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February 2020

## Streets, Highways & Bridges



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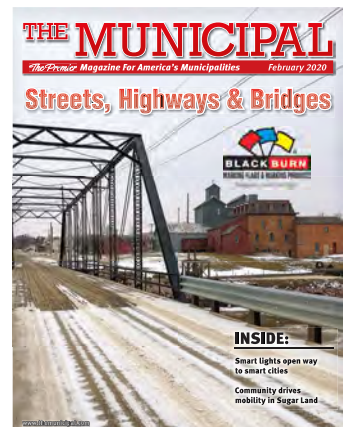
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Blackburn Mfg. Co. prides itself as having the fastest lead times within the marking flag industry. Today it produces on average 150 million flags per year and offers a variety of customizable options made from the best quality raw materials available. Learn more on page 10.



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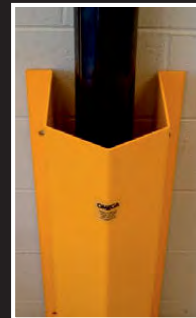
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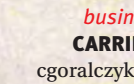
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## THE MUNICIPAL

PO Box 188 • 206 S. Main St., Milford, IN 46542  
866-580-1138/Fax 800-886-3796  
Editorial Ext. 2307; Advertising Ext. 2505, 2408 or 2489  
[WWW.THEMUNICIPAL.COM](http://WWW.THEMUNICIPAL.COM)



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### Meet Our New Account Executive

**Lalanya (Lanie) Bruner** joined The Papers Inc. in May 2019 for the Auto & RV Magazine before quickly transitioning into the account executive position for The Municipal in September 2019. She is an avid movie buff for the sole purpose of all things buttered popcorn. She also loves to sing, volunteer, cook, spend time outdoors and lives for football — Go Michigan and Green Bay! She is also a proud grandmother of two and has a very spoiled English bulldog named Tank. Her motto is “Be a Winner before the Win.” She’s excited to develop relationships that are positive, beneficial and successful for her clients.

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# The roads of tomorrow



Sarah Wright | Editor

**T**HE ROADS OF TOMORROW WILL not be like the roads of today. Sure, they might continue to share the same materials — or maybe not, I'm still crossing my fingers for solar panel roads that don't ice over — but even then, they won't be the same. A general shift has occurred in the transportation system, with the focus being redirected from moving vehicles to moving people.

Cities across the nation are applying road diets to their different corridors and, in most cases, welcoming more pedestrian-friendly modes of transportation as they do so. It works out well since younger generations — millennials and generation Z — have been found to not be as keen on driving as say the baby boomers, according to Lance Eliot's Aug. 4, 2019, Forbes article,

"The Reasons Why Millennials Aren't as Car Crazy as Baby Boomers and How Self-Driving Cars Fit In."

Between the advent of ride-sharing and autonomous vehicles, we live in an era where roadways may actually see less demand — at least in some areas of the U.S. We've already seen autonomous trucks hauling Frigidaire refrigerators in 2019, some 650 miles along I-10 from El Paso, Texas, to Palm Springs, Calif. This is both exciting and yet horrifying in a way, even with the knowledge there is a human driver in the cab monitoring operations. But change waits for no one, and times are changing.

Writer Denise Fedorow shares how technology is shaping even the sides of roadways, namely streetlights and traffic signals. While drivers often pass by these elements without a second thought, cities are now utilizing them for data gathering purposes and to maintain better traffic patterns. Fedorow speaks with several city officials who are ensuring their municipalities are on the ground floor, ready for future technologies — all by getting the right infrastructure in place.

Meanwhile, Sugar Land, Texas, showcases the importance of not developing the roadways of tomorrow in a bubble; after all, what good is a transportation system if no one is using it? It has launched its own task force, which includes members of the community, to shape its future mobility plan. Lauren Caggiano writes on Sugar Land's efforts to develop its new mobility master plan.

Partnerships are key to meeting future needs as well, whether formed with local and state universities or companies. Ford and the city of Ann Arbor, Mich., are partnering to test out the former's innovative City Insights Studio, which features a miniature replica of the city complete with 3D-printed buildings and streets that light up to show areas of congestion. Writer Barb Sieminski shares a little bit about this project, which is also supported by several local and regional organizations to Ann Arbor.

It'll be interesting to see what the future of roadways will be and how it morphs as technologies like AVs further develop or we are wowed by some unforeseen advance.

Until then, keep your eyes on today's roads and drive safely. **M**



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# The original and still the best



**Blackburn Mfg. Co. was started in 1953 by E.A. “Bud” Blackburn in the basement of a small family homestead near Royal, Neb. Bud’s uncle, Ray Blackburn, who was a surveyor, asked him if he could attach a piece of cloth or paper to a wire to use instead of the wooden lathes. Bud, a farmer by trade but a tinkerer at heart, would over the next two years invent the marking flag and machine to mass-produce them. Bud and his two sons, Bob, 11, and Jim, 7, ran that first machine around the clock for 30 days to fill the company’s first 1 million flag order. Today, Blackburn Mfg. produces on average 150 million flags per year.**

By **JENNIFER BLACKBURN-NIELSEN**,  
Blackburn Company President

While our machines have been modernized, Grandpa’s original blueprint machine still gets the job done. Today, each of our machines — built in-house following the original blueprint — can produce over 6,000 flags per hour. We strive to follow Bud’s legacy and ingenuity by creating solutions for our customer’s needs.

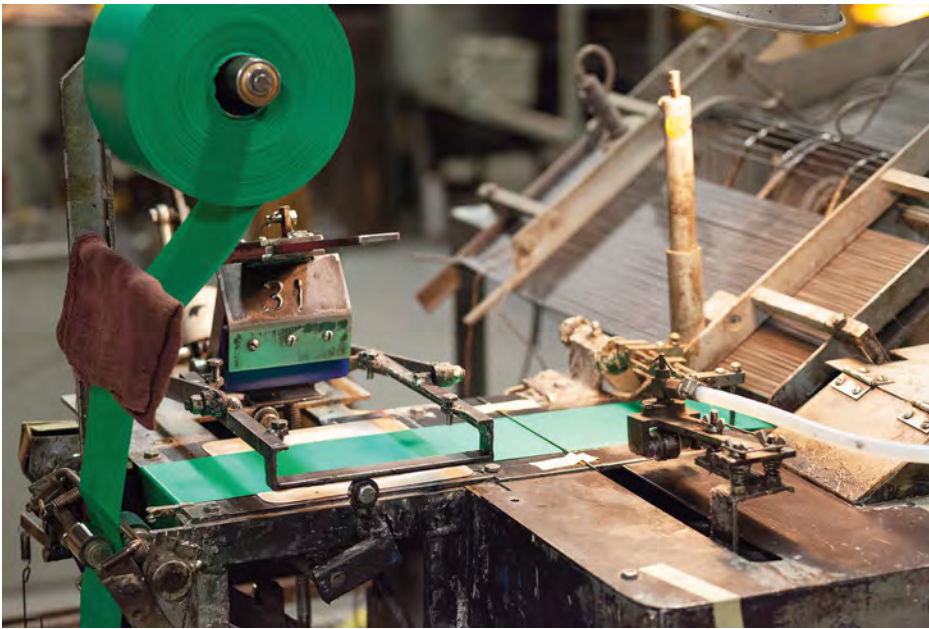
It is our promise to continue manufacturing high-quality, American-made products while providing excellent customer service.

To keep up with lead times, especially during our busy season, which starts late-February/early-March until June/July, Blackburn is welcoming a new digital inkjet printer and cutter. This will enable us to keep up with a new era while also offering even better quality at four times the speed.

Blackburn prides itself as having the fastest lead times in the industry, with a variety of customizable options made from the best quality raw materials available. Four different flag sizes are available, including the two standard flag sizes of 2 1/2 by 3 1/2 inches and 4 by 5 inches. There are also over 16 colors of plastic and numerous Pantone inks for imprinting. We also have a BMC Marking sign product, which consists of a weather-coated cardstock. It is available in three different sizes and meets the posting requirements in the lawn and garden industry. A polyethylene flag uses a heat seal to adhere the flag to the wire, eliminating the need for glue. A more durable flag — the polyethylene option — is more suitable in colder climates than vinyl.

Our newest offerings include a custom garden flag that is 12 by 18 inches in size. Its 13-ounce flexible vinyl materials are high tear resistant and features a UV coating to protect your sign in the elements. There is also an extra small yard sign, measuring

**ABOVE LEFT:** Pictured is E.A. “Bud” Blackburn in June of 1952 with his invention the marking flag machine. He would found Blackburn Mfg. Co. (Photo provided)



**LEFT:** Pictured is Blackburn Mfg. Co.'s 2019 rendition of E.A. "Bud" Black's flag machine. Since 1953, the process has grown more efficient, offering both quality and speed. (Photo provided)



**ABOVE:** Blackburn Mfg. Co. remains a family business. Pictured in front is E.A. "Bud" Blackburn's son and the company's current CEO, Jim Blackburn. In back from left are Jim's daughters Jennifer Blackburn-Nielsen, company president, and Krista (Blackburn) Schindler, marketing director. (Photo provided)



**ABOVE:** Construction is underway on a new 60-by-100-foot building. It marks the 13th building addition that Blackburn has undertaken. (Photo provided)

7 by 11 inches. These signs use 4-millimeter corrugated plastic and are heavy duty and waterproof.

While flags are the heart of Blackburn Manufacturing Co., we also carry Krylon inverted marking paint, which can be used in conjunction with marking flags to relay the positions of underground utility lines. Additionally, there are barricades and utility warning tapes that can be used to mark and barricade utility job sites. Another popular offering is the durable Rhino marking posts — perfect for long-term placement.


As we continue to expand our product line, we have started construction on a new 60-by-100-foot building. This will be our 13th building addition since we started in 1953. The newest addition will be much needed warehouse space.

Customers have noted Blackburn Mfg. Co.'s attention to detail and excellent customer service.

Matthew with Lewis & Clark wrote, "Thank you so much for the prompt service, the flags look fantastic! Your service was exemplary the whole way through, and I got the

flags much faster than I even expected. That helped greatly. I will be in touch about future flagging needs, for sure."

Phil with Lawn Pros of PA added, "I had my own digital print business for 15 years, sold it and then started a lawn care business. I have to tell you that every experience I had was 'spot on.' Customer service was fantastic and the product I received was above my expectations. Thank you for paying attention to all the little details ... As I grow, I will definitely be using Blackburn more and more."

Here at Blackburn Mfg. Co., our goal is to guide customers from start to finish in creating a design for their business. This approach has led our digital marketing specialist Cara Friedrich to create and design Blackburn's new tagline: "Designed to Leave Your Mark." We customize your design on any of our high-quality products, allowing you to leave your mark. 

For information, visit [blackburnflag.com](http://blackburnflag.com).

# Poverty Point Pioneer, La.

*The 402-acre Poverty Point earthworks, named after an 1840s cotton plantation, features six concentric earthen semicircles, swales, aisles and a central plaza. (Painting of Poverty Point Mound site by Martin Pate. Copyright 2007.)*

By RAY BALOGH | The Municipal

**The place is a mystery, a classroom, a cultural museum and an ancient encyclopedia written more than three millennia ago that is slowly unfolding its pages to the painstaking efforts of archaeologists.**

Poverty Point State Historical Site, a U.S. National Monument and Historical Landmark, located 10 miles south of Pioneer, La., a village of 153 residents in the northeastern corner of the state, features “the largest and most complex late archaic earthwork occupation and ceremonial site yet found in North America,” according to the National Park Service.

The 402-acre site along the Bayou Macon consists of six concentric semicircle earthen ridges separated by gullies and divided by four aisles. The ridges, eroded by time and agricultural plowing, presently rise up to 6 feet above the intervening swales, which themselves measure between 65 to 100 feet wide.

The rounded crests of the ridges are 50 to 80 feet wide and the outermost ridge arcs for three-quarters of a mile. Inside the inner circle lies a 37.5-acre central plaza.

Two dozen generations of indigenous people invested an incalculable amount of ingenuity and manual labor to create the earthworks between 1700 and 1100 B.C. The meticulous engineering is all the more astounding, considering the full scope of the design was not visible until modern-day drones captured the expanse of the work.

Construction of the site required the movement of 5.3 billion pounds of soil, carried 30 to 50 pounds at a time in baskets.

Researchers have discovered about 80 tons of rocks and minerals carried or floated in from up to 800 miles away. The stone was used to craft artwork, bowls, tools and weapons.

Possible uses of the grounds include community settlement, trading center and ceremonial religious practices. “The Poverty Point people lived there year-round,” said Eric Walker, interpretive ranger for the site.

Enigmatically, though, no human remains have been found. Walker offered several reasons for that. “The soil here is very acidic, so the bones have probably just gone back to dust. Or the people could have put their dead on boats and allowed them to drift downstream or taken them off-site to bury them.”

Walker did express some optimism that status could change. “Only about 1% of the site has been excavated, so we may yet find some remains.” That may lead to identification of the indigenous population. “We don’t know which tribe they were from because we cannot extract any DNA,” he said. “We just refer to them as the Poverty Point people.”

For reasons unknown the site was abandoned for almost two millennia until A.D. 700, when American Indians reoccupied a small portion of the site.



*A demonstrator shows how to operate an atlatl, an ancient device used for throwing spears and darts farther and more accurately. (P.J. Hahn images courtesy Louisiana State Parks. Copyright 2018)*



*The Poverty Point interpretive museum conveys the best inferences how the indigenous Americans lived on the site more than three millennia ago. (P.J. Hahn images courtesy Louisiana State Parks. Copyright 2018)*

Poverty Point, which receives about 15,000 visitors a year, is an educational experience for adults and children. “We get a lot of school groups on field trips,” said Walker. “The kids love the demonstrations, especially the atlatl (an ancient device used for throwing spears or darts). It takes a little practice, but they catch on pretty quickly.”

According to [www.povertypoint.us](http://www.povertypoint.us), the Poverty Point people “left no written records of their day-to-day lives. We know the site was a ceremonial center that was once home to hundreds or perhaps thousands of people, as well as a trading hub unmatched by any in North America at that time.

“Archaeologists have learned about these people by the materials they left behind — artifacts and archaeological features — as well as what they didn’t leave behind, such as burials and crop remains.”

The most abundant artifacts are Poverty Point Objects, small hand-formed clay marbles used to cook food. The PPOs were heated by fire in a pit, and after the fire died down, raw meat or fish was added and the hole or earth oven was covered to cook the meat.

In 2014 Poverty Point joined such sites as Stonehenge, the Giza pyramid fields and the Great Wall of China as a UNESCO World Heritage site. The complex includes an interpretive museum, interpretive hiking and driving trails and scheduled demonstrations and programs on pottery, ancient tools, flint knapping, primitive fire starting and earth oven cooking.




*The museum displays some of the myriad artifacts found during excavation of the site. (P.J. Hahn images courtesy Louisiana State Parks. Copyright 2018)*

#### **Upcoming events in 2020 include:**

- Earth oven demonstration, 11 a.m. Saturday, Feb. 29, which offers “a unique look at prehistoric cooking.”
- Night hike, 7:30 p.m. Saturday, March 28, “a nature-based hike which includes identifying the various animal furs in the museum, followed by an owl prowl. The program will end with spider sniffing and animal related stories.”

Other amenities include picnic areas and daily guided tram tours Wednesday through Sunday at 10 and 11:30 a.m. and 1 and 3 p.m. March through October.

The site is open daily from 9 a.m. to 5 p.m. Entrance fees are \$4 per person, free for seniors 62 and older and children 3 and under.

Poverty Point is located at 6859 La. Highway 577, Pioneer, La. For more information, call (318) 926-5492 or (888) 926-5492 or visit [www.povertypoint.us](http://www.povertypoint.us) or [www.crt.state.la.us](http://www.crt.state.la.us). 



*Poverty Point, a nationally and globally recognized landmark and heritage site, receives about 15,000 visitors a year. (P.J. Hahn images courtesy Louisiana State Parks. Copyright 2018)*



# Thermopolis, Wyo.

As evident in its name, Thermopolis, Wyo., is a hot town.

Its city seal denotes its status as the venue of the world's largest mineral hot spring, along with the state-maintained herd of American bison in Hot Springs State Park. Also included in the imagery is the sun rising over one of the four mountain ranges that encircle the municipality of 2,850 residents, and the Big-horn River, which curls along the city's east side.

Thermopolis, the county seat of Hot Springs County, was founded in 1897, a year after James McLaughlin, an Indian inspector with the Indian Service, the forerunner of today's Bureau of Indian Affairs, purchased 100 square miles of Shoshone reservation land surrounding the hot springs for \$60,000, or about 94 cents an acre.

McLaughlin was authorized to spend \$1.25 per acre, but settlement and other disturbance of the land drove away game, making the acreage less valuable to the Native Americans who resided in the area.

Pursuant to an 1896 treaty, the therapeutic hot springs, rich in bicarbonate, sulfate, chloride, sodium and silica, and considered sacred to the Shoshone people, are offered free to the public.

By the turn of the 20th century, 299 people resided in the settlement. When the Burlington Railroad reached Thermopolis in 1910, the town with "a past to behold, a future to uphold" quickly burgeoned, experiencing a five-fold increase within a decade and more than doubling again over the next half century.

Tourism is still its signal industry, followed by coal mining and oil drilling. Cattle farming was once a prominent business, but many ranches were decimated by the devastating winter of 1886-87 — and again during the Great Depression — and the industry never fully recovered.

Crop farming was attempted at the outset of the settlement, but the high elevations and unsuitable land conditions made profitable agricultural pursuits all but impossible.

Dinosaur fossils were discovered nearby in 1993, followed shortly thereafter by the opening of the Wyoming Dinosaur Center, where visitors can participate in paleontology excavations.

Other outdoor attractions include hiking, biking, fishing, float trips and whitewater rafting.

Every year Thermopolis hosts "The Gift of the Waters" pageant, a portrayal of the transfer of the springs from the Shoshones to the state of Wyoming.

Another annual event is the "3 on 3 Hot Spot Shootout" basketball tournament in May, which attracts thousands of roundballers who compete on more than 60 makeshift courts on the city streets of downtown.

For more information, visit [www.townofthermopolis.com](http://www.townofthermopolis.com).



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—Nicholas Mancuso, Service Manager, Municipal Repairs Town of Kent

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# Focus on: Streets, Highways & Bridges

# 27

Gainesville, Fla., is putting up infrastructure for connected vehicles at 27 test intersections.



Read more about how cities are using streetlights and traffic signals on page 18.

## 30 years

Rhode Island's Department of Environmental Management monitors chloride levels in rivers across the state and has found an increase over this time span, including increases of 200% in the Blackstone River, 160% in the Branch River, 70% in the Pawcatuck River and 60% in the Pawtuxet River. Rhode Island Department of Transportation is carefully monitoring road salt use after a USA TODAY Network survey found Rhode Island uses more salt per mile of lanes than any other state.



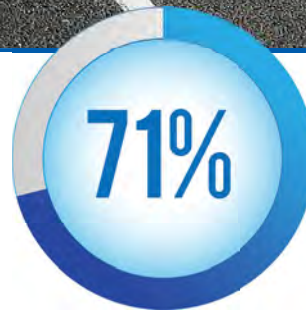
Source: [www.providencejournal.com/news/20191224/ri-trying-to-use-less-salt-on-roads](http://www.providencejournal.com/news/20191224/ri-trying-to-use-less-salt-on-roads)

## \$117,500



The Michigan Economic Development Corporation funded Ford's City Insight Studio Ann Arbor, Mich., project with a grant of this amount.

Find out about City Insight Studio on page 32.



This percentage of U.S. drivers would be afraid to ride in a self-driving car, according to a study conducted by the American Automobile Association.

Source: [www.forbes.com/sites/lanceeliot/2019/05/03/are-175-million-americans-right-about-driverless-cars-remarkably-yes/#616c55084d62](http://www.forbes.com/sites/lanceeliot/2019/05/03/are-175-million-americans-right-about-driverless-cars-remarkably-yes/#616c55084d62)

## \$179 billion

The average urban commuter spends about 54 hours each year sitting in traffic. Traffic also costs the U.S. economy this amount of money each year.



Source: <https://mobility.tamu.edu/umr/media-information/press-release/>

## 50 feet

Automated flagger assistance devices' operators normally remain within 50 feet of the machines; oftentimes, they will be inside a vehicle for extra protection.



Learn how robo flaggers are improving safety in construction zones on page 24.

# Cities getting smart with traffic signals and streetlights



**They're on practically every city street, and we're so used to seeing them we likely take streetlights and traffic signals for granted. But many cities across the nation are getting smart and finding ways to utilize those plentiful resources in more efficient and expanded ways.**

By DENISE FEDOROW | The Municipal

Many cities are taking a multistep approach to making these lights “smart” with several cities embracing the basic step of first switching to LED lights instead of incandescent or high-pressure sodium lights. Some are also enacting smart technology in traffic signals.

Peoria, Ill., is one of those cities. Traffic engineer Nick Stoffer said the city has updated 240 traffic signals. Many of the traffic signals are under joint ownership with the county, and they currently have “early '90s technology.”

Stoffer said the Illinois Department of Transportation upgraded to a modern system to be more ready for future smart technology.

“We’ll be set up for the future, but we’ve not talked about it at this point — but we are excited about the upgrade as most of our traffic lights were over 20 years old,” he said.

As for Peoria’s 5,000 streetlights, the utility company Ameren owns some of them — those on wood poles are owned by Ameren and are rented by the city. Stoffer said they’ve wanted to convert to LED for the savings and efficiency. He noted the city should save 40% while also lessening maintenance costs.

“But it’s a big dollar ticket to roll out and replace all of the lights,” Stoffer said. For this reason, lights are replaced with LED as they go out.

Right now, Peoria has requests for proposals out to enter into an agreement with a company that has experience with LED and smart lights while also having the ability to work with it on financing.

“Our goal is to have it be budget neutral,” he said.

LED lights will last 12-15 years, according to Stoffer, and the lights will send a notice when it needs maintenance. In the future, there will be lots of other applications through the smart lights like gunfire detection, parking monitoring, etc.

But the biggest benefit for Peoria now is the energy savings and longevity. “It’s proven to be a fairly quick rate of return.”

There will be a huge drop in energy use, and environmentally, it’s beneficial since the lights give off less heat, according to Stoffer. The city is also looking at the possibility of colored lights because the high pressure sodium lights are yellowish and a lot of LED are really bright lights.

**LEFT:** This photo shows a roadside unit in Denver, Colo., which has the capacity to “talk” to connected vehicles. (Photo provided)



Gainesville, Fla.'s, Department of Mobility staff installs smart traffic devices at a local intersection. (Photo provided)



City of Gainesville, Fla., staff monitors smart traffic signals. (Photo provided)

Stoffer said the city is hoping to get help with the cost of installation via rebates. Peoria officials are hoping to get someone on board this first quarter to help them through the process.

### Traffic signals

Two cities that have implemented smart traffic signals are Gainesville, Fla., and Denver, Colo. Gainesville originally developed its traffic signal master plan in 1984, and in 1987, a computerized traffic signal system was installed. The system was based on command line, DOS-based and copper communications (1200-2400 baud modems). In 1997, a study was performed to determine the future needs of the county, and in 2007, an \$18.2 million Transportation Management System/Transportation Regional Incentive Program grant funding for countywide traffic management system was received. It was a 50-50 match grant with \$9.1 million coming from the Florida Department of Transportation and 50% from the city of Gainesville, University of Florida and Alachua County. The project was completed in 2017.

Right now, Gainesville has more than 105 miles of underground fiber optic with gigabit bandwidth; 238 traffic signals that are 98% online; more than 41 active school zones; 14-plus active mid-block crossing; flashing yellow arrows at applicable left turns; visual monitoring at all online intersections; and video detection at more than 60 intersections.

***“In the future, there will be lots of other applications through the smart lights like gunfire detection, parking monitoring, etc.”***

Shelby Taylor, communications director for the city of Gainesville, said at 98% fiber optic, “we’re in the top three of how close we are in the state.”

Taylor added there are a “plethora of reasons” why Gainesville decided to take this step. “Traffic alleviation is one main reason/part of Vision Zero for intersection safety. Having smart traffic signals allows us to maintain traffic patterns and understand which are highly used intersections and where the risks are and where we might want to consider roadway expansion.”

Traffic signal movement used to be monitored underground now they’re able to see what’s happening and determine how long a light needs to remain green, for example. Taylor said one thing the city wants the public to know is that “none of this is stored or recorded.” The city only watches vehicles in a productive manner not as a means to identify the vehicle.

Taylor said the city is putting in infrastructure for 27 test intersections for connected vehicles. Right now two vehicles are equipped to communicate with the technology in place.

When it comes to traffic management systems, there’s a pyramid of building blocks used by Hillsborough County that includes

intersection detection, intersection communications, advanced traffic management system software, closed-circuit television cameras, travel time monitoring, throughput detection, advanced traffic controller, signal performance measures, signal phase and timing. Gainesville refers to this as it plans its own systems.

“As a testament to our success, we keep progressing to the next level,” Taylor said.

Denver, Colo., has a smart traffic management center, and it has built a situational awareness tool for it that takes different pieces of data and displays them on a single dashboard. This allows the traffic engineers to quickly identify issues and change traffic light signals to decongest the roadways.

The following data is displayed on the dashboard: car accidents (from 911 computer-aided dispatch); road closures (from Accela, the city’s permitting tool); special events like sporting games, festivals, marches (from Office of Special Event Excel spreadsheet); traffic infrastructure like traffic cameras, fabric access points, streetlight locations (from GIS database); aerial imagery (from GIS database); power outages (from Excel); and stream gauge level data (from the Urban Drainage and Flood Control District). ▶

Denver considers this revolutionary because it's in real time so the city can react immediately to a backup on the roads, and the single view reduces the number of systems traffic engineers have to log in and look at to see what's happening on the streets, according to Heather Burke-Bellile, public information specialist for Denver Public Works.

As an example of the tool's use, if there is a crash at an intersection, traffic engineers can monitor it and decide if they need to change the length on the lights to keep traffic moving.

Burke-Bellile also shared this example via email. "One morning a contractor blocked off two of the lanes on Santa Fe Drive, which is a major arterial coming into the city from the south. Looking at the dashboards, traffic engineers confirmed there were no planned road closures. This then allowed the traffic engineers to get the illegal construction lane closure out of the way, change the green light times and restore traffic patterns within 15 minutes, turning a potential three-hour backup to just 15 minutes."

Burke-Bellile also shared, "Denver is excited to be testing the next wave of innovative transportation technology to help improve congestion and move more people safely around the city. In Denver, we are becoming the 'test bed' for the rest of the country for 'connected vehicle' technology. This technology will one day enable traffic signals to wirelessly 'talk' to cars."

She said in the future connected vehicles will help traffic signals determine how much "green time" to give, especially during peak travel times. At some point in the future, drivers using this technology could receive notifications if they're at risk of hitting a pedestrian or if someone is about to run a red light. One day this data will feed directly into Denver's Traffic Management Center so the city can monitor real-time events.

For example, if two cars crash in the middle of an intersection, the vehicles will "talk" to the TMC, notifying it so alerts can be sent to emergency response and traffic can be redirected. During snow season, if vehicles are skidding on a bridge, the vehicles would be able to "talk" to the TMC so a snowplow can be alerted and receive priority green lights at traffic signals while they are en route to respond.

### Grand Rapids in process

Grand Rapids, Mich., is in the process of switching to smart streetlights with a two-phase \$20 million bond project. The first phase was an \$8.8 million bond that will take care of infrastructure.

Bruce Sweeris, energy, lighting and communications superintendent for Grand Rapids, said the city has 20 projects funded from the \$8.8 million and about half of them are in construction with the remainder starting in the spring of 2020.

"The focus of our projects is on critical electrical infrastructure repairs/replacements to primary and secondary circuits. This includes components like poles, duct banks, primary cables, transformers, meters, circuit breakers, etc. One important outcome will be the conversion of our end of life 2400V Delta primary circuits to 7200/12470V Wye primary circuits. This conversion is part of our asset management strategy for improved safety and reliability of our electrical infrastructure, which is the backbone of our electrical system," he said.

"Additionally, we're in the final design stage of a 538 LED fixture provisional review project that includes seven pin smart controls in three wards of our city. ELC is partnering with our water and water



*A smartphone shows an app that works with the smart traffic signals in Denver, Colo. (Photo provided)*

resource recovery facility to share a wireless communication system (FlexNet); this system will allow us to communicate with water and sewer meters, electric meters and our streetlights. The city owns and operates 18,037 street-lighting fixtures citywide; a provisional review on a small percentage of our systems makes good sense. It allows us to verify our strategies and outcomes, as well as receive feedback from our city stakeholders."

Reportedly, the city has 80,000 water meters and replaces approximately 5,000 a year. A smart meter cost about \$90 more per meter than a regular water meter. The cost to replace the water meters is not included in this \$20 million bond, according to Amy Biolchini's May 2018 article, "Grand Rapids, Mich., Puts \$20M Toward Smart LED Streetlights," which appeared in the Grand Rapids Press.

"It just made good sense to get infrastructure done first," Sweeris said, and by doing the provisional review, it allows the city to see how it works "before rolling it out to the entire city."

"With the new wireless smart controls, we'll transition away from complaint-based citizen reported light outages to automated system generated notifications for our operations and maintenance. The smart controls will allow us to control on/off and adjust lighting levels through LED dimmable drivers; the smart controllers also have GPS coordinates. The street-lighting LED fixtures and controls required five pins; the other two pins are available for future smart city technologies. The future technologies could include various sensors like temperature, wind, available parking spots, snow accumulation, etc. The system does not have enough bandwidth for video streaming, and that was not our intent of this system."

The remaining 17,000-plus HPS street-lighting fixtures are planned to be replaced with LEDs and smart controls through a second bond; this is currently projected to start in 2021.

Sweeris said the city is expecting to see approximately 30-40% in energy savings.

The wisdom of utilizing those ever-present streetlights and traffic signals in more expanded and innovative ways is spreading — after all, it's a bright idea! **M**

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*Sugar Land, Texas, has moved its focus from moving vehicles to moving people. To do this, the city is enlisting the aid of its residents and local businesses. (Photo provided)*

# Mobility is a community endeavor in Sugar Land

By LAUREN CAGGIANO | The Municipal

**It makes intuitive sense. Municipal plans that engage stakeholders are better received than those that have no community input.**

The city of Sugar Land, Texas' mobility master plan and related task force are examples of that principle in action. The city is taking a different approach to addressing mobility issues by shifting its focus — from moving vehicles to moving people. This renewed focus will aim to provide residents, visitors and tourists with multiple transportation options to choose from within Sugar Land.

Monique Johnson is the city's transportation and mobility innovation manager. She said, as the plan will affect residents day in

and day out, it only makes sense to invite them to the table.

"We really wanted to start by gaining the support from the community," she said. "We're trying to really capture the different mobility interests of the community and what their needs are. As we begin to develop this, we want them to feel like this is their plan."

The mobility master plan will be the first step in a two-step process for mobility planning in Sugar Land. The first priority is to create a new consolidated mobility plan that

combines all modes of transportation and provides high-level strategic guidance for mobility. The existing mobility plans were developed at different times and with differing levels of public input. The city's goal for consolidating these mobility plans is to improve implementation coordination and document clear policy guidance across all modes of transportation in one plan.

The second objective is to provide a separate planning process to address neighborhood and corridor specific issues that are difficult to address during a citywide planning effort. Once the high-level mobility master plan is complete, the next step would be to develop



**LEFT:** Several of Sugar Land's businesses use trucks and travel along the interstate, making it one area where the city hopes to improve mobility. (Photo provided)



Sugar Land's new consolidated mobility plan will combine all modes of transportation while also providing high-level strategic guidance for mobility. It will include a plan for bike lanes. (Photo provided)



**ABOVE:** Union Pacific Railroad runs through Sugar Land so the city asked a representative from the railroad to serve on its mobility task force. (Photo provided)

multiple area and corridor plans to address specific projects based on policy guidance established in the mobility master plan.

This two-layered approach will allow the city to target the particular audience that will be most affected by proposed mobility projects in their area and to develop solutions for local mobility problems based on policy guidance from the mobility master plan.

Above all, Johnson said the plan needs to be inclusive and speak to the interests of various groups. The idea, she said, is to frame a longer-term vision for the entire region, instead of just Sugar Land proper. Speaking of interests, Johnson said residents have stated in surveys in the past that mobility is a top priority.

To that end, she said the master plan will be a roadmap for how to move forward in this area. In her words, "It's not just about moving

cars. We want to focus on moving people, too." Such stakeholder groups include walkers, cyclists, people with disabilities, seniors, etc.

Johnson is candid in sharing that bureaucratic silos have created barriers in the past.

"So we have our pedestrian bicycle plan, which focuses on bike lanes and trails," she said. "And then you have your thoroughfare plan, which just focuses on roads. And so those plans are separate, and you know, they're not really talking to each other. And so we ran into a lot of challenges with that when it came to implementation. So, what we really want to do is make sure all of those modes are considered."

Johnson said that means providing multiple transportation options for people to get around. This could mean leveraging technology more. For example, there are apps that

allow someone to plan a trip whether on foot, by train or another modality — as an alternative to using an automobile.

"It's all about being connected as part of the mobility system beyond the vehicle," she said. "It's really about tapping into what is up and coming and all the innovative ideas that are out here."

For example, the Union Pacific Railroad runs through Sugar Land, and it has a huge impact on mobility. So the city recruited someone from the railroad to serve on the task force, so that vantage point is considered. There's also a number of businesses that have a presence in Sugar Land.

"They use trucks and travel along the interstate," she said. "So you want to understand what their needs are and what can we do as a city to improve that mobility or enhance it."

However, regardless of who's affected by the plan, Johnson said it's important to define the terms.

"There's an education component on our side," she said. "We need to make sure they understand what transit is and what is available out there. And what is it that they really would like to see here." **M**



# AFADs rolled out in construction zones

By KATHLEEN MORAN | The Municipal



*Oregon Department of Transportation's automated flagger assistance devices uses red and yellow indicator lights. The lack of a green light can lead to some confusion at times for motorists, which is why ODOT found a media campaign to be crucial. (Photo provided)*

**Robo flaggers are becoming more popular with departments of transportation and cities as they offer greater safety for workers. Admittedly, not every state has implemented them as of yet, but there is certainly something to be learned from those who are on the forefront and using them on a regular basis. Oregon and Washington are two states, in particular, that are using robo flaggers with success.**

“Of utmost importance is the protection of all workers,” stated Tom Strandberg, Oregon Department of Transportation Region 5 public information officer.

While beneficial, utilizing new technology such as the automated flagger assistance device does not automatically guarantee employee safety. More specifically, the AFAD is meant to protect workers from being struck and/or killed by vehicles, but if drivers are unaware of the new technology, the issue of safety remains.

“This is why a media campaign designed to educate the public is crucial,” said Strandberg. Drivers need to understand that a worker may actually be located nearby despite not being immediately visible.

Justin King, a work zone engineer for ODOT, described the AFAD as “similar to a traffic signal with red and yellow indicator lights without the green one.” The missing green indicator light can be a source of



**LEFT:** A human flagger operates each AFAD at a safe distance or possibly from inside a vehicle. (Photo provided)



Washington State Department of Transportation uses a drone to snap a photo of its AFAD in action. If a vehicle drives around the arm of the device, an alarm alerts human flaggers to be cautious of an approaching vehicle. (Photo provided)

confusion for drivers. According to King, the incidence of drivers maneuvering around an AFAD's arm is particularly common in rural areas. There have actually been cases in which an AFAD was hit instead of a flagger. As King noted, "The AFADs are just something else for a car to hit, which, fortunately, is instead of a human flagger."

Even though it may appear as if no human flagger is in the vicinity, it is important to note that someone is in fact nearby. A human flagger is operating the device at a safe distance or possibly from inside a vehicle. One who has been taught to work the AFAD is also required to carry an Oregon flagger card and complete a one-day training course.

"This arrangement ultimately works out to be more costly when considering the expenses associated with paying a human flagger in addition to that of the AFAD itself," indicated King. On the plus side, a human flagger is available in the event that an AFAD malfunctions. "And there will be times where it makes sense to use a human flagger because he or she is faster to deploy rather than waiting to pull the AFAD via truck to the next desired location."

There are situations where AFADs are appropriate and times when they are not. Barbara LaBoe with Washington State Department of Transportation communications offered the example of "a two-lane highway where one lane can be closed" as ideal for using an AFAD. As is the case described by King, LaBoe emphasized the point that drivers can and do drive around the arm of the device. When this happens, "an alarm that serves as an extra safety feature begins to sound immediately to alert human flaggers to be cautious and remain on the lookout for an approaching vehicle."



AFADs promote safety for all workers; however, drivers often need to be educated about their use to maintain safety. (Photo provided)



Signage at this WSDOT AFAD aims to capture drivers' attention. (Photo provided)

The distance an operator maintains between himself or herself and the AFAD is considered a buffer. As LaBoe pointed out, "As for distance, our operators are normally within 50 feet of the machines (though sometimes inside a vehicle for extra protection), but they can be operated up to a few hundred feet away."

The value in having an operator conveniently close at hand is made all the more apparent given one of the challenges of using AFADs. That is "the device's battery will not last an entire day, meaning it will need to be plugged into a work vehicle," stressed LaBoe.

All in all, the benefits of using robo flaggers definitely outweighs their drawbacks. LaBoe wants to remind the public that drivers need to slow down in work zones regardless of whether they are manned by AFADs or human flaggers. "It is true that workers get a lot of grief for traffic delays and drivers dread being backed up in traffic, but it is not worth it for a driver to endanger oneself or the workers for the sake of saving time and staying on schedule."

After all, there will always be cases of distracted and/or impaired drivers no matter the situation or available technology. The key to staying safe is being alert, both for drivers and workers. **M**



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**RIGHT:** Highway 12's previous bridge deck was washed away in the flood near Niobrara, Neb. Behind it, construction work on the new bridge can be seen. (Photo provided)

(Above photo Shutterstock.com)



# Nebraska rebounds following historic flooding

By **BARB SIEMINSKI** | The Municipal

**Nebraska, Missouri, South Dakota, Kansas and Iowa have dealt with massive flooding throughout spring 2019, with some areas experiencing prolonged flooding along the Missouri River well into December. Starting mid-March, the 2019 Midwestern U.S. floods marked the wettest January-to-May period on record for the U.S., according to the National Oceanic and Atmospheric Administration.**

One thing about a flood's aftermath is that it tends to bring a community together in a nonpartisan way. Dirty, dangerous water is a deadly killer, stealing lives, homes, businesses, roads, parks, farms, crops and

animals, so people have had to lean on each other.

The raging, bacteria-ridden waters did abundant damage to roads, bridges, ports, airports and broadband. Flights and trains schedules had to be cancelled as well.



*Bryan Tuma, Assistant Director of Nebraska Emergency Management Agency*



*A temporary bridge structure was used on Highway 281 by Spencer, Neb. (Photo provided)*



*Nebraska National Guard soldiers performed rescue operations during flooding near Columbus, Neb., in March 2019. (Photo provided)*

According to Jodie Fawl, Nebraska Emergency Management Agency public information officer, one area that often needed repairs was the levees.

“These were written as projects by local governments,” said Fawl. “Most of the levees would be under the United States Army Corps of Engineers.”

Bryan Tuma, assistant director of NEMA, was happy to share some thoughts about his state’s devastation during the impact of these recent floods.

“The Platte, Elkhorn, Missouri, Loup and Niobrara rivers reached record highs with this flood,” said Tuma. “Hundreds of miles of state and local roads suffered damage to bridges, washed-out culverts and weakened road bases. In some areas, huge chunks of ice barreled down our waterways demolishing dams and obliterating bridges. Several communities lost essential functions such as drinking water and wastewater processing. Hundreds of homes, businesses and farmsteads suffered flood damage, and many were entirely destroyed. Farmers returned to several feet of sand and sediment covering their land, and others had grain bins full of crops that were compromised.”

Still, some areas were harder hit than others.

“Fremont was cut off from the rest of the state because of flooding that surrounded the town,” said Tuma. “Winslow homes were nearly all damaged and at this time is considering moving to higher ground because rebuilding in the flood plain would not be cost-effective. Lynch lost many homes due to the flood.”

However, recovery efforts are well underway.

“Nearly all the state highway bridges that were damaged have been repaired, and all the state highways that were closed have been reopened,” said Tuma.

Asked if Nebraska had been in touch with Iowa or South Dakota, both states that are facing similar flooding issues, he noted that Gov. Pete Ricketts has been in touch with surrounding state governors to discuss issues with flooding that affects their states.

“I have reached out to emergency management agency staff in surrounding states, too,” said Tuma.

A large part of the problem has been when cities have neared the end with their cleanups, another flood hits. And then another.



*Temporary stoplights were used to control traffic on Highway 12 near Niobrara, Neb., where a temporary bridge was constructed. (Photo provided)*

“The biggest lesson I’ve learned in these recovery efforts has been the resilience of Nebraskans to respond and work together during adversity,” observed Tuma. “During the first week of June, a series of summits were held to help donors and leaders from nonprofits, communities and faith-based organizations learn about long-term recovery for survivors following the devastating floods. Long-term recovery groups formed in at least six counties and two regions. After the initial response, communities came together to ensure that where there was an ongoing need, help was available.

“Another important lesson learned is the importance of preparedness. As we approach 2020, we are already preparing for a wet year with high possibility of additional floods. Communities are already taking precautions for future flooding.”

According to Jeni Campana of the Communication and Public Policy Division for the Nebraska Department of Transportation, the estimated cost for Nebraska’s flooding repair will be around \$30 million, which comes out of the state budget.

“We will be receiving some federal reimbursement for emergency repairs,” said Campana.

“That would be only for the Nebraska Department of Transportation highway repair,” said Tuma.

The current estimates on the cost of this year’s flooding are:

- Small Business Administration loans \$49 million
- FEMA Individual Assistance \$27 million
- National Flood Insurance Program \$39.5 million ▶

“Those numbers can fluctuate as things change. These are the best current estimates. Also, the Department of Agriculture would have estimates for crop loss, animal loss and any other agricultural losses.”

The Federal Emergency Management Agency, Small Business Administration and Nebraska Investment Finance Authority have all provided recovery funding. FEMA contributes 75% to approved projects for public assistance; the state and local entities split the remaining 25% with each paying 12.5%.

“FEMA DR 4420 (Nebraska Severe Winter Storm, Straight-line Winds, and Flooding) has certainly made an impact on emergency management in Nebraska,” said Tuma. “With more than 90% of Nebraska’s 93 counties incurring damage during the incident period, many communities and individuals felt the effects of this disaster. It was an unprecedented event in size and scope and its impact is also being felt at the Nebraska Emergency Management Agency. NEMA will be making changes to our organization and size in the upcoming months. Our plans are to add additional staff, moving from 41 to approximately 58 staff members. Eight of the new staff members will be working in the recovery section in public assistance and hazard mitigation because of DR4420. The size of this disaster and the increase in disaster events has made it clear that reorganization was needed in order for NEMA to effectively meet the needs of the people of Nebraska.”

According to Campana, almost all construction work is performed by contractors.



Pictured is flooding in North Bend, Neb. (Photo provided)

“We currently have enough internal staff to manage the projects as we usually do,” said Campana. “I see restoring our state transportation system to normalcy quickly to restore connectivity to our citizens of Nebraska. We have almost restored normal network to all affected areas either with complete repairs or with temporary repairs while permanent replacements are under construction.”

Sounds like things are moving right along. **M**

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Two men look over the new mobility data program, made possible through a partnership with Ford Motor Company. (Photo provided)

# Ann Arbor and Ford partner to realize the future

By **BARB SIEMINSKI** | The Municipal

**When Disneyland first opened in 1955, one of its popular theme parks was Tomorrowland, a nod to Walt Disney's futurist views. That was then, this is now: a new concept of tomorrow is here today.**

Just like the magic of Tomorrowland, Ford Motor Company partnered with the city of Ann Arbor, Mich.—the City of Tomorrow—to bring us a new glimpse into an interactive model display of the city, which highlights 3D-printed buildings and streets that light up to show areas of congestion, providing real-time data. City Insights uses

custom algorithms and data-driven analytics. The safety tool combines the ability to visualize crash data, which is connected with vehicle data and cellphone data all in one place simultaneously.

According to Martin Gunsberg, new business, technology and strategy communications manager of Ford, the concept came

about with Ann Arbor at last January's Consumer Electronics Show in 2018 when Ford announced at the show that it was developing these tools and the city of Ann Arbor was one of the first cities it would engage with.

"Our City Insights Studio will be demonstrated at CES this month (January) in Las Vegas," said Gunsberg. "The challenge and, in turn, the success of City Insights comes from gathering data from various sources and displaying it in a way that is easy to digest. This includes connected vehicle data, parking





*Amanda Roraff, Managing Director of Planet M*

data and publicly available data such as police reports that log crashes.”

The Michigan Economic Development Corporation funded the Ann Arbor project with an \$117,500 grant, said Gunsberg.

Amanda Roraff, managing director of Planet M, the mobility initiative of the Michigan Economic Development Corporation, said the city of Ann Arbor and Ford Motor Company announced the pilot rollout of the City Insights Platform smart transportation technologies back in October.


“The platform is in six additional cities, including Austin, Texas; Indianapolis, (Ind.); Pittsburgh, (Pa.); and Detroit, (Mich.),” Roraff said. “The City Insights Studio concept currently is not for sale; however, City Insights Platform pricing will be announced closer to launch.”

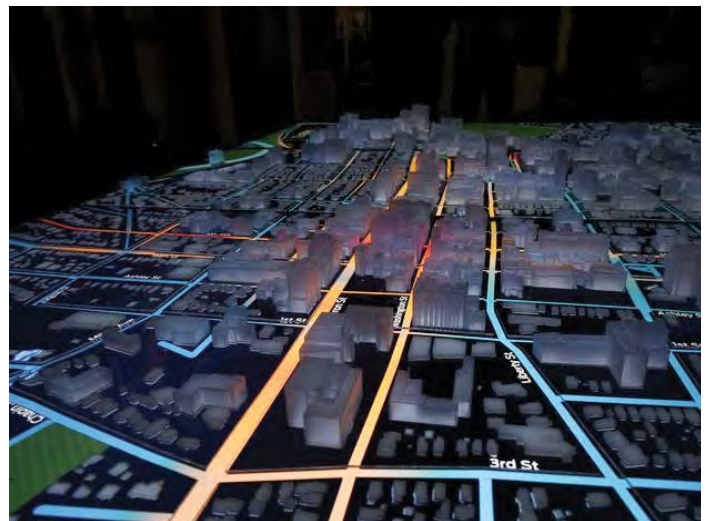
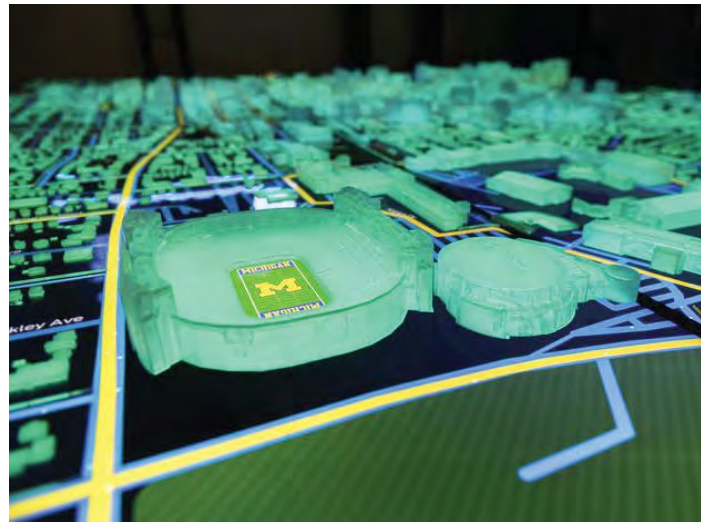
The project collaboration enables city planners to visualize their complete mobility ecosystem while using parking, safety, traffic, transit and census data. They can discover different solutions before implementing them for real.

Ford partnered with quite a few big names, including the Ann Arbor Area Transportation Authority, the Downtown Development Authority and Ann Arbor SPARK, which is a network cultivator of business and manufacturing excellence, and the Michigan Economic Development Corporation. The University of Michigan Transportation Research Institute was also brought into the fold.

One reason the safety tool is so important is because there is an increase in traffic accidents with pedestrians even though technology is making vehicles safer and offering improvements in city infrastructure.

Alleyway traffic is also considered in the data collection when it comes to improving access for delivery trucks and garbage trucks because drivers are frequently imprisoned by congestion. The Safety Insights database will allow city planners to sift data by crash type, like with pedestrians, motorcycle, traffic light or those involving alcohol or drugs. One can see the geographic locations of crash types and information on hot spots for deadly crashes.

Another benefit of City Insights is making sure that foot traffic and vehicles understand that the roads are for everyone. By utilizing the platform, city planners can scope out potential trouble areas where there is congestion — either foot or traffic — and solve these problems early on before they become problem areas. 



**ABOVE PHOTOS:** Scale models of the FordLabs’ City Insights Platform demonstrate hot spots for traffic congestion, crashes and more information. (Photos provided)

## On the Web

To see a video of Ford’s City Insights Studio — Parking Insights Tool & Simulations, visit the link: <https://www.youtube.com/watch?v=CEmUfrUv59A>.

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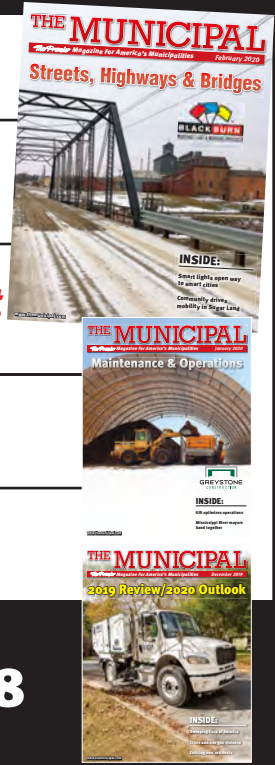
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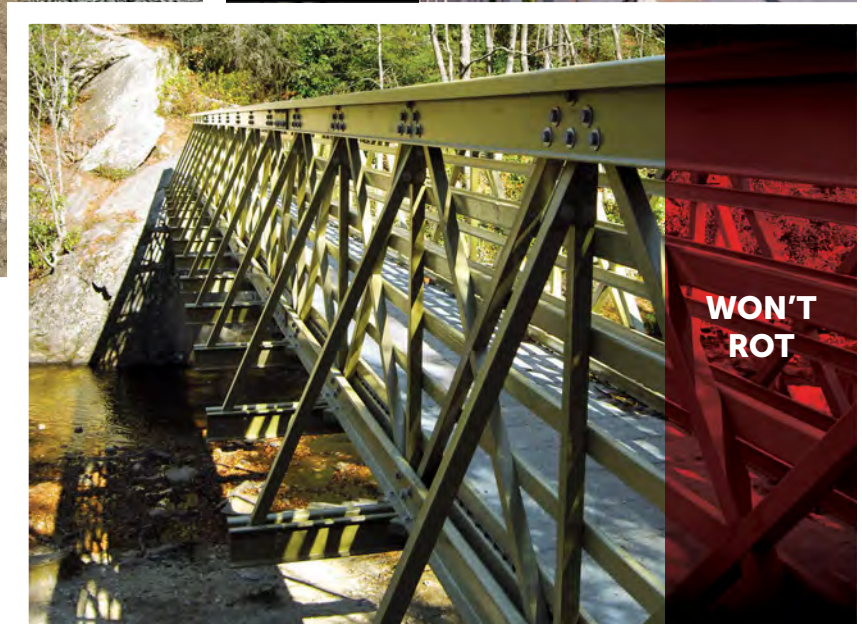
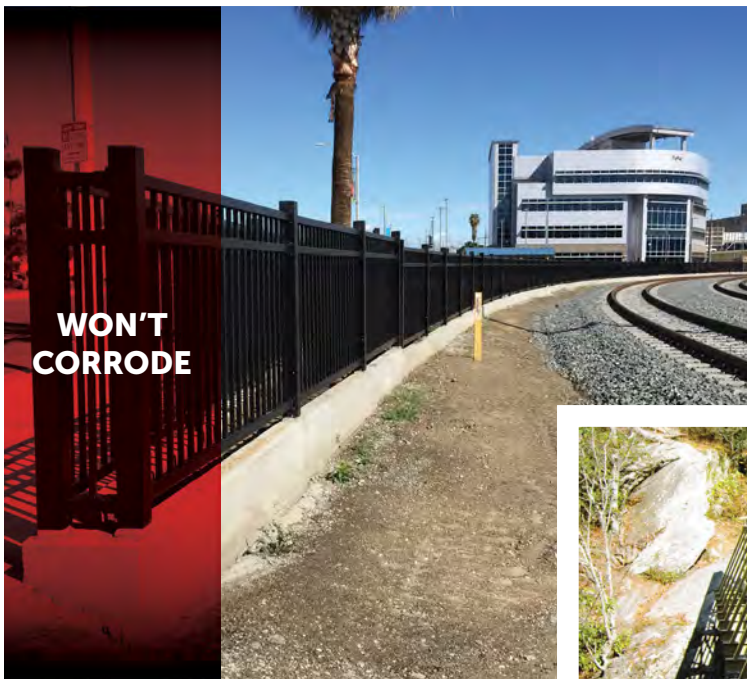
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# Forward-thinker: Tracy McKee is the chief innovation officer for Charleston, S.C.

By JULIE YOUNG | The Municipal

## When it comes to her professional life, Tracy McKee said there is one question she is asked more than any other: What exactly is a chief innovation officer?

“I get that all the time,” she said in a recent phone interview. “Unfortunately, there’s not really a job description for what I do. It’s more of a fluid concept.”

It’s also a job that didn’t exist a generation ago. First coined in 1998, a chief innovation officer is loosely defined as someone who identifies, implements and directs advances that help an organization, business or other entity move forward. Part change agent, part one-woman transition team, McKee is the first chief innovation officer for the city of Charleston, S.C., and as such, she looks for ideas that can be integrated into the existing infrastructure to streamline practices while mitigating any problems that come up along the way.

“I don’t make changes for the sake of change, but rather any changes I make must

be for the sole purpose of providing better service between departments and to the whole community,” she said. “It’s a position that requires a lot of balance and the ability to treat every situation differently.”

A native of Charleston with a background in engineering from Clemson University, McKee fell in love with a GIS mapping tool in 1995. She liked the way it enabled her to manipulate, analyze, manage and present all types of geographical data in more effective ways. She was named the GIS director for the city in 1999, and during her tenure, she developed and implemented the city of Charleston GIS Data Portal, worked with a small team to develop a Sea Level Rise Strategy and coordinated Charleston’s Bloomberg Philanthropies What Works Cities — or WWC — Program activities.



*Tracy McKee,  
Charleston, S.C., Chief Innovation Officer*

In 2018, she left her hometown in order to serve as the chief data officer for the city of Baltimore. There, she coordinated a comprehensive inventory of the city’s data for a catalog that will promote internal sharing and provide agency guidance for projects.

“I veered off my path a little bit, but it gave me some foothold in using a wide range of data to develop tools that allow people to make informed decisions about the way in



**LEFT:** A native of Charleston, McKee fell in love with a GIS mapping tool in 1995. This passion led her to become her hometown's GIS director in 1999; currently, she is the city's chief innovation officer. (Shutterstock.com)

**ABOVE:** In her role as chief innovation officer, McKee strives to improve the quality of life for Charleston's citizens. (Shutterstock.com)

which their departments operate with one another," she said.

Although she liked working in Baltimore, when Charleston Mayor John Tecklenburg reached out to his former employee to offer her the newly created position of chief innovation officer, she knew it was an opportunity she couldn't pass up. McKee returned to Charleston in January 2019 and hit the ground running.

"I love helping municipal employees embrace change," she said. "Our people are our best asset, and we can't do anything without them."

Of course change is never easy. Problems that seem as though they should be simple and straightforward are often the most complicated while some issues require more patience than others. However, they all

require the ability to listen, communicate, sympathize and learn from others. McKee said when she starts working with various departments, she strives to establish a good working relationship with everyone involved. She wants to understand the processes that have been used in the past, where improvements can be made, how to make those changes effectively and address any concerns that might come up.

"Relationships are a big part of the job," she said. "You aren't going to get anywhere if people don't trust you and know that you are going to see it through to the end. Luckily, because I've worked with the city before, I knew everyone, but it's always a little bumpy when trying something different. I like to remind myself that I work for everyone else — and not the other way around."

Although she has only been back a short time, McKee has a lot of things in progress that she is very excited about. Many of those come from a recent report created by the Novak Consulting Group, which was asked to evaluate and denote the various ways in which the city could improve its efficiency throughout its organizations and operations.

One of those improvements includes refining the city's technical review processes between the various departments. McKee said the technical review committee is responsible for ensuring that developers are

compliant with city codes and that all of the i's are dotted and t's crossed so projects can be completed on time. Novak's report led to the implementation of a tracking program that showed it was mathematically impossible to complete these reviews in a timely fashion with the resources the staff currently has.

"It sounds like it should be pretty easy, but this review process can get very complicated when the departments are busy," she said. "My job is not merely to look for ways in which to streamline but discover what tools are needed in order to help our departments do their jobs to the best of their abilities."

When she isn't working, McKee has participated in a number of triathlons and finished the famed Ironman event in 2012. She operates a coaching business to help others meet their athletic goals, and during the winter, she also likes to knit.

But for McKee working across departments in order to improve processes is the most rewarding thing about her position as chief innovation officer. She said working with so many people in the city makes her job so much fun.

"I work with great people in order to improve the quality of life for our citizens. That is the ultimate goal, and you can't beat that." **M**



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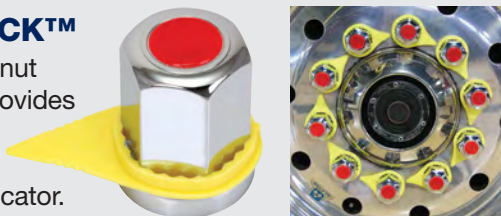
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*Eagan Police Officer Chris Meade records the license plate of distracted driver next to the bus during the Busted by the Bus Initiative. (Photo Provided by Eagan Police Department)*

# Police departments work to protect children through school bus safety

By MAGGIE KENWORTHY | The Municipal

**As motorists around the country continue to ignore school bus regulations, accidents and even deaths involving school buses seem to be on the rise.**

Municipalities around the country are brainstorming different ways to increase school bus safety and protect the precious cargo they carry everyday. Below are just three of the innovative ways police departments across the country are working to promote school bus safety.

## **Operation Big Bird**

Police departments in Wood County, Ohio, are combining their resources to

help promote school bus safety through Operation Big Bird.

This operation involves placing an officer on a school bus as children are picked up during the normal routes. As officers ride along, they keep an eye out for school bus violations. If they observe a violation, they alert a fellow officer who is following the bus in a separate vehicle.

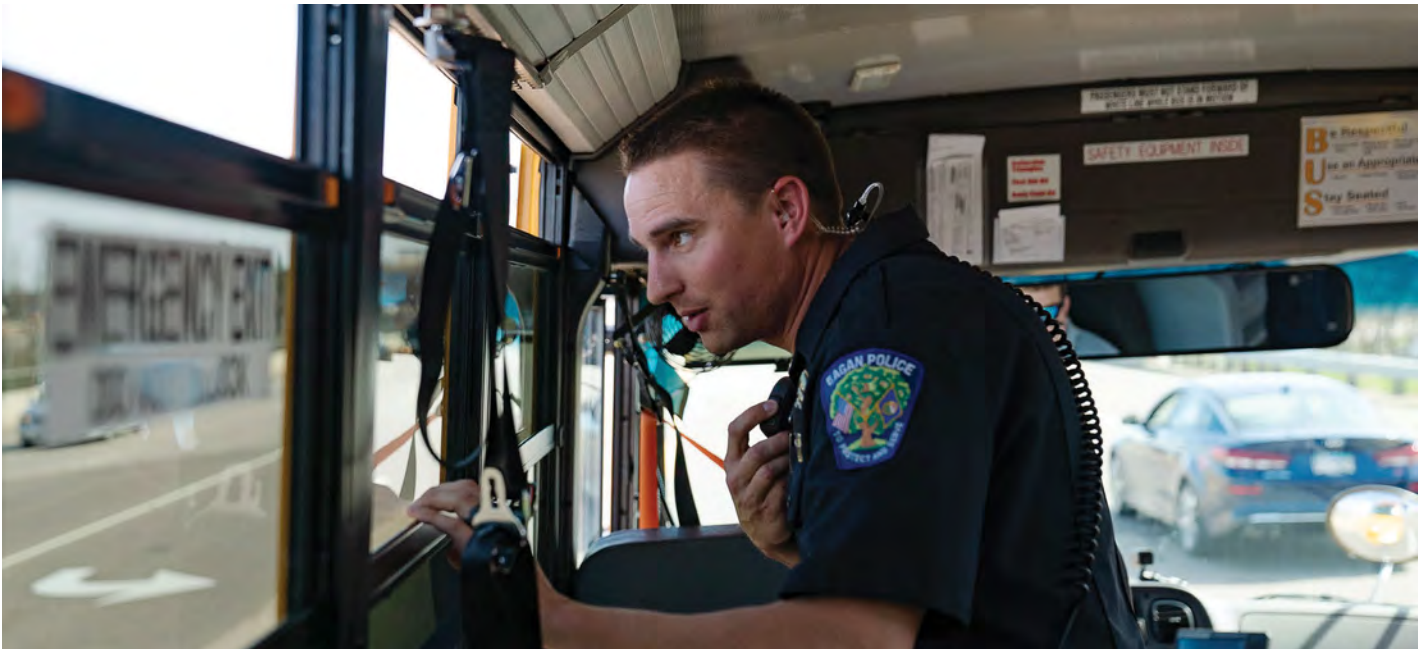
“We were having a lot of school bus violations coming in, and it all started with one

of our patrolman; his name is Scott Mezienger,” said Perrysburg Township Police Sgt. David Molter Jr. “It really all began in a brainstorming session to address school bus safety and school bus violations.”

But instead of just involving the Perrysburg Township Police Department, the department enlisted the help of seven surrounding departments. These include the city of Perry Police, city of Rossford Police, Lake Township Police, Northwood Police, Wood County Sheriff’s Office, Ohio State Highway Patrol and the Bowling Green Police Division.

“We really thought it was important to invite the other jurisdictions,” said





*Eagan Police Officer Luke Nelson looks for violations from bus window during the Busted by the Bus operation. (Photo Provided by Eagan Police Department)*

Perrysburg Township Police Lt. Matt Gazarek. “We really wanted to have a multi-jurisdictional effort, hopefully to impact the safety of our children and educate the motoring public on the importance of school bus safety.”

Not only are the officers educating the public about school bus safety, but they’re making an impact on local schoolchildren as well.

“They see us on the bus; they have time to talk to us,” said Gazarek. “We want kids to be comfortable coming to us if they have issues, and by doing this, we’re right there with them. We really thought it was a cool thing to do for the kids and to also get the information out to the public.”

The departments have completed Operation Big Bird twice since it originated in September 2019. During their latest operation, 98 school buses were followed throughout the week and 11 different officers were placed on buses.

“The whole objective in the end is to make sure you’re making the public aware of what’s going on,” said Mezinger. “Our goal isn’t to go out and write a bunch of tickets. Our goal is to go out and have zero school bus violations.”

### **Busted by the Bus**

In Eagan, Minn., the local police department has taken a similar approach to school bus safety. But while their initiative also involves school buses, they leave the children out of it.

“Busted by the Bus is an initiative to get people or drivers to pay closer attention to the big yellow school bus driving down the road,” said Eagan Officer Aaron Machtemes. “And the way we do that is we put cops on the bus — there’s no children and we’re not making fake stops — but we let the public know that the cops are going to be on the bus looking for distracted driving behavior. Our goal in doing this is having people associate a school bus with a cop car.

And when people see a school bus and think there may be cops on there, they are on their best behavior.”

The Eagan Police Department has seen success from the campaign, which Machtemes credits to the media involvement spurring public awareness.

“You can get cops on a school bus, you can get all the police squad cars positioned in the area, but the true affect happened on social media and the community conversations,” said Machtemes.

The campaign doesn’t use a school bus full of children because the main goal is just spreading awareness.

“We wouldn’t want to actually use kids as some type of bait or something like that where we are going to be artificially putting out a stop arm, hoping that people run it,” said Machtemes. “We just want people to pay attention around the buses.”

And the idea seems to work. During the first campaign in April 2019, officers conducted 131 traffic stops. The department ran another campaign at the beginning of the 2019-2020 school year, which resulted in 152 traffic stops. All of these traffic stops occurred during a five-hour period.

Because of the success, the Eagan Police Department plans to do another campaign at the start of the 2020-2021 school year.

“We could make a thousand traffic stops and really we’re only hitting a thousand drivers and educating them,” said Machtemes. “Whereas, if we can get the word out there, we can hit hundreds or thousands ... It’s very worthwhile, but really it’s not the operation itself that the success hinges on, it’s more the ability to tell the story of what this operation is to the public.”

### **Hit the Brakes**

In Sterling Heights, Mich., Police Sgt. Aaron Susalla is taking a different approach toward spreading school bus safety awareness.

“From our Facebook page, we were getting a lot of messages about how people were disregarding school buses,” said Susalla. ▶

“It just seemed like the public still wasn’t getting it because of the amount of violations we were still seeing... (The department) came up with the idea to make a song to ingrain it in people’s minds and to give them the knowledge that they need to stop for a school bus.”

In October 2019, Susalla wrote lyrics to the tune of “Love Yourself” by Justin Bieber. He enlisted the help of students at W.B. Browning Elementary to create a music video to accompany his original lyrics, titled “Hit The Brakes.”

The chorus of the song is as follows:

*“We don’t like it when you pass the school bus,  
Cause the ones in danger are all of us.  
And we’ve been trying so hard to show what’s going on  
And now we know, we’re not standing on our own.  
Because if you like to keep all of us safe,  
Then maybe you should go and hit your brakes.  
If the red lights are flashing, then we won’t be far  
So maybe you should go and stop your car.”*


According to Susalla, the overall reaction from the video has been nothing but positive.

“Everyone who has actually seen these violations take place in the community, they were extremely proud of the police department for doing something so innovative as to make a music video to help keep the children safe and everyone else safe in the community,” said Susalla. “When you can put some kind of line together that



Seen here is an image from Sterling Heights Police Sgt. Aaron Susalla’s video “Hit the Brakes,” which was made to spread awareness of school bus safety. (Image from YouTube)

has a little bit of tune to it, it’s easier for people to remember versus just giving a lecture about the importance of school bus safety.”

For those wanting to see the video, it can be found on YouTube as Susalla “Hit The Brakes” or on the Sterling Heights Police Department’s Facebook page. 

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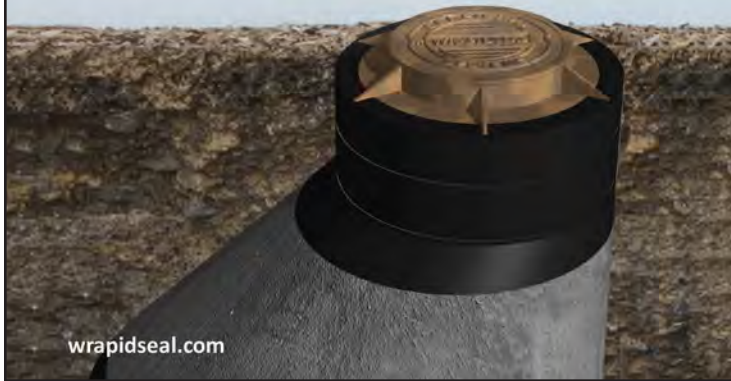


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A player with one of the 20 competing teams at the 2019 Mid-Atlantic Regional Quidditch Championship scores 10 points by getting the quaffle through one of the hoops. This two-day event brought 440 athletes and 20 U.S. Quidditch staff members and volunteers to Goldsboro, N.C., for the games. (Photo provided)



Goldsboro, N.C., was chosen as the host city from approximately 10 destinations vying for the opportunity. Teams came from Delaware; New Jersey; North Carolina; Pennsylvania; Virginia; Washington, D.C.; and West Virginia. (Photo provided)

## Goldsboro, N.C., earns unique chance to host Mid-Atlantic Regional Quidditch Championship for 2019, 2020

By NICHOLETTE CARLSON | The Municipal

The game of Quidditch got its beginnings as a fictional sport in the “Harry Potter” series by J.K. Rowling. In October 2005, a freshman at Middlebury College in Vermont decided to make this fictional sport a reality and laid the foundation for the sport’s rule book. Fourteen years later, the sport’s popularity continues to spread as Goldsboro, N.C., was chosen as the 2019 and 2020 host city for the Mid-Atlantic Regional Championship.

“Quidditch is a unique sport and Goldsboro is a unique city,” Ashlin Glatthar, Goldsboro-Wayne County travel and tourism director, commented. Last year the city put a bid in to host the regional championships knowing that it would be the perfect complement to the sport and the U.S. Quidditch organization.

As an interested host, Goldsboro had to have all paperwork turned in by Feb. 15, 2019. This paperwork included an intent to bid form, a bid snapshot form and a formal proposal. Approximately 10 destinations competed for the chance to host the regionals both last year and this year. After review, three finalists were chosen and site visits to these potential host cities were scheduled.

Goldsboro received its official visit June 9, 2019, and gave USQ staff a tour of the sports complex where the championship would be held, local hotels and the city’s historic downtown. While there are bid requirements in order to host a regional championship, it is also up to the city to make an attractive offer. Goldsboro did so by utilizing hospitality plans, marketing, venue sites, amenities and creative budgetary solutions.

“We capitalize on the simple way of life that gets lost in the technology and noise of metropolitan settings,” Glatthar mentioned. “Just as we ‘Goldsborians’ pride ourselves on being unique, the sport of Quidditch epitomizes the essence of ingenuity and uniqueness.”

The Mid-Atlantic Regional Championship was hosted Nov. 9-10, 2019, at the Bryan Multi-Sports Complex in Goldsboro. Prior to the event, Tim Salmon, city manager, proclaimed, “We are proud to be the host city for this organization’s first tournament in North Carolina.”

Twenty teams participated in the championship, including 14 collegiate teams and six clubs. The teams came from Delaware; New Jersey; North Carolina; Pennsylvania; Virginia; Washington, D.C.; and West Virginia.

“It’s exciting to see teams from such prestigious universities, such as Drexel University and Penn State, making their way to our city this weekend to compete for the championship title,” Glatthar announced prior to the beginning of the games. “We can’t wait to show off our sports complex, historic downtown and our Southern hospitality.”

Visit Goldsboro and the parks and recreation department prepared a fun weekend for players and fans. To welcome athletes and USQ staff, a Players Party was held Friday before the games began Saturday and Sunday. The Paramount Theater also hosted a movie night playing “Harry Potter and the Sorcerer’s Stone.”

The games also allowed the community to experience a new sport for the first time as a free public event. USQ staff even held Introduction to Quidditch clinics both Saturday and Sunday for ages 5 to 18. These clinics covered the basics of the game, ran drills and arranged a scrimmage.

Games between the 20 teams competing for the mid-Atlantic regional champion title began at 9 a.m. both Saturday and Sunday. The regionals are part of the qualification process to compete in the U.S. Quidditch Cup. The Quidditch Cup will take place in April.


“USQ wants to grow the sport’s awareness, and we want to continue growing our Goldsboro-Wayne County awareness,” Glatthar noted. This regional championship worked to benefit both of these desires.

When it came to economic impact from the games, Goldsboro was estimating it would receive 200 room nights and approximately \$185,000 in economic impact.

With 440 visiting athletes in the 20 competing teams along with 20 USQ staff members and volunteers, the city estimated a \$64,000 economic impact on area purchases.

This impact could be seen in the generation of over \$4,000 in sales tax and nearly \$2,000 in hotel sales tax. There were 280 hotel room nights with an average length stay of two nights. It was also estimated that each athlete spent an average of \$80 on area purchases during their stay. Additionally, 100% of the athletes and staff traveled to Goldsboro from outside of Wayne County. There were roughly 800 fans on Saturday and 400 fans on Sunday watching the games, for a total of 1,200 spectators visiting Goldsboro because of the Quidditch championship.

When it comes to this year’s Quidditch championship, Goldsboro is already planning ahead on what, if any, changes could be made to the event weekend.

“There are always things we learn after an event takes place of what we can do differently or add to improve event logistics,” Glatthar disclosed. “Some hospitality things we may add are spontaneous acts of entertainment throughout the tournament weekend and possibly move the Players Party to Saturday night and invite anyone and everyone out to enjoy food, music, games and more.” 



*During the two-day championship games, the USQ held Introduction to Quidditch clinics where children could learn the basics of the game, run drills and participate in a scrimmage. This gave community members the opportunity to learn about a new sport. (Photo provided)*



*The snitch is a neutral player dressed in yellow with a velcro tail attached to their shorts. They are able to use any means to avoid capture by each of the team’s seekers. The seeker is the only player allowed to go after the snitch. Once the snitch is captured by the seeker capturing the velcro tail, the capturing team earns 30 points and the game is over. (Photo provided)*



*At 35,000 square feet, Lancaster, Pa.'s, new public works operations center will streamline its operations by putting them all under one roof. (Photo provided)*

# Lancaster welcomes public works under one roof

By ANDREW MENTOCK | The Municipal

**For decades, the public works department in the city of Lancaster, Pa., has been held back by having too many of its bureaus located under multiple roofs. This prevented effective communication between the bureaus from taking place, but that's recently changed.**

In August 2018, the city broke ground on a \$10 million, 35,000-square-foot public works operations center and its parking lot on a portion of a 13-acre plot of land the city already owned. The new facility is large enough to house several bureaus, including parks and facilities, motor vehicles, the street department and the traffic bureau. The new

building is also home to the solid waste and recycling coordinator, who assists in multiple facets of the different bureaus.

Ultimately, the building is able to house more than 70 public works employees and has an area for storing and maintaining city-owned vehicles.



**LEFT:** A greenway was incorporated into the public works operation center project, providing recreation opportunities for residents and employees alike. There is also a parking lot available for use. (Photo provided)



**ABOVE:** Effective communication between the city and its contractors kept the new public works operations center on schedule, saving money in the process. (Photo provided)

“A lot of it’s for communication, efficiency and for convenience for the public,” said Matthew Metzler the Lancaster deputy director of Public Works and Construction Services. “Prior to this project, our parks and facilities department was housed at a location and our streets, motor vehicles and traffic bureaus were housed in a different location.

“There were a lot of employees that reported to multiple different managers and supervisors and this serves the public a lot better for multiple reasons.”

Unlike many other capital projects of this scale, Lancaster was able to meet its completion date on the project, which prevented the city from incurring additional costs. But there was a delay when it came to starting construction. The initial bid was \$7.8 million, but after a vehicle fueling station was added, as well as other features, the overall cost of the project increased to its current price.

The new building is located just outside of the 59,000-person city, in northeast Lancaster Township. While this may not be ideal logistically for every resident, it did allow part of the construction on the project to encompass a new greenway trail system and an additional parking lot where people using it could leave their vehicles.

“The facility also has a public rec component to it,” Metzler said. “This property borders the Conestoga River, and there’s a county-wide push to have a natural greenway created along the river. The portion of the property located between the building and the river was turned into a public rec opportunity. There’s a trailhead, some asphalt trails are created for biking, running and walking and stuff.”

The greenway will need further construction before it’s complete, but by adding it into this other construction project, the city was

able to get the ball rolling and save overall costs. The greenway is already operational and provides a nice, convenient way for employees to enjoy the outdoors as well.

In order to make sure the project was completed on time, Metzler made sure he kept up effective and consistent communication between him and the contractors.

“The contractor did an excellent job of committing to and staying on a schedule,” Metzler said. “We had five prime contractors; the general contractor managed to maintain the schedule and just good communication with the project team, (which) allowed us to make sure that we were able to make this date today. We’ve all been on the same page for probably the last 35 to 45 days.”

In addition to allowing for more effective communication, the new public works facility is also cost-effective when it comes to heating and cooling, especially since some of the old buildings were poorly insulated and were likely going to need to be updated by the city. Instead, Lancaster can now shed some unnecessary real estate.

While moving a large portion of its public works department into one facility was a process with a lot of moving parts, Metzler said the city was already familiar with such a move after consolidating its water department just a few years ago.

“I just finished the water administration building two years ago doing the exact same thing, taking multiple water department locations and combining them into a single facility,” he said. “A lot of the locations all reported to the same people and had the same administrative assistants and there were just a lot of inefficiencies.” **M**

# Cambridge updates buildings with net-zero in mind



**Cambridge, Mass., has been hard at work in its efforts to achieve carbon neutrality. It is just one of the city's future-forward goals and is an integral part of a net-zero action plan begun in 2015. While certainly not an easy feat in a densely built city, Cambridge has already achieved some important breakthroughs in such a short amount of time.**

By KATHLEEN MORAN | The Municipal

Iram Farooq, assistant city manager for Cambridge, described the net-zero action plan as “a road map to zero greenhouse emissions for new construction and minimized emissions from existing structures.” New construction has specific target dates for zero greenhouse emissions based on the type of building it is. For instance, municipal buildings have a target date of 2020 while small residential buildings and all other buildings, aside from laboratories, are scheduled for 2025. Laboratories have a target of 2030 due to the complex nature of such structures.

According to Farooq, “The specified target dates indicate the importance of leading by example in order to show city residents all that is possible.” Thus, the city placed emphasis on municipal buildings as the immediate priority despite the fact that small residential buildings would have been a much easier project to tackle first.

A few buildings have been built since the net-zero action plan was adopted. Specifically, the Dr. Martin Luther King Jr. grade school was built a couple of years ago. Architectural engineers were provided with the goals of the net-zero action plan as part of the construction process. “The great thing about this building is that energy efficiency levels have been lower than anticipated,” Farooq said. A family shelter has also been constructed in accordance with the net-zero action plan.

The Building Energy Use Disclosure Ordinance was put into action to address existing buildings, such as nonresidential structures, that are 25,000 square feet or larger. This

*LEFT: For new construction, small residential buildings and all other buildings — except for laboratories — are scheduled for 2025 to reach zero greenhouse emissions. (Photo by Kyle Klein)*



community-wide effort, as its name suggests, is about openness. In other words, property owners are asked to provide annual reports that detail the specifics of energy and water usage. The results of these annual reports expose things that are going well in addition to potential areas for improvement in terms of energy efficiency. As Farooq indicated, “A lot of attention thus far has been dedicated to studying, reporting and information gathering.”

Hence, the crucial part of the submitted annual reports thus far is how the information will be used.

The retrofit program is a direct result of this ordinance. Six percent of all the buildings are subject to the ordinance and are responsible for 70% of the city’s greenhouse emissions. It is a voluntary platform wherein property owners have the opportunity for free expert advice and guidance in transforming existing buildings with the ultimate goal of better energy performance.

This program is particularly aimed to benefit commercial building owners. “Essentially, a consultant from Eversource, the city’s gas and electric utility company, works with interested property owners for a solution,” stated Farooq.

The plans are customized and tailored to the individual needs of each and every property owner. The Eversource consultant can establish the necessary connections required for upgrades aimed at achieving desired emissions levels. Admittedly, the program is optional on the part of the property owner; nonetheless, he or she is financially responsible for implementing the solution. Therefore, a key role of the Eversource advisor is making the arrangements to allow for a cost-efficient and feasible plan of action.

The city has partnered with a local nonprofit organization for a similar endeavor aimed at helping the residential sector. This added outreach is crucial for tenants who may not stay in the same spot for a length of time, meaning the return on such an investment may not be realized before the renter relocates.

Funding for the net-zero action plan is made possible in part from the operating budget. As Farooq said, “The city is fortunate to have a robust financial situation in which the tax base offers further flexibility ... After all, the studies and work completed up to the this point have been expensive.

This is one of the main reasons that the city hired a specific staff member to steward the program to ensure the plan is being followed as it was originally outlined and intended.

Fortunately, Cambridge residents as a whole are on board and in agreement with the city’s programs and plan of action. “They desire sustainability and believe in taking responsibility for the acute situation that is so apparent in the daily news.” Actually, there are instances wherein the residents have pressured the city to move faster due to their interest in making a positive impact. They have a strong conviction with a priority for action.

Overall, the net-zero action plan designed for the realization of carbon neutrality is just one of the many proactive programs the city of Cambridge implements. The Cambridge Community Electricity program and Sunny Cambridge are just two of many more examples that testify to the city’s forward-thinking efforts and emphasis on a holistic approach to limit its impact in the grander scheme. Cambridge is clearly doing its part and is effectively leading by example with the hopes that others will follow with similar pursuits. **M**



*Leading by example, municipal buildings have a target 2020 to reach zero greenhouse emissions for all new construction. (Photo by Kyle Klein)*



*The city has partnered with a local nonprofit organization for a similar endeavor aimed at helping the residential sector. Pictured are families participating in Danehy Park Family Day. (Photo by Kyle Klein)*



*Cambridge’s retrofit program is a voluntary platform wherein property owners have the opportunity for free expert advice and guidance in transforming existing buildings. (Photo by Kyle Klein)*

For a complete list of all upcoming events, visit [themunicipal.com/events](http://themunicipal.com/events).

To list your upcoming conference or seminar in The Municipal at no charge, call (800) 733-4111, ext. 2307, or email the information to [swright@the-papers.com](mailto:swright@the-papers.com).

## FEBRUARY

**Feb. 3-7 World of Concrete**  
Las Vegas Convention Center,  
Las Vegas, Nev.  
[www.worldofconcrete.com](http://www.worldofconcrete.com)

**Feb. 9-11 NYCOM Winter Legislative Meeting**  
Marriott Albany, Albany, N.Y.  
[www.nycom.org](http://www.nycom.org)

**Feb. 11-13 Indiana Park and Recreation Association Conference and Expo**  
Horizon Convention Center,  
Muncie, Ind.  
<http://inpra.evrconnect.com/conference>

**Feb. 11-14 ARFF Leadership Conference**  
Rio All-Suite Hotel, Las Vegas,  
Nev.  
[www.arffwg.org](http://www.arffwg.org)

**Feb. 12-14 Arkansas Municipal League 2020 Winter Conference**  
Statehouse Convention Center,  
Little Rock, Ark.  
[www.arml.org](http://www.arml.org)

**Feb. 17-20 WWETT 20**  
Indiana Convention Center,  
Indianapolis, Ind.  
[www.wwettshow.com](http://www.wwettshow.com)

**Feb. 18-21 Missouri Park & Recreation Association's Conference and Expo**  
The Lodge of Four Seasons,  
Lake Ozark, Mo.  
[www.mopark.org/conference](http://www.mopark.org/conference)

**Feb. 24-27 TMC Annual 2020**  
Atlanta, Ga.  
<https://tmcannual.trucking.org>

**Feb. 26-28 Wyoming Association of Municipalities Winter Conference**  
Little America, Cheyenne, Wyo.  
[www.wyomuni.org](http://www.wyomuni.org)

**Feb. 27-29 NUCA Annual Convention and Exhibit**  
Loews Ventana Canyon Resort,  
Tucson, Ariz.  
[www.nuca.com](http://www.nuca.com)

**Feb. 28 Integrated Response to Active Threats Conference**  
Benedictine University, Lisle, Ill.  
[www.Disaster-Ready-Solutions.com/events](http://www.Disaster-Ready-Solutions.com/events)

## MARCH

**March 1-4 DRI2020**  
Westin Savannah Harbor Golf  
Resort & Spa, Savannah, Ga.  
<https://conference.drii.org>

**March 2-4 MSTPA Spring Conference**  
Sandestin Golf & Beach Resort,  
Sandestin, Fla.  
[www.mstpa.org](http://www.mstpa.org)

**March 2-6 EMS Today: The JEMS Conference & Exposition**  
Tampa, Fla.  
[www.emstoday.com](http://www.emstoday.com)

**March 3-6 NTEA's 20th Work Truck Show and Green Truck Summit**  
Indiana Convention Center,  
Indianapolis, Ind.  
[www.ntea.com](http://www.ntea.com)

**March 8-11 NLC Congressional City Conference**  
Washington, D.C.  
[www.ccc.nlc.org](http://www.ccc.nlc.org)

## MARCH

**March 19-20 FLAGFA Spring Event**  
Shores Resort and Spa, Daytona  
Beach Shores, Fla.  
[www.flagfa.org/future\\_dates.php](http://www.flagfa.org/future_dates.php)

**March 24-25 Michigan Municipal League Capital Conference and Annual Expo**  
Lansing Center, Lansing, Mich.  
[blogs.mml.org/wp/cc/](http://blogs.mml.org/wp/cc/)

**March 24-26 Wildland Urban Interface**  
Peppermill Resort, Reno, Nev.  
[www.iafc.org/events/wui](http://www.iafc.org/events/wui)

**March 26-28 Mid-America Trucking Show**  
Louisville, Ky.  
[www.truckingshow.com](http://www.truckingshow.com)

**March 30-April 3 IWCE Conference**  
Las Vegas Convention Center,  
Las Vegas, Nev.  
[www.iwceexpo.com](http://www.iwceexpo.com)

## APRIL

**April 5-9 NASTT No-Dig Show**  
Denver, Colo.  
[www.nodigshow.com](http://www.nodigshow.com)

**April 6-8 NAFA Institute & Expo**  
Indianapolis, Ind.  
[www.nafa.org](http://www.nafa.org)

**April 19-21 Fire Department Training Network Live-Fire Training Camp**  
Indianapolis, Ind.  
[www.fctraining.com](http://www.fctraining.com)

## APRIL

**April 20-25 FDIC International 2020**  
Indianapolis, Ind.  
[www.fdic.com](http://www.fdic.com)

**April 29-30 National Fire and Emergency Services Symposium and Dinner**  
Washington, D.C.  
[www.cfsi.org/2020-dinner/](http://www.cfsi.org/2020-dinner/)

**April 29-May 1 Navigator 2020**  
Orlando, Fla.  
<https://navigator.emergencydispatch.org>

**April 30-May 1 Association of Fire Districts of the State of New York Annual Meeting and Conference**  
Long Island Marriott, Uniondale,  
N.Y.  
[www.afdsny.org/annual\\_meeting\\_and\\_conference.php](http://www.afdsny.org/annual_meeting_and_conference.php)

## MAY

**May 3-5 NYCOM Annual Meeting**  
Sagamore Hotel, Bolton  
Landing, N.Y.  
[www.nycom.org/training/annual-convention](http://www.nycom.org/training/annual-convention)

**May 4-7 WasteExpo**  
Ernest N. Morial Convention  
Center, New Orleans, La.  
[www.wasteexpo.com](http://www.wasteexpo.com)

**May 11-14 Advanced Clean Transportation Expo**  
Long Beach Convention Center,  
Long Beach, Calif.  
[www.actexpo.com](http://www.actexpo.com)

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## Seven vendors awarded contracts in flooring

**STAPLES, MINN.** — When it comes to new carpet, tile, and rugs, Sourcewell contracts have you covered. Seven vendors have earned contracts in the Flooring category, adding to Sourcewell's diverse line of options and solutions.

Sourcewell contract administrator Gordy Thompson said members can find all-in-one solutions for flooring projects, from start to finish.

"These flooring manufacturers have a wide variety of products and services to serve our members," Thompson said. "With turnkey flooring contracts that include everything from carpet, laminate, hardwood and rubber to adhesives, removal, installation, project management and more — these contracts cover the full spectrum of new flooring projects."

Following a competitive solicitation process, Sourcewell awarded these cooperative purchasing contracts:

**Mohawk Carpet Distribution\* | 080819-MCD**

Broadloom and modular carpet; resilient, hardwood, and laminate flooring.

**Bentley Mills\* | 080819-BPS**

Broadloom carpet, modular carpet tile, area rugs, luxury vinyl tile, ancillary services and products, turnkey labor, project management, adhesives, maintenance product recommendations, Fast Track quick ship.

**Mannington\* | 080819-MMI**

Broadloom and modular carpet; luxury tile; resilient sheet, rubber, and hardwood flooring; Quantum Guard HP; installation services; turnkey solutions.

**Interface Americas, Inc\* | 080819-IFA**

Carbon neutral modular flooring, modular carpet tile, luxury vinyl tile, resilient rubber flooring, turnkey project management, sustainable high recycled content flooring, variety of QuickShip styles and colors, stair treads and wall base, flooring adhesives, installation services.

**Shaw Industries\* | 080819-SII**

Carpet, carpet tile, broadloom, hospitality custom, hard surface, specialty products, static dissipative, sundries, weld rods, wall covering, technical. Also offering Patcraft\* and Philadelphia Commercial\* brands.

**Karndean | 080819-KAR**

Flooring options, including glue down, loose lay vinyl and click vinyl; adhesives, installation.

**Tarkett\* | 080819-TFU**

Modular, broadloom, and woven flooring; environmental leadership; coordinated styles; extensive color ranges.

\* Re-awarded vendor with new contract number

These contracts are now available to all Sourcewell members throughout the U.S. and Canada. Purchasers from public entities save time and money by streamlining the procurement process with cooperative purchasing.

## NTEA releases vehicle specification process guide

**FARMINGTON HILLS, MICH.** — NTEA released a new Vehicle Specification Process Guide, a web-based, interactive tool

identifying critical factors to consider when creating or revising vehicle specifications.

The specification development process encompasses a systematic and defined set of interactions between various stakeholders, including the vehicle user, fleet team and supply chain. NTEA's specification development resource is intended to improve this process by applying leading techniques widely recognized by industry professionals.

The guide:

- Ensures alignment with the application and truck buyer needs/expectations
- Enhances vehicle productivity and safety
- Discusses new approaches to improving efficiency and effectiveness
- Provides guidance for determining optimal frequency of specification revision
- Offers common ground for stakeholders to see where their expertise relates to the process

For more information, visit [www.ntea.com](http://www.ntea.com).

## Stertil-Koni names Chris Murabito new Midwest regional sales manager

**STEVENSVILLE, MD.** — Heavy-duty hydraulic bus lift and truck lift leader, Stertil-Koni, announced that Chris Murabito has been named Midwest regional sales manager.

In his new post, Murabito brings more than 20 years of client-focused sales management, new business development and a dedicated concentration on customer service to Stertil-Koni and its initiatives in advancing the heavy-duty vehicle lift sector. He succeeds Jim Sylvester, who recently retired following 22 years with Stertil-Koni.

Murabito will manage a territory that includes Illinois, Ohio, Indiana, Kentucky, Michigan and parts of Wisconsin — supporting Stertil-Koni's exclusive distributor network serving these states.

Most recently, Murabito served as a Midwest territory account manager with a leading supplier of vehicle fluids and equipment. He was responsible for sales, new business development and managing relationships with customers. While there, Murabito increased sales in his region by 32% over a three-year period.

In making today's announcement, Dr. Jean DellAmore, president of Stertil-Koni USA, stated, "Chris is a seasoned pro with a strong, established track record in developing new business and growing existing customer relationships. He embraces the Stertil-Koni dedication to delivering exceptional customer service. We are excited about his professionalism and skill set and look forward to him contributing to the continuing success of our rapidly growing company."

Murabito has a Bachelor of Science degree in sociology from Illinois State University. He is married with three children and resides in Elburn, Ill.



Chris Murabito




## Bonnell announces expansion of manufacturing facility

**DIXON, ILL.** — It is with great pleasure that Bonnell Industries Inc. announces the expansion of its manufacturing facility with the opening of a new building at the company's headquarters in Dixon, Ill.

At 8,500 square foot and 5 acres, the addition consists of a large shop floor, parts-mezzanine, office space and worker amenities, with a paved lot for ample parking.

Dedicated to Bonnell's truck install division, the much-needed new building will free up space for other manufacturing lines as the company continues to see growth.

Joe Bonnell, company president, said, "At Bonnell we are thankful for our customers who trust in us for their snow and ice control needs. As we are working with more customers every month, we needed extra space to continue to provide our renowned customer service and quality workmanship. As our business grows, new challenges keep us active every day and we are excited to announce this expansion and the opportunities it brings."

Bonnell customers will continue to visit the main office, located at 1385 Franklin Grove Road, Dixon, IL 61021, and can direct any questions they may have regarding the new facility to the marketing department at (800) 851-9664. For information on Bonnell and to keep up to date with its latest news, visit [www.bonnell.com](http://www.bonnell.com) or follow the company on Facebook, LinkedIn and Instagram. 

News releases regarding personnel changes, other non-product-related company changes, association news and awards are printed as space allows. Priority will be given to advertisers and affiliates. Releases not printed in the magazine can be found online at [www.themunicipal.com](http://www.themunicipal.com). Call (800) 733-4111, ext. 2307, or email [swright@the-papers.com](mailto:swright@the-papers.com).

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# A wall failure repairs case study



By **DEODAT BUDHU, P.E.** | Guest columnist  
 Manager,  
 Orange County, Fla.'s,  
 Roads and Drainage Division

**A** REINFORCED CONCRETE BLOCK WALL, ORIGINALLY CONSTRUCTED 40 years ago for the Hiwassee Highlands, a single-family residential subdivision, showed rotation of instability that may impact the walking residents adjacent to a busy highway.

The existing concrete block wall is positioned above a lower tiered concrete gravity retaining wall, which was constructed around 1992 as a part of the Hiwassee Road roadway improvement.

A geotechnical evaluation of the failure was commissioned to assess the area's ground conditions behind the unstable block wall as well as the structural conditions of the block wall and lower level gravity wall. The wall rotation was determined to be the result of lateral earth pressure from the growth of a tree root, which abuts the block wall. The soil borings behind the wall showed fine sands and none of the typical slope failure with a scarp crack or any other superficial manifestation of slope stability.

The localized area where the concrete block retaining wall is bulging out and on the verge of failure poised a potential hazard to pedestrians using the sidewalk and the motoring public using the roadway. The block wall also acts as a retaining wall for the higher elevation residential yards within the Hiwassee Highlands subdivision. The pronounced wall bulging areas correlate to the location of large trees, which are up against the wall. The affected resident 7005 Laurel Hill Drive has indicated that the distress has become progressively worse over time and it is now a significant concern for pedestrians, motorists and the residential properties.

The repair plan calls for:

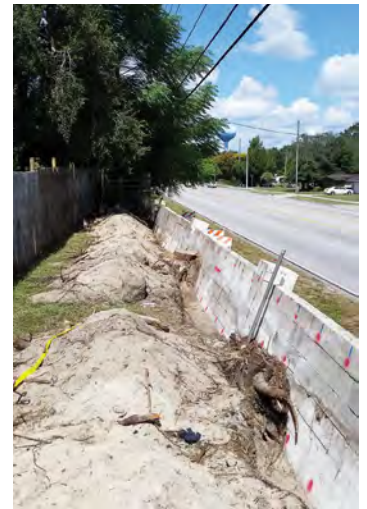
- The removal of the tree and its root system.
- Demolition of the existing concrete block wall contiguous to the resident at 7005 Laurel Hill Drive.
- Building a replacement concrete block wall. The choice of reinforced masonry wall is also based on the horizontal and vertical working space limitations, especially the constraints from the overhead power lines. Moreover, the existing soil showed loose compaction and cohesion, and these properties extended to more than 16 feet in depth, making construction very challenging.

The construction of this wall had to be carefully planned and designed considering the proximity of the wall to the residential structure and the sidewalk on Hiwassee Road. The water table is deep and does not influence the design; however, the type of soil is a major factor in developing the repair plan since the light-colored



**ABOVE:** Pictured is the affected concrete block wall and its surrounding area, which includes a sidewalk, Hiwassee Road and the Hiwassee Highlands subdivision. (Photo provided)

**LEFT:** The wall rotation was determined to be the result of lateral earth pressure from the growth of a tree root, which abuts the block wall. (Photo provided)



sands are dry, of loose compactness and cohesion less, and extend to a depth of over 16 feet. Such sands can shift when, for example, a void is created by the removal of a large tree root, which is similar in effect to the movement toward a void created by a small sinkhole.

In addition, slope instability and sand sloughing are a major concern when the existing wall and its foot are removed for reconstruction. Removal of the wall and footing will leave a 6-foot-high unbraced vertical face of cohesion-less sand with the potential to collapse onto the sidewalk. A collapse at this location can propagate within the sand mass to causing shifting/settlement under the building foundation.

Based on the above concerns, the elements and sequence of the repair plan chosen to mitigate are:

1. Possible adverse soil movement, which can cause settlement of the adjacent residential structure at 7005 Laurel Hill Drive, and/or
2. Possible soil collapse onto the lower level pedestrian sidewalk — with collateral impact to residential structure due to sand shifting — when the existing wall is removed to make way for the new wall.



Due to all the constraints, the developed construction methodology compiled with the following sequential steps are:

- a. First the wooden fence in the residential yard was removed and stored for reinstallation.
- b. Secondly, the soil zone adjacent to the residential structure was chemically stabilized.
- c. Then the tree and its root system were removed and the removal hole was backfilled.
- d. The soil zone behind the existing block wall was also chemically stabilized.
- e. The existing wall/footer was demolished, and a replacement 8-inch-wide, cantilever reinforced masonry wall (minimum 2500 psi unit strength at 28 days), with continuous ladder reinforcing within every second horizontal joint, was constructed. The masonry wall will be anchored to a continuous reinforced cast-in-place footing (minimum 35 feet wide and 12 inch deep), using regular spacing of reinforcing steel vertical dowels. The finish is 5/8-foot stucco finish and exterior grade paint.
- f. Reinstated residential yard where disturbed by construction. The resident at 7005 Laurel Hill Drive was very elated that the risk was averted. The walking and motoring public were pleased that the wall failure was timely addressed and corrected.

The demolishing and construction of the wall commenced in August 2018 and was completed on October 19, 2018. The final cost for design chemical grouting and wall demolishing and reconstruction came in at \$170,000. **M**



*The project required the tree and its root system to be removed; the removal hole was then later backfilled. (Photo provided)*



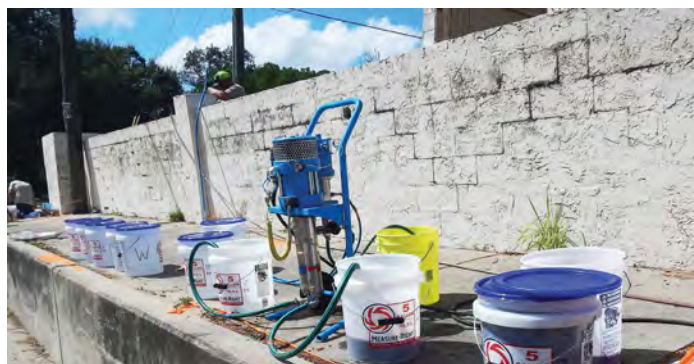
*The existing wall/footer was demolished for an 8-inch-wide cantilever reinforced masonry wall. (Photo provided)*



*The affected resident's wooden fence was removed and stored for reinstallation after the project's completion. (Photo provided)*



*Following construction, the resident's yard was reinstated where it'd been disturbed. (Photo provided)*



*The soil zone adjacent to the residential structure and the zone behind the existing block wall had to be chemically stabilized. (Photo provided)*

Deodat Budhu, P.E., has more than 36 years of experience in consulting, contracting, teaching, research and public works in a variety of civil engineering disciplines. Budhu is the current manager of Orange County, Fla.'s, Roads and Drainage Division and is responsible for the daily administration and management of 235 employees in addition to an annual operation and capital budget totaling \$98 million. He holds a Bachelor of Science in civil engineering and a Master of Science in water resources engineering. He is a registered professional engineer in both Florida and Virginia with memberships in several professional organizations and has authored more than 70 technical publications.

# Best cities to drive in

The U.S. has had a long love affair with the automobile, and the Bureau of Transportation Statistics finds that “87 percent of daily trips take place in personal vehicles.” On average, drivers spend more than 310 hours on the road. It’s a no-brainer that those behind the wheel want safe and quick travels. WalletHub examined the 100 largest U.S. cities across 30 key indicators of driver-friendliness.

These 30 key indicators were broken into four key dimensions: cost of ownership and maintenance; traffic and infrastructure; safety; and finally, access to vehicles and maintenance.

Raleigh, N.C., took the No. 1 rating with an overall score of 69.09 out of 100. Across the four key dimensions it ranked No. 1 in cost of ownership and maintenance; No. 19 in traffic and infrastructure; No. 8 in safety rank; and No. 62 in access to vehicles and maintenance rank. The rest of the rankings are below with the total scores:

City	Total Score
1. Raleigh, N.C.	69.09
2. Orlando, Fla.	66.26
3. Lincoln, Neb.	66.21
4. Tampa, Fla.	65.38
5. Winston-Salem, N.C.	65.02
6. Birmingham, Ala.	64.93
7. Corpus Christi, Texas	64.78
8. Boise, Idaho	63.78
9. Charlotte, N.C.	63.52
10. Greensboro, N.C.	63.44

**A**

All Access Equipment ..... 2  
 Alunitank ..... 31

**B**

Bend Pak Incorporated ..... 27  
 Blackburn Manufacturing Company ..... **Cover, 10-11**  
 Bonnell Industries ..... 21  
 Bucher Municipal ..... 9  
 Buyers Products Company ..... 63

**C**

CCI Piping Systems ..... 43  
 Clearspan Fabric Structures ..... 21  
 Curtis Industries ..... 34  
 Custom Products Corporation ..... 39

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 WWETT ..... 62

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#### Features:

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- Built-in Plow Blade
- The crushing wheels follow the surface contour without damaging the sidewalk surface
- The unit can crush ice in the forward or backward (plow blade removed) directions

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- The wheels (3 year warranty) are replaceable
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To see this unit in operation please go to the following YouTube videos:

For use with a Bobcat Skid Steer unit: <https://youtu.be/AGKV6wzNsUw>

For use with a Trackless small tractor: [youtube.com/watch?v=Y8KyELp06cU](https://youtu.be/v=Y8KyELp06cU)

For use with a Wheel Loader: [youtube.com/watch?v=JmdkfybSi8w](https://youtu.be/v=JmdkfybSi8w)



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