gannett Fleming Inc., Hummelstown, Pa.

AECOM, recently joined by URS, assists our clients in developing cost efficient and sustainable solutions to move people and goods between and across our communities. We provide leadership with a comprehensive portfolio of planning, engineering, design, program/construction management and alternative delivery services.

AECOM congratulates the Pennsylvania Turnpike on its 75th anniversary.

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As this issue of Highway Builder discusses the rich 75-year history of the Pennsylvania Turnpike, it is only fitting that this column explores the many legal issues that the Pennsylvania Turnpike Commission (PTC) has become involved in since its inception. Before identifying several of the most significant lawsuits in which the Commission has become involved over the past 75 years, it is first important to understand the statutory framework which created the Commission.

Statutory Framework

There are many statutes that govern how the PTC does business. However, the construction of the original Turnpike, (which opened to traffic in October 1940) actually became possible when the Turnpike Act of 1937 was passed, which created the Pennsylvania Turnpike Commission. The original Turnpike Act not only created the Commission, but also allowed the Commission to perform all functions necessary to design, construct, operate, and maintain the highway that was about to be built, including collecting tolls, issuing bonds, providing the ability to purchase and condemn land, and to otherwise take steps to manage the highway. While the original Act deemed the Commission to be an "instrumentality of the Commonwealth," it also stated that "no debt of the Commonwealth can be incurred" by the operation of the Commission. Thus, the Turnpike was to be self-funded. One other note of interest is that the original Act also contemplated that when the bonds and interest and other debts incurred by the Commission were paid in full, the highway was then to be returned to the "Department of Highways," and at that time would become toll free.

One other statute that governs how the PTC must operate is the Commonwealth Procurement Code, which was passed in 1998 in order to, among other things, provide more predictability and certainty into the procurement process for government agencies. Under the Procurement Code, the Commission is deemed to be a "State Affiliated Entity" ("SAE"). While how the Code treats an SAE differs slightly from an executive agency such as PennDOT, for all intents and purposes, the bidding rules for PennDOT and the Commission are almost exactly the same. There are, however, a few differences between how the Commission and PennDOT are treated under the Procurement Code. For example, the PTC does not enjoy PennDOT's current exemption from the Prompt Payment Provisions of the Code.

Tort Liability/Safety Issues

Commonwealth agencies are now sued with such frequency that it is easy to forget that at one time tort suits against the Commonwealth were extremely limited due to the Doctrine of Sovereign Immunity, which was based on the common law theory that "the king could do no wrong." From the inception of the PTC until the early 1970s, the Commission enjoyed protection from most tort suits due to the Doctrine of Sovereign Immunity. Indeed, in the 1962 Pennsylvania Supreme Court decision of Rader v. Pennsylvania Turnpike Commission, the court ultimately denied the claim of a plaintiff who had sued the Commission for negligence due to the Commission allegedly allowing ice to accumulate on the Turnpike and failing to take proper steps to address that condition. In denying the claim, the Supreme Court in Rader stated that the PTC, as an instrumentality of the Commonwealth, enjoyed the same sovereign immunity protection as the Department of Highways and other Commonwealth agencies.

However, in the mid-1970s, Pennsylvania's courts began to become more critical of the concept of sovereign immunity. Eventually, in the landmark Pennsylvania Supreme Court decision of Mayle v. Pennsylvania Department of Highways, (which addressed a situation where a motorist had incurred injuries due to the alleged negligent operation of the highway), the court ruled that the Doctrine of Sovereign Immunity was abolished as being unconstitutional, and the court also overruled all previous inconsistent cases. Notably, while the Mayle case is generally regarded as the landmark decision in which the Supreme Court of Pennsylvania abolished sovereign immunity, the Supreme Court had begun to chip away at the Doctrine of Sovereign Immunity a few years earlier in a case involving the Turnpike Commission. In Specter v. the Pennsylvania Turnpike Commission, the Pennsylvania
Supreme Court dealt a significant blow to the Commonwealth’s immune status. The claimant in Specter alleged that one of the Commission’s employees, while driving a Commission vehicle, made an illegal U-turn without warning while traveling at a high rate of speed, thus causing an accident. The Supreme Court in Specter overruled its own prior decision in Rader, and determined that the Doctrine of Sovereign Immunity did not extend to the PTC. The court noted that the Turnpike Act disclaimed liability on the part of the Commonwealth for any debts of the Commission, and therefore ruled that the Commonwealth’s immunity did not extend to the PTC.

Following the court’s decision in Specter, the General Assembly eventually took steps to pass two separate statutes that specifically define when government entities can be held liable for tort claims. One of the enumerated exceptions to sovereign immunity is dangerous conditions created on the public highways, which is the exception that allows many motorists to bring tort claims against both PennDOT and the Commission. While the Mayle decision is generally viewed as the case that abolished sovereign immunity, the Specter decision involving the Commission was one of several decisions that undoubtedly paved the way for both the sovereign immunity exemptions established by statutes and the court’s ultimate decision in Mayle. Currently, the sovereign immunity statutes make it clear that the PTC is a Commonwealth party for purposes of sovereign immunity.

Since the government immunity statutes were passed in the late 1970s, the PTC has been involved in a number of tort lawsuits. One unique case involved a situation where a cow in Cumberland County wandered onto one lane of the Turnpike. A vehicle hit the cow, ultimately swerved into a median barrier and struck another vehicle. This situation resulted in a number of lawsuits. In one of the suits (Mason and Dixon Line v. Mognet) the court ruled that the commission does not have a common law duty to keep animals off of its real estate, and thus the Commission cannot be liable for animals on the highway under one of the eight enumerated exceptions to sovereign immunity. In another case involving the same incident, (Smith v. Mognet), the Commission was named as a defendant and ultimately filed a counterclaim to collect damages due to the damage to its median barrier. Other parties to the suit objected that the Commission’s counterclaim for damage to the barrier was untimely, and was barred by the statute of limitations. The Commonwealth Court rejected this argument, and instead ruled that the Doctrine of “Nullum Tempus Occurrit Regi” (time does not run against the king), applied equally to the PTC as it did to other Commonwealth agencies.

One interesting side note of the PTC’s and PennDOT’s involvement in tort claims
relates to certain safety measures that now exist undoubtedly due to either actual or potential tort suits brought by motorists on Commonwealth highways. For example, as one drives down the Turnpike, the bridges that cross over the Turnpike typically have metal fences on top of the concrete barrier. These fences are now common on many Commonwealth bridges, undoubtedly as a result of another landmark case from the 1970s, Mistecka v. Department of Highways, which addressed a situation where an accident occurred because a large rock was thrown from a bridge over Route 1. That incident occurred at a location where there had been more than 20 such incidents. The court found that the Commonwealth could be sued under one of the exceptions to sovereign immunity for such a condition, and remanded the case so that the jury could consider whether the possibility of rocks being thrown from a bridge constituted a dangerous condition.

While lawsuits often lead to improvements in many industries, the mere possibility of tort claims and potential injuries often results in safety improvements as well. One notable example of such improvements developed by the PTC was the creation of “Sonic Nap Alert Patterns” (SNAPs), which are an innovative type of rumble strip specifically designed to wake drivers and avoid “drift off” accidents. The commission developed SNAPs in the late 1980s and early 1990s, and SNAPs are now commonly installed on many highway projects. The SNAPs create a distinct warning sound and vibration as tires drift across them, and studies have confirmed that drift-off accidents have decreased significantly since the Commission began using them.

Construction Claims
While the aforementioned cases address the PTC’s liability for potential tort claims, its liability for potential breach of contract claims is generally governed by the statutes creating the Pennsylvania Board of Claims. The Board of Claims jurisdiction over suits involving the commission has been affirmed a number of times, including in the case of Pennsylvania Turnpike Commission v. Lichtenstein, a 1987 Commonwealth Court case in which the court found that it was clearly the General Assembly’s intent to make the PTC synonymous with the Commonwealth for jurisdictional purposes.

One of the most famous construction law cases involving the PTC was the landmark decision by the Pennsylvania Supreme Court in 1944 in the case of Pennsylvania Turnpike Commission v. Horst. In this case, the court held that the PTC was liable for the damage caused by the construction of the Turnpike, even though the construction had been done in accordance with the plans and specifications. This decision established the principle that public authorities could be held liable for the consequences of their construction projects, even if they acted in good faith.

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In that case, a contractor filed a claim with the Board of Arbitrators after it discovered subsurface conditions at the site (limestone rock containing clay seams) that it alleged it did not anticipate, and which increased the cost of excavation. The board found that there were misrepresentations on the plans that the PTC knew about at the time of bid but did not disclose to the contractor, thus entitling the contractor to compensation. The case was eventually appealed to the Pennsylvania Supreme Court, and the Supreme Court ruled in favor of the contractor, noting that "it would seem clear that the PTC worked a substantial constructive fraud upon the contractor in the inaccurate information furnished in this case and on which the contractor had, under the circumstances, a right to rely and did rely."

The Smith decision issued in 1944 has been relied upon by Pennsylvania's courts in many cases, and was the decision on which the Pennsylvania Supreme Court relied decades later to formally articulate the now commonly used Doctrine of "Constructive Fraud." This doctrine, which was adopted by the Pennsylvania Supreme Court in Acchione and Canuso v. PennDOT (1983), requires a contractor to demonstrate five factors in order to recover against an owner under the theory of constructive fraud, including:

1. Whether the owner made a positive representation of conditions regarding the work
2. Whether the representation relates to a material specification
3. Whether the contractor, due to time or cost constraints, is unable to make an independent investigation of the conditions
4. Whether the representations prove to be false or misleading
5. Whether the contractor suffered financial harm in reliance on the misrepresentations.

This legal theory is the basis of many construction claims.

A much-more-recent decision in which the Turnpike Commission was involved was the Board of Claims' decision in the case of Angelo Iafrate v. the Pennsylvania Turnpike Commission, which was decided by the Board in the summer of 2006. Iafrate entered into a contract with the PTC in 1999 for approximately $49 million, and change orders subsequently significantly increased the cost of the contract to almost $60 million. During the project, there were a number of issues that arose which Iafrate argued gave rise to extra costs in the form of delay damages and inefficiency costs. Among Iafrate’s claims were that the PTC allegedly failed to provide accurate estimates of emergency repair work; failed to accurately specify the location and quantity of rock in the project zone; failed to design a work zone properly; and numerous other claims. In developing its damages claim, Iafrate ultimately sought in excess of $15 million by using a "modified total cost method." Under this method, damages are calculated by starting with the project's total costs in the bid, adjusting those costs downward to account for issues for which the contractor admits responsibility, and claiming the difference between those costs and the actual total costs of the project. The Board of Claims ultimately noted the numerous problems with any total cost method of calculating damages, and while the board accepted that a plaintiff may make use of that method, it found that with respect to the specific lost productivity claims of Iafrate, the PTC was responsible for only an indeterminate portion of those costs, and therefore damages could not be apportioned accurately. Thus, the board awarded Iafrate no damages for its lost-productivity claim, and Iafrate was only awarded a principal amount of less than $100,000 on a $15 million claim. The Iafrate decision demonstrates the difficulty of a contractor prevailing on a total cost claim.

In the 75 years since the Turnpike first opened to traffic, like most public agencies, the PTC has become embroiled in numerous lawsuits that have helped shape modern day highway and construction law jurisprudence. The decisions referenced in this article reflect only a small sampling of those decisions, but it is apparent that the PTC’s involvement in disputes has resulted to several changes in both how tort claims and contract disputes against government agencies are treated by courts.
Goodhart to Lead Asphalt Pavement Association

Charles Goodhart has been appointed executive director of the Pennsylvania Asphalt Pavement Association (PAPA), succeeding Gary Hoffman, who will be taking on a part-time role as director of Technical Services.

Goodhart has nearly 40 years of experience in transportation. In 2013, he retired from a 36-year career with the Pennsylvania Department of Transportation (PennDOT) as director of the Bureau of Maintenance and Operation. Prior to that, Goodhart was PennDOT’s director of Research for eight years. Since his retirement from PennDOT, he has consulted with KPMG on a number of PennDOT asset management and performance improvement projects.

Goodhart holds a Master of Public Administration degree from Shippensburg University, where he is an appointed member of the Council of Trustees.

ARTBA Foundation Marks 15th Anniversary of Scholarship Program

Ten children of highway workers killed or permanently disabled on the job will receive college financial assistance from the American Road & Transportation Builders Association Transportation Development Foundation's (ARTBA-TDF) Lanford Family Highway Worker Memorial Scholarship fund.

The scholarship program was established in 1999 with a gift from two Roanoke, Va., highway contractors and their companies – Stan Lanford (1999 ARTBA chairman) of Lanford Brothers, and Jack Lanford (1991 ARTBA chairman) with Adams Construction Company. About 100 highway workers are killed on the job every year in roadway construction and maintenance accidents, and thousands more are seriously injured.

Over the past 15 years, more than 100 children of these workers from across the country have received Lanford Family Scholarships to pursue college and technical training. The 2015 class includes Alexis Keefe from Wyalusing. Alexis’s dad, Bret Keefe, was killed in a car accident in 2001 while working for PennDOT. A junior, she is a marketing major at Bentley University near Boston.
Wagman Companies demonstrated their support for the 16th Annual National Work Zone Safety Awareness Week in March and continued efforts into April. Wagman employees were encouraged to “go orange” for the day on March 25 to help raise awareness and bring national attention to motorist and work zone safety. Jobsite personnel were encouraged to send photos of daily safety activities that include “Stretch & Flex” and “Safety Huddles,” where they discuss potential work zone safety hazards before they start their day.

The 2015 National Work Zone Awareness Week was themed “Expect the Unexpected” and ran March 23-27. Each year the Federal Highway Administration has worked with other organizations, including the American Association of State Highway and Transportation Officials and the American Traffic Safety Services Association, to organize the event on a national level. Many states also host their own events in conjunction with national awareness events. In Virginia, where Wagman operates out of two offices, the state hosted the 2015 national event and a memorial vigil. Wagman, on behalf of the Virginia Transportation Construction Alliance, also sponsored a Work Zone Awareness Display at the I-95 Welcome Center at Mile Post 1. The Maryland Transportation Builders and Materials Association (MTBMA) coordinated a campaign throughout the month of April since the governor declared April Safety Awareness Month.
Tereska Named a ‘Women of Influence’

NTM Engineering Principal Rachel Tereska, MS, P.E., has been named one of the region’s “25 Women of Influence” for 2015 by the Central Penn Business Journal. Tereska was selected as a member of this elite group of women due to her significant career accomplishments, leadership and mentoring skills, and community involvement.

An independent panel of judges scored nominations according to each woman’s professional and personal achievements. Tereska is a resident of Hummelstown, Tereska is an owner of NTM Engineering, a women-owned business enterprise (WBE) that specializes in water resources, structural engineering and inspection, and engineering course development and instruction. She has more than 15 years of water resources engineering experience with a focus on hydrologic studies, hydraulic modeling, bridge scour analysis, and waterway permitting. She is a licensed professional engineer in Pennsylvania and Delaware, conducted PennDOT’s first two-dimensional hydraulic model analysis using the Surface Water Modeling System software, and has assisted in developing several Joint Agency Guidance documents between PennDOT and the Pennsylvania Department of Environmental Protection. Tereska oversees PennDOT’s Hydrologic and Hydraulic Professional Development Series, a sequence of six-customized courses related to bridge and culvert H&H design for highway projects.

Since co-founding NTM in December 2006, Tereska’s own technical ability, professional reputation, and management skills have been integral to the company’s early success and growth from four to 37 employees. Her water resources engineering expertise has helped NTM with its financial growth through acquiring project work, and she has been vital to the firm’s reputation as the “go-to” water resources firm on Pennsylvania transportation projects.

Tereska is very active in her professional and family communities. She is a member of multiple industry organizations, served on the 2012 Harrisburg MS Leadership Class, and is a WTS Central PA Chapter Advisory Board member. Tereska is also involved with her church and daughter’s school. She serves as a mentor to other NTM personnel, especially the firm’s five other female engineers/designers.

Erdman Anthony Hires Geospatial Manager

Scott Masciantoni was recently hired as a geospatial manager in the Geospatial Services group in the Pittsburgh office of Erdman Anthony. Masciantoni, a resident of Georgetown, is a registered land surveyor with more than 27 years of experience including energy, residential, commercial, industrial, heavy highway, high-rise, and government agency work. His work has covered all aspects of surveying from acquisition, design, and construction through record and/or as-built documentation.
SAI Announces Kauffman, Ahmadi Promotions

SAI Consulting Engineers Inc. is pleased to announce the promotions of Richard B. Kauffman, P.E., to principal and vice president, and Dr. Ahmad Ahmadi, P.E., to principal and director of Structures, Quality and Design Technology in their Pittsburgh headquarters.

Kauffman will be responsible for contract administration, proposal coordination, project scheduling, budgets, invoicing, and quality control. In addition, he will supervise SAI’s Project Management staff and provide guidance and input to all phases of client projects. Kauffman brings a wealth of structural design and project management expertise to his new position. With more than 35 years of experience, he began his career with SAI and has served the firm in increasing roles of responsibility from staff engineer to senior project manager, where he has served for the past 18 years managing some of SAI’s most-complex and high-profile projects for PennDOT, Pennsylvania Turnpike Commission, and various local government agencies. A graduate of the University of Pittsburgh’s School of Engineering with a Bachelor of Science in Civil Engineering, Kauffman is a licensed professional engineer in Pennsylvania and is a member of the American Society of Highway Engineers (ASHE).

Ahmadi will be responsible for the engineering and technical direction of the firm’s structure design projects as well as SAI’s overall design quality. In addition to providing the best quality to SAI’s clients, he will develop and institute the latest technological innovations and advancements in civil engineering transportation design companywide. Ahmadi’s leadership role as department manager – Structures for the past 18 years along with his development of SAI’s 3-D, PennDOT-approved, analysis software “Load 3D” – will provide effective quality control and progressive design expertise throughout SAI’s offices in Pennsylvania and Florida. A graduate of the University of Pittsburgh School of Engineering with a Master of Science and Doctorate in Civil Engineering, Ahmadi is a licensed professional engineer in Pennsylvania, West Virginia, Florida, Massachusetts, New Hampshire, Virginia, and North Carolina. He is also an active member in the Association for Bridge Construction and Design (ABCD), the American Society of Civil Engineers (ASCE), and the American Concrete Institute (ACI).

Skelly & Loy CEO Honored With Award of Merit

Skelly & Loy is proud of its CEO, Sandra Loy Bell, as she was recently honored by the American Council of Engineering Companies of Pennsylvania (ACEC/PA) with the organization’s 19th Annual Distinguished Award of Merit. This award is given to an individual in the engineering profession who has made an outstanding contribution to the advancement of the consulting engineering profession and given exemplary service to ACEC/PA.

Bell has been an outstanding member of the engineering community for more than 30 years and involved with ACEC/PA since 1979 when her late father, LeRoy D. (Bud) Loy, P.E., joined the organization. Of special note, Bud Loy was the second recipient of the ACEC/PA Distinguished Award of Merit.

Bell served as ACEC/PA’s Public Relations Committee chair from 1994 to 1998. She was elected to the ACEC/PA Board as secretary in 1998 and successively served as treasurer, vice president, president-elect, and served as president from 2002 to 2003 – the only woman to hold that position to date.

Bell also serves the community in many ways, including having served as a board member of the Whitaker Center for the Performing Arts; board member of the Pennsylvania State System of Higher Education (PASSHE) Foundation; member of the Harrisburg Area Community College Scholarship Foundation Committee; president and board member for the Capital Region Big Brothers/Big Sisters (including co-chair of Bowl for Kids’ Sake); board member of the Harrisburg Rotary; member of the Camp Hill Lions Club; and board chair of the Harrisburg Regional Chamber of Commerce. She also donates both her time and money to many local and global charities.
ASCE Names Student Achievement Award

The Student Award Foundation (SAF) of the American Society of Civil Engineers (ASCE) Pittsburgh Section, is proud to announce the naming of its primary student achievement award, which is presented annually in February at its Engineers’ Week Awards Banquet. This prestigious award will now and perpetually be known as the “SAF Italo V. (Ody) Mackin Achievement Award.” SAF student awards are given to outstanding students of civil engineering who reside in or attend an engineering school within the bounds of the ASCE Pittsburgh Section.

It is the goal of SAF and the Mackin Engineering Co. to make this award one of the most prominent and prestigious awards a student of engineering can receive (second only to the SAF American Bridge Leadership Award).

This year, the amount of the SAF American Bridge Leadership Award was $6,000, and the amount of the SAF Italo V. (Ody) Mackin Achievement Award was $1,500.

Ody Mackin, an icon in the engineering field, is the ideal person to have his name associated with this achievement award because of all that he has achieved during his 62 years (and counting) as a professional engineer. Mackin has been a registered professional engineer since 1953, having reached that distinction when he worked for Richardson Gordon Associates (RGA) in its Pittsburgh office. He served in various capacities in his 10-year tenure with RGA, where he worked in both the Bridge and Highway departments.

Ody served as president of the American Council of Engineering Companies (ACEC/PA) in 1980, and he received the 1999 Distinguished Award of Merit, the most-prestigious award of the organization. He also received the Lifetime Achievement Award from the Airport Corridor Transportation Association (ACTA) in 2012 and the Distinguished Service Award from the Pennsylvania Society of Professional Engineers (PSPE) Pittsburgh Chapter in 2014.

Roundabout Project Wins ASHE Delaware Valley Top Honors

A first-of-its-kind project, PennDOT Engineering District 6-0’s Route 52 Roundabout project won the 2014 Project of the Year award in the Under-$10 million Category from the Delaware Valley Section of the American Society of Highway Engineers (ASHE). Gannett Fleming provided preliminary engineering, final design, and construction phase engineering services for the project.

Each year, ASHE’s Delaware Valley Section recognizes two projects for outstanding engineering achievement; one project with a construction value of more than $10 million, and one with a value of less than $10 million. To qualify for a Project of the Year award, a highway-, bridge-, or transportation-focused project must have been completed within Bucks, Chester, Delaware, Montgomery, or Philadelphia counties in Pennsylvania.

Located in Pocopson Township, Chester County, the Route 52 Roundabout was the first roundabout constructed by PennDOT Engineering District 6-0. The roundabout has improved safety by reducing speeds and crossing conflict points for turning movements. The project set the bar for signing, safety, and maintenance responsibilities for future roundabouts that will be let and constructed by the district.
Industry Firms Recognized with ARTBA Foundation ‘Helping Hand’ Awards

HNTB Corporation’s centennial anniversary project, “100 Hours of Community Service,” has been selected the overall winner of the inaugural “Helping Hand Awards” sponsored by the American Road & Transportation Builders Association through its Transportation Development Foundation (ARTBA-TDF). In honor of the firm’s 100th anniversary in 2014, more than 3,000 employees in 30 metropolitan areas successfully committed to serving their local communities by participating in the firm’s “100 Hours of Community Service” campaign. The year-long effort yielded more than 10,000 volunteer hours and impacted more than 100 local organizations, charities, and causes across the U.S.

The competition honors “organizations within the transportation industry that have exceptional strategic philanthropic programs – outside the scope of normal business operations – that strengthen, build, improve the quality of life, and make a positive difference in their communities.” An independent panel of construction industry journalists selected the entries receiving recognition.

Wagman Companies of Pennsylvania was honored with a third-place award. Wagman’s giving programs are continuously evolving and changing to meet the needs of the community. The company provides financial support to more than 50 worthy non-profit organizations annually; matches all employee charitable contributions up to $100; and encourages all employees to volunteer eight hours of time and talents a year, and board members five hours a month, to charitable causes.

The ARTBA-TDF also recognized the charitable giving and community relations programs of these APC-member firms: Kiewit, Omaha, Neb.; Ammann & Whitney, Morristown, N.J.; and Pennsy Supply Inc., an Oldcastle Company, Harrisburg.

New Employees Join Navarro & Wright

Landon C. Barlow, E.I., Geotechnical Engineering specialist, is a graduate geological engineer. He was previously employed by Golder Associates Inc. in Reno, Nevada, and received his BS in Geological Engineering from the University of Nevada. He also served in the United States Marine Corps as a communication specialist.

Jeremy A. Cook, joins N&W as a drilling inspector in the firm’s expanding Geotechnical Department. He was previously employed at Penn Lab Services LLC. Cook will assist N&W with the recently awarded transportation and bridge projects throughout Pennsylvania.

Robert B. Bush, PLS, has joined the firm as chief of surveys for Pennsylvania. Bush will lead the Transportation Survey Department in the firm’s Pennsylvania markets and provide day-to-day management and supervision of the survey staff and field crews. He will also assist in further developing and marketing the company’s surveying services to public- and private-sector clients.
**ECA hires BAUER equipment expert**

Equipment Corporation of America (ECA), a leading distributor of foundation construction equipment, has hired Gordian Ulrich as engineering sales manager. He will be responsible for BAUER technical applications and advancement of its available technology in the Eastern United States and Canada.

Ulrich graduated from the globally renowned Karlsruhe Institute of Technology (Fredericiana) in Germany. He studied Geotechnical Engineering while working at his father’s consulting and drilling company. In 2007, Ulrich joined BAUER Maschinen Germany and worked as a product manager for drilling rigs, methods, and tools. Over the next seven years he traveled worldwide for BAUER, doing start-ups, providing training, and consulting for customers and salespeople. Ulrich and his family moved to Canada to work for ECA following the arrival of their first child.

**Testing laboratory now AASHTO accredited**

Navarro & Wright Consulting Engineers Inc.’s (N&W) new materials testing laboratory recently received AASHTO Accreditation for Quality Management System, Concrete and Masonry testing. The laboratory is located at 10 Mars Street in Harrisburg and serves the Central PA and MD regions. It is one of only two accredited laboratories in the Central PA area.

It will complement the services of N&W’s existing AASHTO-accredited Soils and Rock Testing Laboratory located at 151 Reno Avenue in New Cumberland. N&W’s materials testing laboratory is equipped and staffed to provide quality-control testing of cast-in-place concrete, masonry grout and mortar. The laboratory is managed by David C. Gassert, P.E.

The AASHTO Accreditation Program (AAP) is the largest accrediting body of construction materials testing laboratories and formally recognizes the competence of testing laboratories to perform specific tests on construction materials. AAP is a voluntary program that is available to all testing laboratories including government, commercial, university, and research facilities.

For more information about N&W’s laboratory services contact dgassert@navarrowright.com.

**Erdman Anthony receives international quality certification**

For the 15th year, Erdman Anthony has received ISO 9001 certification, meeting international standards for quality. ISO (International Organization for Standardization) is an independent, non-governmental membership organization and the world’s-largest developer of voluntary international standards. The certification process ensures that systems are in place at the firm to deliver quality products and services to customers.

“Erdman Anthony is one of a relative handful of engineering consulting firms nationwide to have earned ISO 9001 quality certification,” said Scott S. Kelley, P.E., corporate quality system manager for the firm. “This certification sets us apart in a highly competitive market.”
SAI’s Pittsburgh Office Wins Industry Awards

SAI Consulting Engineers Inc. is the recipient of a prestigious industry award from The Association for Bridge Construction and Design (ABCD) – the ABCD Outstanding Multiple-Span Bridge Award for the replacement design of the Cresson High Level Bridge for PennDOT District 9-0. The award was presented to SAI, the contractor (Gregori Construction Inc.), and the owner at the association’s annual awards banquet on May 14, 2015.

SAI also received a highway industry award from The American Society of Highway Engineers Mid-Allegheny Section – the 2014 Outstanding Highway Engineering Award (projects greater than $2.5 million) for the S.R. 0028-164 Slabtown Bridge Replacement and Baum Curve Improvements for PennDOT District 10-0. The award was presented to SAI, the contractor (Plum Contracting Inc.), and the owner at the association’s annual awards presentation on May 20, 2015, to honor their outstanding achievements.

ECA Hits the Greens to Keep Veterans Healthy

Equipment Corporation of America (ECA), a leading distributor of foundation construction equipment, sponsored and participated in the Bucks County Veterans Golf Outing in Telford on May 18, 2015 to help fund free transportation for veterans to VA Medical Centers in Philadelphia and Coatesville.

This unique service has transported 13,000 veterans and traveled 350,000 miles since being started by the County of Bucks 12 years ago at no cost to the taxpayers. This annual golf outing fully subsidizes the cost of the bus and per diem expenses for two bus drivers, and the Coatesville Veterans Affairs Medical Center funds fuel, maintenance, repairs, and insurance.

“Many of our aging and disabled veterans have no means of transportation to attend to their health,” said Executive Vice President Ben Dutton. “ECA is proud to give back to those that have sacrificed so much for our country.”

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Buchart Horn Bridge Project Honored with Award

Buchart Horn Inc. has won the 2014 Outstanding New Single-Span Bridge Award from the Association for Bridge Construction & Design (ABCD) Pittsburgh Chapter. Buchart Horn was recognized for the design and replacement of the historic Heth’s Run Bridge at the ABCD Awards and Dinner held May 20, 2015.

Since the Heth’s Run Bridge’s original construction in 1914, the structure and the landscape of the surrounding area had evolved significantly. Time, elements, and traffic took their toll. Additionally, many of the bridge’s original architectural and ornamental features were no longer evident, and the structure had deteriorated so much that it required replacement. Buchart Horn successfully addressed structural deficiencies, poor riding surface and pavement conditions, and horizontal geometric roadway deficiencies. Replacement of the historic Heth’s Run Bridge presented a significant challenge in terms of both bridge design and public perception, as when the project began the bridge was the poster child for the state of infrastructure in America and was featured on an NBC Nightly News story concerning the poor state of the country’s bridges.

The firm also looked to accommodate future plans for Heth’s Run Valley through removal and disposal of residual material below the existing bridge. The new single-span bridge is a composite steel-plate girder structure with a single span of 215 feet. It incorporates many of the historical and aesthetic features of the existing structure, such as large decorative urns, balusters for the pedestrian railing, quoins on the abutments, decorative light standards, and haunched steel girders painted the color of concrete. The new Heth’s Run Bridge was opened after 13 months of construction.

Borton-Lawson Opens Office in Harrisburg, PA

Borton-Lawson is pleased to announce the opening of an office in Harrisburg. Michael Poletti, P.E., has been hired to manage the firm’s newest office.

The Harrisburg office becomes Borton-Lawson’s fifth location. Other in-state offices include its corporate headquarters in Wilkes-Barre, Bethlehem, State College, and Pittsburgh.

In addition to managing the day-to-day operations of the Harrisburg office, Poletti will work to grow Borton-Lawson’s Highway Infrastructure business in southeastern and central Pennsylvania. The Harrisburg office is Borton-Lawson’s next step in its strategic plan of sustained and steady growth.
Poletti will serve as Borton-Lawson’s transportation service leader, and is a seasoned highway engineer and project manager. Prior to joining Borton-Lawson, he worked at Buchart Horn Inc. for the last 10 years, where he was the Highway Group lead engineer since 2010. A graduate of The Pennsylvania State University with a degree in civil engineering, Poletti is also an engineering officer in the Air National Guard with the 183rd Air Operations Group.

New Faces at TPD

Traffic Planning and Design Inc. (TPD) has recently welcomed a few new faces. David High, P.E., joined the Highway Design Team as a project manager. He works out of the West Chester Office. High brings nearly nine years of experience to TPD.

Additionally, Mike Murphy, a recent PennDOT retiree, has joined the firm. At PennDOT, Murphy was the Delaware County Maintenance Manager responsible for 1,500 lane miles of roadway. He will primarily provide expert witness services related to accident cases.

For a record-breaking turnout, 21 "future engineers" joined TPD at their Pottstown office on April 23rd for national “Take Our Daughters and Sons to Work Day.” The kids enjoyed a day of hands-on learning, teamwork activities, and a pizza party!

Urban Engineers Hires Gannon to Lead State College Office

Urban Engineers recently hired Ed Gannon, PE, PhD, LEED® AP, as vice president and regional manager for the firm’s office in State College. In this position, he is responsible for business development in all markets and services, overseeing and assuring the quality of the office’s work product, and serving as a valuable project manager and QA/QC supervisor for the firm’s burgeoning Vertical Markets Division.

Gannon has more than 30 years of experience, including spending the last decade as manager of Design Services at the Office of Physical Plant at Penn State University. In that role, he oversaw 30 professionals who conducted nearly $4 million of design work annually. This department provided a full spectrum of services, from conceptual studies to construction documents and construction administration. Gannon also oversaw Penn State’s internationally recognized Building Information Modeling (BIM) efforts, and was charged with making the university “greener,” which he achieved through his work implementing LEED-certification standards for buildings at the university.

Gannon, who earned PhD, Master’s and Bachelor’s degrees, all in Civil Engineering from Penn State, also served as an instructor of civil and environmental engineering at Penn State for nearly a decade. A published author, he is frequently requested to speak and present nationally on topics such as BIM.

In addition to Penn State, Gannon’s experience includes serving as structural engineering manager and chief engineer for several consulting firms, in addition to working for the City of Philadelphia’s Department of Streets. The totality of this experience and education gives him a 360-degree perspective that leads to anticipating issues, developing proactive and cost-effective solutions, and fostering a level of communication and understanding.

WRA, a multi-disciplinary consulting firm, offers a full range of engineering, planning, environmental, and construction management services. Recognized as a Top 120 ENR firm, WRA designs innovative and cost effective solutions for its public and private sector clients.
Century Engineering Appoints Holloway to Board

Century Engineering Inc., a growing multidisciplinary engineering and technical services company with six offices and 350 staff throughout the Mid-Atlantic, is pleased to announce the appointment of Troy M. Holloway, P.E., P.T.O.E., to its board of directors.

Holloway is a senior vice president responsible for the management and growth of Century’s operations in Pennsylvania. Since joining the firm in 1999, he held various positions of increasing responsibilities, including project manager, department lead, and division manager before assuming responsibility for the daily operation and administration of the Pennsylvania office.

Holloway received his undergraduate degree in civil engineering from the Pennsylvania State University in 1994 and a graduate degree from the University of Maryland in 2000.

He presently is a board member of the American Council of Engineering Companies/Pennsylvania and the Pennsylvania Highway Information Association.

Gannett Fleming’s Philadelphia Office Relocates to Accommodate Growth

Gannett Fleming has had a Philadelphia-area presence since 1953, when staff in the Ardmore Office provided transportation engineering and design services. Today, operations in the heart of Philadelphia include professionals from three of the firm’s divisions: Spatial Information Technology specialists with GeoDecisions®, Escalator and Elevator consultants with Vertical Transportation Excellence, and engineers with Gannett Fleming Transit & Rail Systems. Professionals from this location also provide planning, traffic engineering, and intelligent transportation systems services. One of 12 Gannett Fleming offices in Pennsylvania and one of 60 worldwide, the technical professionals based in Philadelphia provide innovative solutions to a wide array of public- and private-sector clients.

The second acquired firm, Philip Post & Associates, is a civil engineering and land surveying firm providing land planning, site design, water/wastewater and construction inspection services. Founded in 1979, Philip Post & Associates is headquartered in Chapel Hill, N.C. As of May 4, the firm does business as Philip Post & Associates, A Division of Pennoni. Philip Post, P.E., president, will remain active in the company.
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