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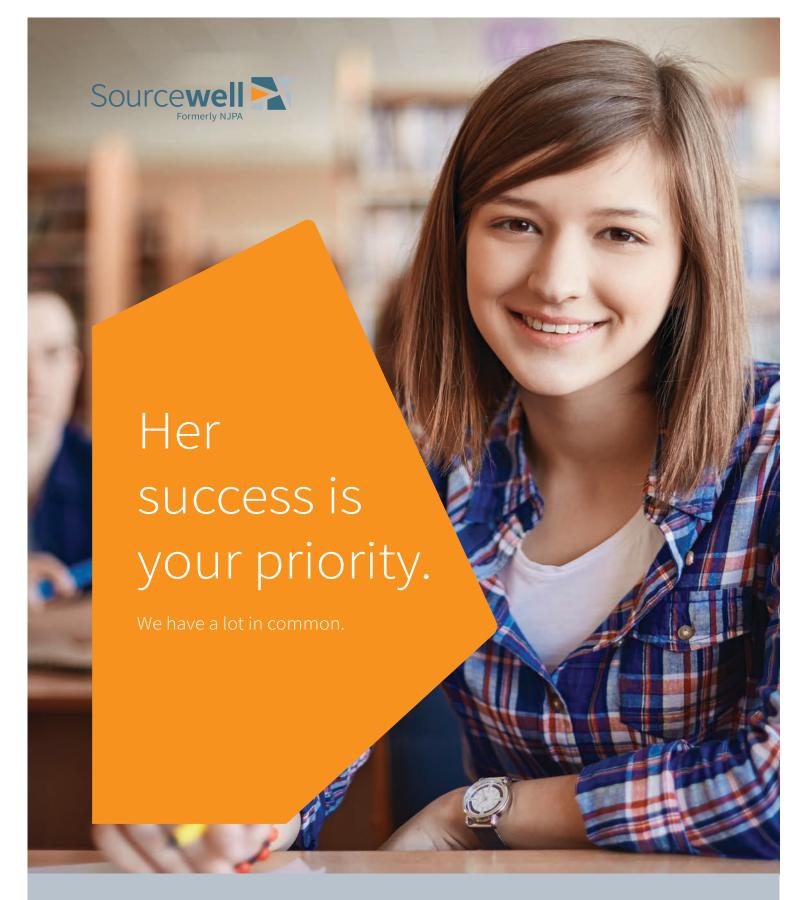
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### ON THE COVER

The city of Stamford, Conn., has saved \$560,000 in two years by automating fleet management and sharing vehicles. Read how Stamford achieved its goals in a one-on-one interview with Fleet Manager Mike Scacco on page 10.





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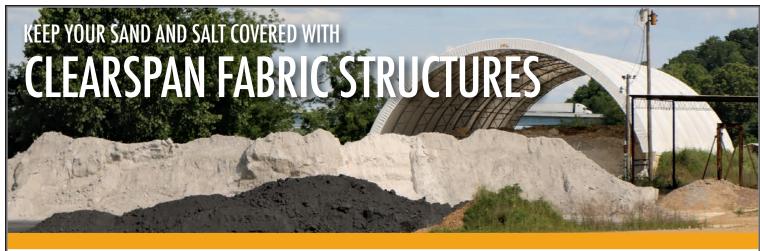


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#### **CORRECTION**

In The Municipal's May article, "Urban wetlands offer numerous benefits," Dr. Monica Palta is mislabeled as a professor at Arizona State University; she is currently an assistant professor at Pace University in New York City. The Municipal regrets this error and any confusion it might have caused.



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# Being wise custodians



Sarah Wright | Editor

AN YOU IMAGINE HAVING A "Day Zero" approaching?
A day when the water will run out? Water is a resource many people take for granted, viewing it as something that will always be there—yet in South Africa, Cape Town is facing a deadline when its reservoirs will go dry. In the fight against Day Zero, city officials have planned to store emergency water at military installations, promoted strict water conservation practices and have also made it illegal to fill pools, water gardens or wash cars. In May, there had also been talk about towing

icebergs from Antarctica to South Africa as a means of solving or at least extending the deadline to Day Zero.

Cape Town could very well be an omen for cities worldwide in regards to how climate change and booming populations might impact their own water supplies. The National Geographic noted in February that several cities are already feeling the strain, and those cities are not all found within developing countries; for example, Melbourne, Australia, is expecting to run out of water in little more than a decade.

The U.S. is no stranger to droughts, with southern California having one of the longest running droughts in recent memory — stretching from 2012 to 2017. And when the going got tough, state, county and city officials became innovative: crafting policies to reduce water usage, reverting back to natural plantings, installing water-saving equipment, utilizing gray water, among other methods. These steps will likely filter down to other cities and towns

across the country, especially as water sources change — and not always because of drought. South Florida, after all, has experienced some of its waters becoming saltier and more polluted as tides rise.

In addition to serving as good custodians of our resources, water utilities in the U.S. are also facing aging infrastructure — a concern that came into sharp focus with the Flint, Mich., water crisis. With miles of pipes, it is a constant work in progress for many municipalities as feature writer Elisa Walker highlights in her article on page 18, focusing on Poughkeepsie, N.Y., and Duluth, Minn., efforts to update their water infrastructure.

We are also addressing energy—another must to municipal operations—in this issue of The Municipal. As energy demands are only set to grow, cities are more and more exploring renewable energy not only for cost savings but to be environmentally friendly. Additionally, feature writer Nicholette Carlson will profile Georgetown University Energy Prize winner, Fargo, N.D., which involved its entire community in seizing energy savings.

In a time of great flux and increasing demand, cities will undoubtedly be pursuing further innovations when it comes to both water and energy. But time and time again, cities have risen to numerous challenges and will undoubtedly continue to do so.











By ED SMITH | Agile Fleet

The city of Stamford is like many public organizations that rely on vehicles to achieve their mission. With a fleet of 1,100 vehicles, the city must maintain and manage passenger vehicles, heavy-duty highway trucks, and sanitation and park equipment year-round on a limited budget.

Two years ago, Stamford's fleet maintenance manager Mike Scacco, a 13-year veteran in fleet management, took a hard look at the 80 passenger vehicles parked at the city's Government Center building that were being used by nearly 50 different departments housed there. Scacco was concerned about high fleet costs and lack of metrics to understand vehicle usage or needs.

"Every time I went to the Government Center, there were always 30-40 cars sitting idle, some with dust on the windshields. That told me they weren't being used, but we had no way to know for sure because we didn't collect



Maintenance cost savings (\$3,500-\$6,000/year/vehicle)= \$178,000 - \$357,000

One-time Disposal income @ \$4,000/vehicle = \$204,000
\*Based on eliminating 51 vehicles



Mike Scacco (Photo provided)

utilization data or trip information. We needed a way to do that and I was determined to find one," said Scacco. "We had no accountability or hard data to understand which of the 80 vehicles that the departments used were needed and which ones weren't. And, no one wanted to share vehicles. The general consensus was that we actually needed more cars to meet the needs of the departments, but with dust on the windshields, I didn't think that was right."

#### **Results: Technology-driven savings**

What did Scacco do? He first created policy requiring employees to share vehicles. He then took the best 49 vehicles out of the 80 vehicles sitting idle at the Government Center and created an easy-to-use-motor pool. The remaining 31 vehicles were moved out of service until they could assess if 49

was the right number of vehicles to meet the needs of employees. Using the automated Agile Fleet Fleet Commander system, Scacco was able to streamline the vehicle-sharing process by offering online vehicle reservations, and automated dispatching and key management, as well as billing and reporting. The system enabled him to collect usage data, and he determined that not only did they not need more vehicles, but that they could further reduce the 49-vehicle shared fleet down to 29. He was then able to sell the unneeded 51 vehicles.

Chantilly, Va.-based fleet management solutions provider Agile Fleet estimates that the cost to keep a vehicle in a fleet is about \$3,500-\$6,000 per year in maintenance, depreciation, insurance, parking and other costs. By eliminating 51 vehicles, the city saved \$357,000 in ongoing costs over the first two years. Agile Fleet estimates a five-year cost savings of more than \$1 million, including the disposal income generated by the city's sale of the 51 extra vehicles.

"Our savings are tremendous, and replacement cost avoidance is also substantial. If you are paying \$18,000-\$25,000 per vehicle and you reduce 51 cars, you are avoiding upwards of \$918,000-plus in replacement costs alone," Scacco said. "We have saved the city a tremendous amount of money and now vehicle utilization is where it should be."

Scacco emphasized the ease in which the system was put in place. "It was so easy to set up and launch our motor pool. Nowadays people are familiar with logging in online. Reserving vehicles in the system is so easy. For municipalities, it's a match made in heaven because there are so many cities that don't necessarily have the data they need to know what's going on with these expensive assets. With the system in place, we easily right-sized and eliminated vehicles that no one needed."

#### **Success: Data-driven decision-making**

"We believe the Agile Fleet data is the key to our success. We have both the FleetCommander FMIS and GPS tracking solutions here. FleetCommander automates the management of our motor pool, helps us manage keys, run reports and keep up with preventive maintenance. We use GPS to gather data about our vehicle usage and driver behavior. GPS is integrated with the FleetCommander system, which uses the GPS to track mileage, vehicle location and driver behavior. All of that data feeds our reports. This has helped us get a handle on our fleet and provide better service to our city employees," Scacco said.

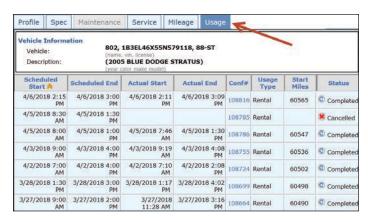
Since the city is able to get accurate mileage, Scacco said preventive maintenance schedules are on time. In addition, drivers can report any mechanical issues with vehicles directly into the FleetCommander system each time they return a vehicle, which helps the city to be proactive with maintenance. Scacco said there was no accountability or trip reports before. "When there was damage to the cars, we had no idea who was responsible. We needed to have clear accountability for our assets," he added.

#### From "free-for-all" to "all accounted for"

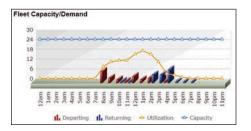
Scacco said that before implementing a fleet management information system, drivers treated city vehicles like a "free-for-all," with drivers and departments taking advantage of the system. "I can remember one time (when) five cars were all taken with single drivers to the same meeting 60 miles away. Some project managers would get a car, drive three-fourths of a mile and keep it there all day, then return the car. Using a \$25,000 asset to drive 2.5 miles a week is not what I call good utilization."

#### Happy drivers, happy fleet

When asked how city employees feel about the system, Scacco said, "The city has a training policy for anyone who uses a city vehicle or equipment



The city of Stamford, Conn., has clear visibility into vehicle usage data via the Agile Fleet system. (Photo provided)



Stamford's fleet dashboard graphically displays its motor pool's hourby-hour utilization. (Photo provided)

(including unions since the majority of people are union). We sit down with everyone and explain that we are not using these systems to reprimand or find fault with people, we are using them to collect data. In the beginning there was pushback, but now every department has a vehicle when they need it, which they didn't have before, and the majority have a better vehicle and more choices for vehicle types, which people like. And, on certain occasions, a vehicle can be used multiple times a day. Now people are comfortable with it and it is working extremely well here in our union environment."

For more success stories or information about the Agile Fleet fleet management information system in place in Stamford, Conn., visit www. agilefleet.com, email info@agilefleet.com or call (408) 213-9555, ext 1.

## City of Stamford Fleet Quick Facts

- 1,100 fleet vehicles, including sedans, heavy-duty trucks, sanitation, park equipment
- Shares 29 vehicles in a motor pool
- Eliminated 51 vehicles from fleet
- Saved \$178,000-plus in ongoing vehicle costs/year
- Generated one-time disposal income of \$204,000
- Projected five-year savings of \$1 million-plus
- Offers online reservations to drivers
- Tracks maintenance schedules
- Utilizes GPS technology
- Collects fleet data
- Manages driver profiles online
- Manages vehicle profiles online
- Has 100 percent accountability for vehicles



by RAY BALOGH | The Municipal

# Some say the town of Mayberry, N.C., existed only on a television lot in Hollywood. Others insist it is a state of mind more than a physical location.

But Mayberry does exist — in Andy Griffith's hometown of Mount Airy, N.C.

Many of the buildings from the "The Andy Griffith Show," which aired 249 half-hour episodes over eight seasons from 1960-1968, have been recreated in Mount Airy, the town upon which Griffith (1926-2012) patterned the iconic fictional community.

The show never ranked lower than seventh in the Nielsen ratings and ended its final season as No. 1.

The building used as Mount Airy's real jail for years was converted into a replication of the courthouse from the show. Visitors are invited to sit in Sheriff Andy Taylor's chair and put their feet up on his desk. They can also type on the vintage typewriter and sit in one of the recreated jail cells.

A vintage 1962 Ford Galaxie squad car is parked in front of the building.

The attraction is open from 8 a.m. to 4:30 p.m. Monday through Friday.

Adjacent to the jail is Wally's Service Station, originally a Gulf station built in 1937 and later operated as a Standard Oil franchise. The building houses The Fruit Basket,

which offers a wide variety of souvenirs and collectibles.

Mayberry squad car tours leave from the station throughout the day. The service station is open year-round with hours depending upon the season, but most of the time operates from 9 a.m. to 5 p.m. Monday through Saturday and 10 a.m. to 4 p.m. Sunday.

Floyd's Barber Shop boasts thousands of photos along its "Wall of Fame," snapped by owner Russell Hiatt for more than six decades. Celebrities include Oprah Winfrey, Lou Ferrigno and George Lindsey, who played Goober in the original series. Hours vary, but the most opportune time for a visit and a haircut is before lunchtime.

Speaking of lunch, the diner where Griffith ate as a young boy is open from 5:45 a.m. to 1:45 p.m. Monday, Tuesday, Wednesday and Friday and 5:45 a.m. to 1:15 p.m. Thursday and Saturday.

Snappy Lunch opened in the 1920s and was mentioned in an early episode of "The Andy Griffith Show." Its specialty sandwich features a boneless tenderized pork loin



chop dipped in sweet-mile batter and fried until golden crisp.

Griffith's home where he lived during his adolescence until he graduated high school is available for nightly rentals. The home is within easy walking distance from the other attractions, including Opie's Candy Store and Mayberry Soda Fountain.

Aunt Bee has a room dedicated to her memory at the Mayberry Motor Inn and contains more than 30 authenticated items belonging to the late actress Frances Bavier, including gloves, eyeglasses, a handkerchief, dress and hat.

Two adjacent buildings round out the selection of attractions dedicated to Griffith.

The Andy Griffith Museum, opened in 2009, houses the world's largest collection of Andy Griffith memorabilia, largely compiled by Griffith's childhood friend Emmett Forrest, including the "Sheriff" and "Justice of the Peace" signs that hung on the courthouse doors.

The museum also includes mementos from other cast members, such as Don Knotts, who played Deputy Barney Fife; Betty Lynn, who played Thelma Lou; and Maggie Peterson, who played Charlene Darling.

The museum is open 9 a.m. to 5 p.m. Monday through Saturday and 1 to 5 p.m. Sunday. It is closed only on Thanksgiving and Christmas.

The Andy Griffith Playhouse, originally built in the 1920s, served as the first public school in Mount Airy. Operated by the Surry Arts Council, the building hosts year-round classes, theater productions, art camps and live music concerts. Griffith attended the school in the 1930s and 1940s, where he performed on stage.

In front of the museum stands a bronze statue of Sheriff Taylor and his son, Opie, carrying their fishing gear to the old fishing hole.

The municipality of 10,347 has hosted Mayberry Days since 1989. The seven-day festival evokes the simpler days and visitors can enjoy a bottle of pop while playing checkers; relax to music performed on "The Andy Griffith Show"; indulge in a pie eating contest; and participate in a trivia contest about the show.

Dates for the 2018 festival are Monday, Sept. 24, through Sunday, Sept. 30. ■

For more information, visit www.visit mayberry.com or www.surryarts.org.

RIGHT: The 1962 Ford Galaxie used as the sheriff's patrol car in "The Andy Griffith Show" is available for daily tours around town. The tours begin and end at Wally's Service Station. (Photo provided)



Two members of The Dillards, an American bluegrass band who played the Darlings on "The Andy Griffith Show," and a Barney Fife impersonator entertain the crowd at a stage show during Mayberry Days, an annual seven-day festival in Mount Airy, N.C. (Photo provided)



Two Goober wannabes mug for the camera in front of a cardboard cutout of the real Goober character at last year's Mayberry Days. (Photo provided)



## Trivia Quiz

1. The character Sheriff Andy Taylor first appeared on which television sitcom?

A. The Danny Thomas Show

B. The Donna Reed Show

C. Father Knows Best

D. Leave It to Beaver

2. What instrument did Andy Taylor play on the show?

A. harmonica

B. fidd<u>le</u>

C. guitar

D. banjo

3. Which actor won five Emmy awards for his work on the show?

A. Andy Griffith

B. Don Knotts

C. Ron Howard

D. George Lindsey

4. In the "Convicts At Large" episode, one of the women said Barney reminded her of her ex-boyfriend so she began calling Barney by his name. By the end of the episode, all of the convicts and even Floyd were calling Barney by what name?

A. Sam

B. Al

C. Bob

D. John

5. How many episodes did Goober and Gomer Pyle appear in together?

A. 1

B. 2

С. з

D. 4

6. What was the Friday special at the diner?

A. fried catfish

B. catfish and cornbread

C. catfish and cole slaw

D. catfish casserole

**Answers:** 

1.A; 2. C; 3. B; 4. B; 5. A; 6. D.

# Monroe, Wis.



The Swiss heritage of Monroe, Wis., is unmistakably emblazoned on its city seal.

Half of the seal depicts the town's clock tower, a fixture in many Swiss communities; the other half depicts the flag of Switzerland

The 120-foot tower rises above the Green County Courthouse, built in 1891, the architectural centerpiece of Monroe's traditional historic town square.

Monroe, the county seat and largest community in Green County, was first settled in the mid-1830s after the discovery of lead in the region. By the 1860s, Swiss immigrants brought their expertise in dairying to initiate a cheese making industry that has remained the area's commercial mainstay to this day.

Billing itself as the "Swiss Cheese Capital of the World," the city of 10,827 hosted its first Cheese Days in 1914, an annual event drawing more than 100,000 visitors. More than a ton of Swiss cheese is used to make cheese sandwiches during the three-day festival.

The festival highlights Swiss traditions such as yodeling, alphorns and Swiss heritage music at the city's main stage and offers Swiss folk art, cuisine and delicacies, including cheesecake on a stick.

This year's Cheese Days will be held Friday, Sept. 14, through Sunday, Sept. 16.

In its heyday a century ago, Monroe and its surrounding area boasted more than 300 cheese makers, many of them small rural enterprises dotting the landscape. Consolidation eventually reduced that number to a couple dozen large factories, which annually produce hundreds of millions of pounds of cheese in more than 200 varieties.

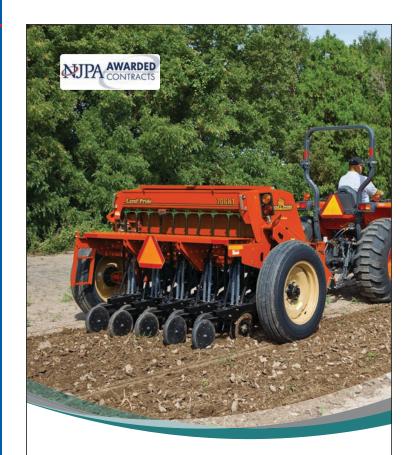
Some of the cheese factories have been in continuous operation for more than a century.

The National Historic Cheesemaking Center, located at 2108 Sixth Ave., conducts tours and maintains a one-of-a-kind interview video library showcasing individuals instrumental to the growth of the area's cheese making industry.

In 2010 the center completely restored the Imobersteg farmstead cheese factory, a family operation begun in the late 1800s.

Alfred and Anna Imobersteg, who emigrated from Switzerland in 1890, operated the factory until 1917 when they switched to transporting their milk to the Pet Milk Condensery to provide canned milk for soldiers during World War I.

On the second Saturday of June each year, the center makes a 90-pound wheel of Swiss cheese, using the original refurbished equipment from the factory. Visitors can witness the entire process.



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# Focus ow: The Engly The Engly



Minneapolis City Council voted unanimously to transition to 100 percent clean, renewable energy by 2030



Source: www.windpowerengineering.com/business-news-projects/ minneapolis-commits-to-100-renewable-energy/

# 60,000

The number of water meters that are in Lakeland Water Utilities' system in Florida. About 3,000 have been converted to smart water meters.

For more on how smart water meters are saving time and money, visit page 28.

95

Benton County, Ind., saw 95 new jobs, both temporary and permanent, arrive after welcoming six wind farms, plus a wind-solar farm.

Read more about wind farms on page 32.



Fitchburg, Wis., installed 362 kW of solar photovoltaic panels, which can generate enough electricity to meet about 10 percent of city operations' usage.

Learn more on page 24.

# 20 percent

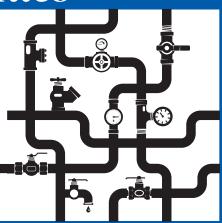
Providence, R. I., launched a voluntary energy savings program to challenge the owners of large buildings to achieve a 20 percent reduction in energy by 2025, measured against a baseline taken in 2015.



Source: www.usnews.com/news/best-states/rhode-island/articles/2018-04-30/ providence-unveils-large-building-energy-efficiency-program

# 4.3 Miles

The amount of piping Duluth, Minn., plans to replace every year. Its water system has over 400 miles of pipes.



Read how cities are continuing to address aging water infrastructure on page 18.

# \$1.9 Million

The town of Hartland, Maine, received this amount in grant money from the Economic Development Administration to make critical water infrastructure improvements needed for the region's business community.

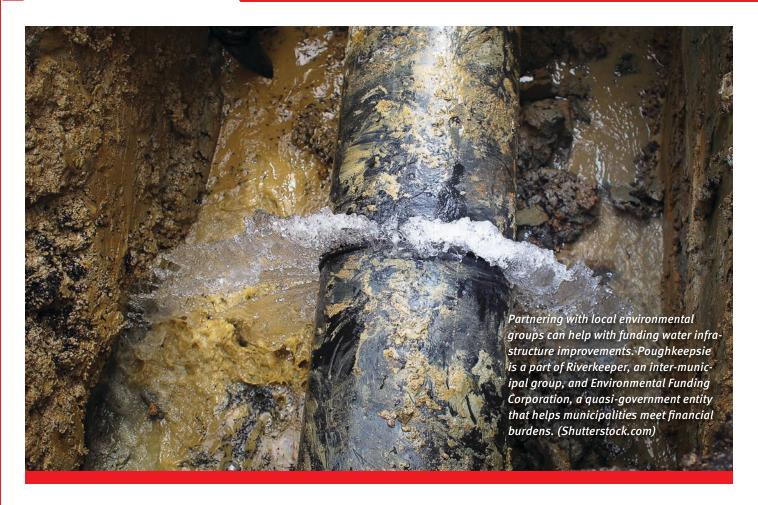
Source: bangordailynews.com/bdn-maine/community/u-s-department-of-commerce-invests-1-9-million-for-water-infrastructure-improvements-in-hartland/

\$1,000

Orange County Water District in California pays about \$1,000 per acrefoot to draw water from faraway rivers and reservoirs; the unsubsidized cost of its recycled water is \$850 per acre-foot.

Source: e360.yale.edu/features/instead-of-more-dams-communities-turn-to-reusing-wastewater





# Staying ahead of the unseen

By ELISA WALKER | The Municipal

Households and businesses having some sort of filtration system for water is becoming more and more common as the concern about fresh drinking water grows. With most water pipes having been installed around the '30s and '40s, some even earlier, the impact aging water infrastructure creates is becoming more apparent. It may be out of sight, but it isn't out of municipalities' minds, with many taking initiative on the matter.

#### Where's the money?

Funding is the primary challenge cities face when it comes to healing their water infrastructure. There are various grants, loans and programs available, depending on the state and location of the city. For Poughkeepsie, N.Y., the state created the Clean Water Infrastructure Act in 2017 to assist municipalities with replacements. Poughkeepsie received a \$544,754 grant in March, which will go toward replacing lead service lines. While it wasn't something the city intentionally sought out, it quickly took advantage of the opportunity once realizing it was eligible.

"We're in the process of designing and rolling out a program that's going to start working on that important replacement. When the opportunity presented itself, we were quick to jump on it," stated Poughkeepsie City Administrator Marc Nelson. "We have a lot of work to do on the sewer side and are working with our grant writers for some funding so we can get in there with a high-definition camera.

"There's some cool high-tech stuff that can look for hairline fractures, and we can do studies that weren't really available years ago. Technology has come such a long way



One of several repairs made by the city of Duluth. A wide array of technology is available today, giving cities the ability to specifically locate hairline fractures in pipes and listen for disturbances that would lead to a leak. (Photo provided)

that now it's possible for us to get in the sewer system and really look at it."

The city has completed a variety of water infrastructure improvements, such as upgrading the water power plant and a reservoir replacement project, all of which were funded through the Environmental Facility Corporation and state aid grants. There are also several environmental groups, some of which are made of local municipalities, that have partnered with one another to address various water-based projects, including protecting water at the source.

"One thing we discuss consistently is that this is an old city, at least 300 years, and we have aging infrastructure under the street," commented Poughkeepsie Mayor Rob Rolison. "We always say it's not about what you see. It's what you don't see that you need to be concerned about. That's all things, from stormwater separation to regular municipal water pipes. Water is life and the key to economic development."

Several cities across Minnesota are addressing the replacement of leaking pipes, but Duluth is doing something a bit different—rather than borrowing money, it is raising the rates by 4.7 percent over six years. Multiple public meetings were held, giving Eric Shaffer, Duluth's chief engineer of utilities, the opportunity to speak with various groups, educating them about the problem and the reasoning behind the rates rising.



As stated by Chief of Utilities Eric Shaffer, 1 percent of piping should be replaced per year in Duluth, Minn. If not, then the city is falling behind. (Photo provided)



The six-year water rate plan will continue to rise until 2023, resulting in a total increase of 28 percent in Duluth. (Photo provided)

As to be expected, some understood and supported the idea while others didn't.

"We're trying our hardest to pay cash for everything we do, though we do have to borrow money every so often," said Shaffer. "Historically, we've learned from our sanitary sewer fund that if you just continue borrowing money, eventually you'll pay more than the actual work being done. So we're trying to build up cash revenues and rates.

"The target of that is to build up enough revenue so the city can replace 1 percent of the system per year. We have over 400 miles, so we're attempting to do 4.3 miles of piping every year. We're just watching our spending and putting everything into capital."

Duluth faces 280 repairs a year on average, costing the city quite a bit when it comes to crews working overtime as well as project expenses. In retaliation, the crews have been targeting the worst water mains as their first step in battle. Fixing those mains will cut down on overall expenses.

#### **Coordinating across the board**

Coordinating with other departments and organizations is another challenge both cities have faced. There is no greater frustration than having to tear up a newly paved road in order to fix a leak or replace pipes. Roads within city limits owned by the county or the Department of Transportation may have road replacements occur without any prior communication, posing an issue for water utilities.

"In the past, if the water utility didn't have lots of money, it would rebuild the road without replacing the main. We've done everything we can to stop that," elaborated Shaffer. "If DOT or the county are going to do any major road repairs, it's imperative that the city replace the main underneath that road. While we try to focus on the mains with the most amount of breaks, we have a strict policy that if the main is more than 80 years old and they're doing reconstruction, it gets replaced no matter what. Even if it doesn't have breaks."

By planning ahead and looking at road projects, Duluth and other cities can partner with another funding agency to save money, making those the least expensive water mains. Joint projects with other entities save the city from having to rip up and restore the pavement on its own.

## Making the next move

Making the first move is the biggest step as it will propel the city into an ongoing spiral for constant projects. In Nelson's words, there is no rest for the weary. It's easy to become overwhelmed with the messy maze of old pipes that go for miles and miles, but it is important to take a step back to observe the situation objectively before prioritizing.

"What you can at least do is study what you've got and what type of funding you may need—then prioritize," advised Rolison. "Talk to your fellow municipal officials because there's so much great



information out there. Finally, you should probably educate the public on these infrastructure challenges."

"Obviously the problems don't develop overnight. They develop over decades or longer," explained Nelson. "It's a question of finding out what you got and where the problems are. Poughkeepsie is a small municipality. I think it's important that our constituents are fully informed about the issues as early in the process as possible."

Informing and educating the public over the importance of replacing aging water infrastructure is imperative. While drinking tap water a couple decades ago didn't impact a person's health, that isn't the case today. Clean water goes beyond basic public health to environment and economic vitality as well. It can't be helped when things get old and need to be replaced.

Understanding the estimated life expectancy of pipes and installing materials that will last 100 years, while fitting well with the area, is something that will help cities stay ahead and create progress for the future. Waiting only hurts the city, eventually making the situation costlier as time passes.

"The hope is that over the next 10-20 years, we can figure out a situation where we don't have 280 repairs a year," said Shaffer. "We want to substantially reduce overall repairs and put money toward replacement, creating less disruptions in the water system, which will better fire protection and leave smoother streets."



There is federal and state funding available for a wide variety of water infrastructure improvements, ranging from tests to pipe replacements. (Photo provided)







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# Fargo, N.D., shares its successes as the Georgetown University Energy Prize winner

By NICHOLETTE CARLSON | The Municipal

# Those most surprised by Fargo, N.D., winning the Georgetown University Energy Prize were those who had worked so hard to make it possible.

The idea got started when Malini Srivastava, architect and project leader, noticed that most existing buildings are energy hogs and wanted to come up with new and innovative ways to fix the problem. "No one expected Fargo to be the winner," she mentioned.

## Working as a team

In order to start brainstorming new ideas, Srivastava approached city officials and asked them to consider participation in the two-year competition. The city of Fargo, North Dakota State University, North Dakota Department of Commerce and the local school system teamed up to begin formulating new ideas. The goal was to not only "impact buildings, impact people but also impact policy," Srivastava said. This allowed the fields of policy, practice and innovation to come together for the common good.

The various people involved in the project all had very clear roles, which helped to optimize the partnerships. "Each agent took on a part in the continual collaboration. One of the reasons for the success was collaboration across agencies," Nicole Crutchfield, Fargo planning director, explained. "Through the partnership we came up with different strategies."

These strategies allowed the team to decide on a stated declaration, which was necessary for the competition, so that its design was both qualitative and quantitative.

The utility companies, Xcel Energy and Cass County Electric, were also brought in so that the city could get energy numbers that could be used to help visualize the data. "Part of the hard work with the team is working with utility providers and engaging with them to curate data and get it into accessible form so we have something to measure against," Crutchfield stated. This led them to target ways in which schools and residences specifically could lower their energy usage.

Comparing its own municipal building's energy usage to regional and national benchmarks allowed the city to participate in saving energy as well. Building assessments were performed and energy-efficient renovations were suggested with schools choosing to make some renovations on their own. This also helped to identify policies that may need changed, for example, facility management. Participation in the competition allowed the city to look at the purpose and



One of efargo's interactive, family-friendly activities was the earth piano at Party for the Planet held at the local zoo. (Photo provided by efargo)

efficiency of policies and, according to Crutchfield, "bring knowledge and technology to influence codes and practices."

Instead of simply passing out pamphlets, the team created games to encourage community participation. The city had already shown itself to be motivated with a variety of programs so finding spots in community events did not prove to be difficult. At these events, team members would have residents play the games first, adding an extra element of fun, before discussing ways to drop energy usage. "First play the game, then engage them in conversation," Srivastava noted.

The online game, Waste-A-Watt, became one of the team's best programs. In the game, the player tags a building with energy waste and then solves various problems in order to catch Waste-A-Watt, the villain. Designed to engage both children and families, this program taught residents "how to change behaviors in a fun and



Throughout the two-year competition, those working at efargo came up with a variety of games to get the community involved with saving energy while also showing them ways that the average household could help. (Photo provided by efargo)



At the Party for the Planet at the zoo, children were invited to help choose and color the villain (shown right) of one of efargo's most popular games, Waste-A-Watt. (Photo provided by efargo)

engaging way," according to Crutchfield. This allowed the team to collect data, design different games and strategies, implement them to see how they worked and then come back to the data again so that the community can see the results and the difference they are making in their own community.

Crutchfield suggests that it was so many agencies working together successfully that really helped them to win the competition. The city is "used to having to collaborate to get things done," Crutchfield mentioned, which may not be the case with other cities. The leaders in each field created and achieved common goals and brought the community along with them in their successes. With so many people working together to better the town, it helped to raise morale.

"It showed that we can locally solve big problems," Srivastava said. "The people power matters the most."

#### Plans for the future

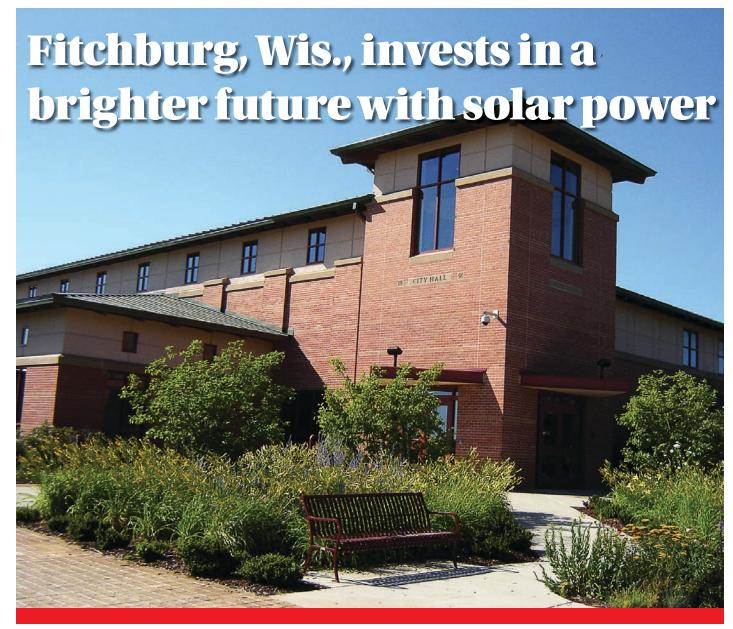
A large opportunity that Crutchfield noticed was the lack of awareness with technology. This allows the team to focus on opportunities for more training and keeping up with the latest technology while being able to adapt and learn the skills necessary to adapt the use of technology. Therefore, integrating day-to-day energy-efficient practices and improvements that can benefit the average homeowner is an ongoing goal.

Those instrumental in helping Fargo, N.D., win the Georgetown University Energy Prize are shown with the award plaque. The city was able to save nearly 172 BTUs of energy and reduced carbon emissions by 49,719 metric tons. (Photo provided by efargo)

Winning this competition has given them access to more financing, more education on components of energy efficiency as well as help from experts in the field. A K-12 challenge has been created in which they are taking the knowledge they gained from this competition and sharing it with neighboring towns. The team has a new game in the works that is designed to

specifically help lower income families.





By LAUREN CAGGIANO | The Municipal

# It may not be the sunniest place in the country, but one Wisconsin municipality is harnessing the power of solar for energy and future cost savings.

Fitchburg, Wis., installed 362 kW of solar photovoltaic panels on the roofs of the library, city hall, public works maintenance facility and a fire station in 2017. Solar panels can generate electricity, capture and store thermal energy and they may even take the place of more conventional building materials.

#### **Shared goals**

Fitchburg is not alone in this quest. In 2014, the Database of State Incentives for Renewables and Efficiency, or DSIRE, identified 36 medium and large cities in 15 states that also have goals or requirements for energy efficiency or renewable energy usage in municipal buildings. Salt Lake City, Utah, is



Fitchburg installed 362 kW of solar photovoltaic panels on the roofs of the library, city hall, public works maintenance facility and a fire station in 2017. Pictured is Fitchburg City Hall's North Reading Garden. (Photo provided)



**ABOVE LEFT:** Fitchburg City Hall in Wisconsin was one of four municipal buildings to have solar photovoltaic panels installed on its roof. The panels have allowed the city to meet about 10 percent of the electricity used by the city's operations. (Photo provided)

a recent addition to that list. According to a statement from the mayor's office, this latest round of completed installations doubles the total number of municipal sites with solar energy to 14 separate facilities.

Total net project costs were approximately \$500,000 for all seven sites, the statement said, and will be paid back in utility savings within the warrantied lifetime of the solar panels.

"Salt Lake City is committed to powering our government operations, and ultimately the whole community, with 100 percent renewable energy," Mayor Jackie Biskupski said in the statement. "This latest round of projects puts solar panels in seven distinct parts of the city, increasing access and visibility to the transition to clean energy that is underway."

## Thinking big

Fitchburg, though a smaller community of just under 29,000, is a leader in the forward-thinking charge in the Badger State.

City Administrator Patrick Marsh, who's been with Fitchburg since 2015, is the catalyst behind this move. Previously the city administrator at Monona, Wis., he said they had luck with solar power there and he believes it's the largest municipal solar investment in the state. According to Monona's website, the solar arrays on four municipal buildings produce 210,000 kilowatt-hours of clean energy per year, equating to 30 percent of the buildings' combined electricity usage.

"So, when I came to Fitchburg, a lot of elected officials were interested in the (solar) program," he said. "We have lots of roof space on municipal buildings. We thought it'd be a good opportunity to save space and do it right."

Late last summer, the city council approved the installation of the solar panels on the four municipal buildings with the generation capability to meet about 10 percent of the electricity used by the city's operations. According to Marsh, the quarter-million-dollar project was funded through capital improvement funds.

### **Gauging ROI**

And they are already yielding results. He said despite the colder climate, they've seen significant results in the winter months, with "peak" volume being in the summer. This translates to energy generated and carbon savings.

"There's definitely been a savings in line with what we've been told." he said.

Other more qualitative measures include public sentiment. Marsh said he's heard positive feedback from taxpayers, some of whom showed up at a city council meeting. "They like saving tax dollars and looking at renewable energy sources to save energy and costs."

Although Fitchburg is generally happy with its solar program, Marsh said municipal leaders in other locales need to be aware of the cons. For example, it can take seven years to experience the full return on investment, which may be longer than other types of power. Maintenance due to wind and hail is also necessary, especially in Wisconsin's climate. The panels are very durable, but damage does happen, he said.

#### Longer-term thinking

At the end of the day social responsibility often enters into the equation, too.

"The payback period is short enough that you can convince the public (that it's a good idea)," he said. "It's the right thing to do."

Other groups agree. According to the National Renewable Energy Laboratory, the United States can generate enough solar energy from rooftops to meet nearly 40 percent of the nation's electricity needs.

Marsh said other neighboring municipalities are following suit because they are seeing Fitchburg's success. Plus, there is an attitude of longer-term thinking.

The panels, on average have about 30-year lifespans. Although, Marsh said that with technology advancing like it has been, he expects "bigger and better" things from the industry in the future, which may make the investment more profitable.



Salt Lake City, Utah, has installed solar panels on 14 separate facilities as part of its goal to power its government operations, and ultimately the whole community, with 100 percent renewable energy. (Shutterstock.com)





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By BARB SIEMINSKI | The Municipal

## Okay, girls and boys, which noted English poet who co-founded the Romantic era penned the immortal words, "Water, water everywhere/nor any drop to drink"?

If you answered Samuel Taylor Coleridge, in his poem "The Rime of the Ancient Mariner," you get a gold star - and you get two gold stars if you are an employee of a public works department.

Because water is essential to life, we're all greatly indebted to those who make sure it is clean, fit to drink and abundant. Additionally, we are grateful to those folks who find ways not only to improve our water supply, but also correctly measure it so that there is enough for all.

Robert Conner, director of water utilities in Lakeland, Fla., volunteered some information about new high-tech water meters in his

"Lakeland Water Utilities and Lakeland Electric are both departments of the city of Lakeland," said Conner, "and while separately funded, managed and operated, we

do share some administrative functions like billing. We also share a lot of IT infrastructure with the rest of the city. Several years ago, Lakeland Electric implemented Smart Grid for reading and billing. This also gave them some monitoring and control of their distribution system."

According to Conner, for economic and tactical - Department of Energy deadlines - reasons, Lakeland Water Utilities did not implement simultaneously because the city recognized that continuing manual reading in parallel with centralized automated reading is an ineffectual way to generate a shared bill.

"Therefore, we have been working to build a compatible hardware and software solution to allow the water meters to be read and billed by the same hardware and software as used by Lakeland Electric," said Conner.

"Several hundred meters of various configurations were deployed across the service territory. These have been monitored for several years. We have solved most of the issues found and have the remainder being worked on. Mass meter deployment started in December 2017, with a five- to six-year plan. This work is being done by city forces. Had Water Utilities been operating without the association with Lakeland Electric, we probably would have made some different choices. However, our relatively rare partnership has made this choice the best for us."

Professional Meters Inc., a 1999-founded company in the automated meter-reading industry, is based out of Morris, Ill., and has offices in Florida, Missouri and California. PMI has successfully installed more than 1 million Automatic Meter Reading and Advanced Metering Infrastructure-equipped meters.

Don Shuler, PMI sales director, said the company is a product-neutral utility meter installation contractor and doesn't actually represent a product or a specific meter brand



This photo shows the completed AMI installation, with only the MXU's transmitter being visible above the ground. (Photo provided by Lakeland Water Utilities)

but has installed just about every brand of intelligent metering system in the U.S. market. When it comes to installation, Shuler said

the greatest challenge for indoor meters is scheduling an appointment with customers to get in the house and down to the basement in order to change the meter.

"In most cases, we can get 85 percent to 90 percent of the accounts scheduled. It's the remaining vacant accounts and 'snow birds' we have trouble accessing," Shuler said. "In some cases the water lines are deteriorated, or valves don't function properly. In those cases, plumbing repairs are required and additional costs are incurred."

In Lakeland, Raymond Hoppenworth, CPM, smart grid systems manager with Lakeland Water, said the biggest challenge has not been accessing the basement water meters "because in Florida there are very, very few basements."

Hoppenworth added, "Our biggest challenge is that the technology is relatively new, which means the software is not as mature as it could be. The bells and whistles are not as numerous as they could be and the integration to other software applications is also more challenging.

"We have about 60,000 meters in our system, and about 3,000 of those have been converted to smart water meters so we have a ways to go. It will be approximately a five-year process to convert everything to smart water meters. We're using a mixture of both mechanical and solid state, with an emphasis on mechanical."

Lakeland also has an opt-out program for its residents, noted Hoppenworth.

"If a customer has concerns about smart meters, electric or water, and does not want one installed at his/her location, we allow that customer to opt out of our smart meter program; however, their meter has to be read monthly through a manual meter reading process, and there is a fee that is associated with opting out that covers the cost of that meter-reading process."

Frances Fyten, an associate of Reputation Partners Communications in Wisconsin, shared the success of Merced, Calif.'s, installation of Badger Meter's smart water meters when the notorious drought hit the San Joaquin Valley in northern California in 2014 and 2015.

"With the city's expanding population (81,743), the water system division also needed to have the flexibility of addressing a growing system," said Fyten, who went on to say that the city devised a multistep approach, which included:

- Installing additional meters to address an unmetered portion of its system; and
- Implementing a more efficient meter reading solution - it originally took two



Scheduling a time to install a smart water meter in the basement of a home can prove challenging, especially with vacant accounts or "snow birds." (Photo provided by PMI)

workers more than a week to read all of the meters within the system.

Fyten also noted that by installing cellular endpoints alongside Badger Meter's cloud-based analytics platform, BEACON Advanced Metering Analytics, the utility vastly improved its response time, efficiency and reliability.

"It was able to identify and address leaks within the system in 24 hours compared to every 30 days, per its original billing cycle," concluded Fyten.

Rolling Meadows, Ill., is another town that is proud of its Smart Point meter program. Its website offers the advantages of the newer meter system, which included:

- · Customers' water meter will be read monthly and the bill will be for actual water usage each month;
- It meets regulatory requirements from state and federal agencies;
- Minimizes water losses and increases water meter flow accuracy;
- Makes water leaks easier and sooner to detect: and
- Allows the city to notify residents and businesses of plumbing issues in a timelier manner for quicker resolutions.

When asked what advice he would give cities that are contemplating the switch to

high-tech water meters, Hoppenworth did not hesitate to answer.

"Ask for and check references, and ensure that the communication method is solid," said Hoppenworth. "For example, if you're using cellular service, is it going to be expandable as the cellular changes, or if you're using radio frequency, will any interference cause issues with the communication?"

Another bit of advice is that project planning for both now and 15 to 20 years is very important, according to Hoppenworth, because a smart water meter's life expectancy is 15 to 20 years.

"If the new smart meters are installed in a short period of time, they will have to be replaced in the same amount of time as they reach their end of life," said Hoppenworth. "The cost may surprise some utilities if they do not consider the next generation of smart water meters.

"This is one of the reasons we are installing them with internal resources over a five-year time frame."



Pictured is a 4-inch Neptune FM meter, which is connected to a Sensus MXU. The Sensus MXU will retrieve the readings from the Neptune water meter and transmit them to a tower where the data will be passed to a database." (Photo provided by Lakeland Water Utilities)











By ELISA WALKER | The Municipal

of wind turbines and wind farms has become quite the topic of discussion in rural areas throughout the country. Multiple sides are drawn—the side that strongly opposes wind turbines for a variety of reasons, the side that strongly supports the idea and the side that doesn't understand what the big deal is. No matter which side it is, it's important to get the facts straight and speak to communities with firsthand experience on the matter. Ultimately, it's the people's decision.

## Wind energy friendly communities

In places like Benton County, Ind., where the wind is perfect for renewable energy, astounding benefits and outcomes from wind farms outweigh the aesthetic wants of a few. The county will have a total of six wind farms by the end of 2018, including a wind-solar farm on the county home property where money generated will go directly into the home to support and better the lives of the elderly. The reason Benton County is running out of room for wind farms is because government officials are listening to the voices of the people.

While brainstorming of ways to better the county, a company approached landowners about the idea of leasing their land for wind farms. Not wanting to stand in their way, the county began researching ways to create appropriate ordinances — making Benton County the first in Indiana to welcome wind energy.

"I think there were a couple people who were put-off by the idea, but there wasn't a major opposition. I think they just had questions," stated Benton County's director of economic development, Paul Jackson. "Not everybody is extremely happy with the turbines, but at the same time, they understand. The roads in our county are phenomenal. The school systems received \$3 million so far, our libraries have benefited, we'll be able to stretch the economic development money

**ABOVE:** Wind turbines can greatly benefit rural areas' economy, allowing farmers to continue working on the land while also receiving additional income from rent money. (Photo provided)

out to 2038, we have lower taxes and resale values of housing have actually increased."

"It brings so much good. The turbines kind of become like telephone poles. You don't really see them, they're part of the landscape. At the end of the day, it's up to the landowners. Our local government doesn't think the government should be getting involved in landowner decisions. They should be helping them and do everything they can to support the people who are paying taxes."

Communication with other communities in Illinois and Iowa was important for Benton County's government and landowners, who were able to know what was fair for everyone and what ordinances would be best suited for them. With heavy equipment rolling across farmland where tile can be crushed, there were a lot of technicalities to be covered if the land became damaged such as who would fix it, when it'd be fixed



The Benton County, Ind., community held an Amazon Wind Farm Fowler Ridge dedication in 2016. Wind farms have been present in the county since 2007. (Photo provided)

and how. One commissioner took the initiative to organize the landowners and ensure everyone was on the same page, avoiding any possible miscommunication or confusion.

For Pasquotank County, N. C., officials looked to northern then western states to communicate with areas of similar terrain. The wind farm stretches across Pasquotank and Perquimans counties, across very flat land with nothing around for miles, which is referred to as "the Desert." The county looked to other places that had wind farms and learned from them, letting the ordinances be heard by the public for inquiries or concerns.

"We looked at Montana and Wyoming ordinances that were aimed more toward flat areas like us," said Shelley Cox, director of Pasquotank County planning. "We didn't have an ordinance that would allow this kind of project so we started moving forward with researching and composing an ordinance that would allow a utility scale within the county. It was a boom for the county, and economically, it's been a benefit to the community."

Along with creating ordinances that best fit the area, Pasquotank County is



Areas in and outside the U.S. have concerns about turbines hindering the natural landscape or hurting tourism. (Photo provided)

located near naval facilities and a large Coast Guard base air station, meaning that they had to coordinate with each other to avoid impact on military and commercial air facilities. Benton County's ordinances include reduced light flickering, which comes to less than 30 hours a year. Jackson also commented that the residents haven't had any noise complaints or health concerns



Construction of the Desert Wind Farm in Pasquotank County, N.C. While the turbines only take up a fraction of space on the land, much construction takes place. (Photo provided)



The few people who opposed the Desert Wind Farm weren't actually neighbors to the properties that would be hosting the wind farm. (Photo provided)

from the turbines. The payback from going forward with the wind farms has been great for the county, but there were still things they would've done differently.

"You don't know what you don't know. There were a lot of things we could've done different at the beginning," explained Jackson. "We started off okay but we didn't do

great for the farmers. When the next phase came along, we fixed a lot of those things and then found more to fix from there. At this point, we've done it enough times and signed enough contracts that we know what we're doing, how to do it and do it quickly."

# Other benefits in Benton County:

- Over 95 new jobs were brought to the county, temporary and permanent
- A tourism center was established for wind tours and information on wind energy
- Due to the income generated from the wind farms, the county's debts were paid off while monetary gifts were distributed to better various parts of the county

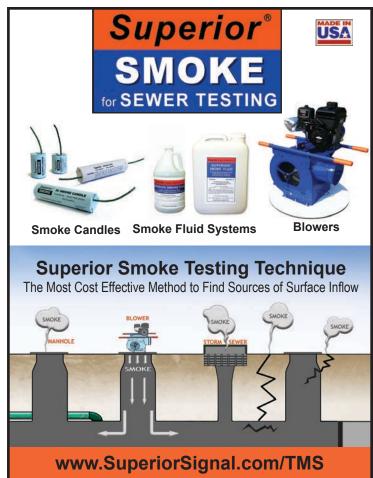
#### The opposition

Some areas experience strong opposition from government officials, citizens or both. The reasons vary, from worries about noise and blinking lights to lowering property values and health issues. No studies have proven that turbines create health issues in humans, but rather wind turbines are clean energy where there is little opportunity for pollution. People also think the turbines are too hideous, commenting that it's something they don't want to have to look at. There are concerns of wind turbines killing a large number of birds, but it should be noted that tall radio, TV and other towers along with windows kill more birds than wind turbines. Some places faced opposition from residents who were worried about property restrictions since wind farms could be as close as 900 feet to property lines.

With wind farms being a large investment where many things could go wrong, some communities find it intimidating from the start and settle for not messing with the idea. It's time consuming, not easy and mistakes will be made that could create long-term impacts unlike mistakes on smaller projects. Benton County has seen the payoff as have other areas, and it believes the right choice was made for its community.

"It's obvious that you're going to have enough opposition in certain places that you're not going to have wind farms everywhere," Jackson commented. "That's okay. I don't think wind farms need to be everywhere. Maybe some areas have experienced property value loss, that just isn't the case for us. If you don't want one in your area, don't put one up. It's a personal choice."







# **Engineering results:** Roswell's Danelle Murray is honored for her work

By JULIE YOUNG | The Municipal

Danelle Murray, P.E., does not fit the typical stereotype of someone in the engineering field. She does not wear a pocket protector. She is not an introvert, and she does not speak in mathematical equations. In fact, she is a bubbly and stylish woman who is passionate about problem solving, enjoys talking about her work and has recently renewed her interest in horseback riding.

"Yes, girls, you can be an engineer and still have a pony!" She laughed.

The senior technical analyst for the Roswell Environmental Public Works Department was also selected as the Professional Manager of the Year in Water Resources for the American Public Works Association in September of last year. Murray said she was honored and flattered to receive recognition from the organization, which is geared specifically for those who work in the municipal sector and that being nominated by a former boss was especially nice.

"I feel valued as an employee," she said.

A graduate of the Colorado School of Mines, Murray spent the first 15 years of her career doing water resource work and general civil work before moving to Georgia in 2003 in order to take a position with Wolverton & Associates where she continued to innovate the field of water quality and stormwater management through a variety of projects. Although Murray loved her work in the private sector, she longed to be in the public sphere where she could help set the bar on policy and make a difference for those who lived and worked within a community. She has been with the city of Roswell for 10 years and said it is a great place to work.

Murray said being part of a city is a lot like being part of one big project with a lot of arms. She said municipal departments such as hers have one goal in mind: to represent the people who do not have a seat at the table yet.

"We make decisions that we will have to live with for 20-30 years down the road, so it is incumbent upon us to be thoughtful and protective of future generations," she said.

According to the APWA, Murray was recognized in part for leading innovations in water system modeling, stormwater modeling and the promotion of sustainable infrastructure — something she is especially passionate about. She said whenever she works on a project, it is her goal to channel water in such a way that it mimics the natural water cycle as if the property were not being developed at all. Her efforts have allowed the city of Roswell to identify and implement alternative measures for



Danelle Murray, P.E.



Danelle Murray isn't afraid to literally get down in the trenches as a part of her career as an engineer. Murray was recognized by the American Public Works Association in part for leading innovations in water system modeling, stormwater modeling and the promotion of sustainable infrastructure. (Photo provided)



LEFT: A drone
snaps a photo of
Roswell, Ga.'s, new
water plant. The
project started in
April of 2014, and
the plant started
officially serving
the community in
March 2016. (Photo
provided)

managing stormwater such as rain gardens, swales and pervious pavement—instead of detention ponds.

"We have done a fair number of new projects, but we have a lot of old infrastructure here as well, and we are slowly evaluating those old systems to see how we might be able to improve them," she said. "Unfortunately, we are limited in what we can do. It often costs more to remodel an existing system as opposed to creating a new one from scratch."

One of the most recent projects Murray worked on was the replacement of Roswell's old water plant with a new one — a project that began in April of 2014 and was managed though the city's own staff as well as Layne Heavy Civil Inc. Murray said this project was especially tricky because the city had a small budget, which required her to get creative if she planned to get the job done.

"We trimmed the project budget as much as we could, but it was never enough," she said. "We still couldn't afford the \$15 million in construction costs."

In the end, the plant was paid for using a 20-year loan through the Georgia Environmental Finance Authority at a 1.4 percent interest rate. Murray got to be part of the process from start to finish and took an ownership role in the construction of the plant—something that does not always happen. The new plant began producing and distributing water to the utility's 5,500 customers in March of 2016.

"It ended up being a really great project and showed that you could have a nice outcome from limited sources," she said.

Although the number of female engineers has grown in recent years, Murray said there is still a need for additional women in the field and she hopes more girls begin to look at engineering as a possible career path. She said that, at its core, engineering is about problem solving, something women are especially well suited for. Engineers strive to find practical and pragmatic solutions to various problems while prioritizing projects and meeting budgetary constraints. She said engineering allows her to wear many hats, be autonomous and creative and — thanks to today's technology — have the flexibility to work anywhere and everywhere.



Roswell's new water plant has the treatment capacity of 3.2 million gallons per day. The project required a lot of creative thinking to work within a small budget. (Photo provided)

"That is the best thing about my work," she said. "I have three children that I have raised more or less on my own and being an engineer allowed me to work part time in order to stay involved with my career while raising my kids when they were young. I got my PE (professional engineer) when my girls were little; and when I had my third child, I worked from home, which allowed me to be the kind of parent I wanted to be while still enjoying a fulfilling career."

Murray said while it is important to have some mathematical aptitude and a head for science, it is important for a woman to be patient with herself and understand that she is naturally hardwired to be an engineer.

"We know what it is like to operate within a budget, prioritize the things you need to have in order to get the job done and to be creative when things don't go according to plan. It's the kind of field that allows all of your abilities to shine through. I am proud to be part of it and I am proud to be recognized for my work," she said.



By CATEY TRAYLOR | The Municipal

Roundabouts are associated with a long list of benefits to municipalities: increased safety for both pedestrians and motorists at intersections, improved traffic flow, reduced injury crashes and the opportunity for beautification in the heart of cities, to name a few.

The feature is recognized across the board as one of the safest types of intersections a city can have, but that's not the only reason they're popping up more and more frequently across the nation, especially in the last decade. According to data from the Federal Highway Administration, the conversion of signalized intersections to round-abouts not only decreases traffic-related fatalities by 90 percent, but increases road capacity by 30 to 50 percent.

"People tend to die at intersections one of two ways: head-on collisions or broadside crashes. Roundabouts virtually eliminate the possibility of those two types of accidents," said Craig Bryson of the Oakland County Road Commission in Michigan. "Of course, we like them for safety, but secondly, if we can increase road capacity by building a roundabout and not having to widen the road, that's a huge savings for us."

Cost aside, roundabouts are a convenient way for cities to direct the flow of traffic without being too disruptive of an already-established traffic pattern. But, is this the case for all users of the road? Emergency response vehicles, which tend to be very large and have wide turn radiuses, present a unique situation to city planners incorporating roundabouts on popular response routes.

Bryson said cities recognize the challenges emergency vehicles might face and take measures to ensure the length and turn radius of the trucks are taken into consideration.

"When we're looking at a design, we always take into account the needs of emergency vehicles," he said. "From a design standpoint, that would most critically be the large firetrucks, so even our smallest roundabouts are designed with them in mind."

Features added to roundabouts to cater to the needs of emergency vehicles include large turn radiuses, width of thru lanes and special attention paid to the layout of curbs.

"The curb is sloped on the inside island so vehicles can drive on it. That's intentional so larger vehicles, whether they're emergency response vehicles or large commercial trucks, have the ability to compensate for a sharp turn by driving on the island," Bryson said.

**LEFT:** When planning road alterations, the inclusion of emergency personnel in the process can save a lot of headaches in the future, whether those changes are a roundabout, speed bump, rumble strip or reduction in road size. (Shutterstock.com)

**RIGHT:** Roundabouts are often designed with larger fire apparatuses and commercial trucks in mind, with special attention being paid to the width of thru lanes and the layout of curbs. Pictured is the Northwestern Connector Triangle in Oakland County, Mich. (Photo provided)

Derek Leuer of the Minnesota Department of Transportation echoed Bryson's points, adding that roundabouts in some cities are already extra wide due to the nature of the vehicles regularly on the road.

"In Minnesota, most roundabouts are designed to handle large tractor-trailer combos. Most fire trucks usually fall within the turning radius of these other large vehicles," the safety planner said. "If there are special considerations, those should be vetted and handled during the design phase."

But even despite the best attempts of cities to accommodate all motor vehicles. sometimes the efforts fall short. For the average driver, a roundabout is just another feature of their daily commute. But for operators of emergency vehicles, the addition of a roundabout on their route can impact response time and make navigation tricky.

Mike Wilbur, a retired New York Fire Department lieutenant and industryrecognized expert on emergency vehicle operations, said roundabouts can cause big problems for emergency response teams.

"I generally tell the people I train to get in and out of a roundabout as quickly as they can," he said. "But that's not always easy. Some of the trucks, especially fire trucks, are between 50 to 60 feet long, and you don't want to drive something that big around a roundabout too quickly. The way they're designed, you're pretty much pinned in. The turn radius for some of our trucks is so wide that there's no way for them to gracefully move through the traffic circle."

Wilbur said that drivers of emergency response vehicles are held to a higher standard than the average driver, but roundabouts often cause them to be put into less-than-desirable situations.





Commercial semi-trailer trucks routinely navigate the M5 roundabout in Oakland County, Mich. The roundabout is designed to compensate for the trucks' wider turn radiuses. (Photo provided)

"Some roundabouts are wide and can handle the size of an apparatus that we're bringing through, but many more cannot," he said. "Trucks end up having to drive on outside curbs or drift around the circle to get through."

Roundabouts aren't the only modern roadway addition that present challenges to emergency response vehicles, however.

"Speed bumps, rumble strips and the recent trend of shrinking streets all hinder us doing our job," he said. "The best thing a city can do is consult closely and regularly with their emergency response teams before altering the streets."

So, what should a motorist do when they see lights and sirens behind them in a roundabout?

"If you're in a roundabout and see an emergency vehicle coming toward you, get out as soon as you can," Wilbur said. "Whatever you do, don't pull onto the roundabout's shoulder - that doesn't give us enough room. Exit the circle and simply pull onto the shoulder like you normally would." M



By BARB SIEMINSKI | The Municipal

Ah, summertime. Schools are out, and there are events galore, including a host of live music festivals in small towns and cities. We're looking at the economic impact of such melodic festivals in small towns and cities in addition to how planners and law enforcement are addressing security and safety concerns.

There is an abundance of headlining talent performing at many venues. While this can draw a healthy attendance, it can also come with a downside: music festivals sometimes become critical points for sexual assault and drug overdoses. This has resulted in a drop in ticket sales with big name events like Bonnaroo Music & Arts Festival and Sasquatch. And some top names have been in trouble with the law, which discourages some cities from booking them.

However, the reason for the onslaught of music festivals — both old and new — is that it is a viable path to city revitalization and tourism. Plus, these festivals could be a future move for smaller towns as a means of revitalizing their economics.

Burlington Steamboat Days in Burlington, Iowa, is in its 56th year of celebrating its popular music festival, according to Chelsea Lerud, executive director of the Convention & Visitors Bureau/Greater Burlington Partnership.

"The Burlington community benefits from \$1.76 million dollars in visitor expenditures as a result of Burlington Steamboat Days hosting the event," said Lerud. "This amount comes from a 2013 survey collected from event attendees, and these dollars include ticket sales, hotel stays, shopping, restaurants/bars, transportation, etc."

Billed as four nights — June 14-17, 2018 — of live music under the stars, the entire event is held on the banks of the Mississippi River with three stages, a shuttle bus and a lot of security. This year's headliners are the Charlie Daniels Band and Jefferson Starship, along with several lesser-known bands. The first-ever BSD Praise Fest will also be hosted during the event.

Mike Johnstone, the Des Moines County sheriff, has been generously sharing the city's incredible preparations prior to, during the event and post-festival.

"The main concern today is the potential for some sort of terrorist event," Johnstone said, adding that they have done what they could **LEFT:** Burlington Steamboat Days in Burlington, Iowa, has taken steps to not only protect attendees from terrorism, but also potential flooding from the Mississippi River. (Photo provided)

RIGHT: Drivers and snorkelers pretend to play a local artist's musical instrument sculptures at the Lower Keys Underwater Music Festival in the Florida Keys National Marine Sanctuary off Big Pine Key, Fla. The event attracted about 400 divers and snorkelers last year to listen to a Keys radio station's four-hour broadcast with music as well as coral reef conservation announcements piped beneath the sea. (Photo provided by Bob Care/Florida Keys News Bureau)



in the past and will continue to do so in the future of preparing for an event.

"We work closely with our local emergency management and we had emergency drills, tabletop exercises, which we coordinate with our local law enforcement, including the Burlington police, the sheriff and the Iowa State Patrol. We also have our own security comprised of volunteers who assist us during the event.

"We watch and listen very closely to any information that we might receive from local law enforcement that I gather from law enforcement sources of potential threats, and, of course, we constantly look for any potential threats that might be happening that day, whether it be local or otherwise."

The threat level for different events could change from day to day based on the entertainer who might be playing that night, so overall it is a very dynamic situation.

"We do have a bag check and confiscate any weapons as they are not allowed on the grounds," said Johnstone. "And again, we have local law enforcement that is paid to provide security, as well as our volunteers. We constantly reassess during the event based on the entertainer, the potential crowd size and the weather.

"Since we live in the Midwest, we have a very great potential for

strong storms, thunderstorms and lightning storms that could interrupt the event. Therefore, we look very closely for weather events and also watch the river very closely, which can flood and has in the past interrupted on a couple different occasions. We do have a

Mike Johnstone, Sheriff of Des Moines County new permanent flood wall for protection along the riverfront that is almost finished."

Final stages of the flood wall are a few years out, according to an article in the April 6, 2018, The Hawk Eye, Burlington's newspaper. Even here the festival planners have a Plan B for missing spots in the wall. If a flood seems imminent, temporary slats will be affixed to these spots. The city already has these slats, stored on trailer beds at Southeast Iowa Regional Airport ready to go. The final wall is predicted to be capable of holding back a 28-foot flood.

Despite the potential for floods, the Mississippi River adds a lot of flavor to the musical events, noted Johnstone.

"The one bit of advice that I could give any group that is planning to put on an event this size is to be sure you communicate with everyone in your community," said Johnstone, "because they are a big asset to you."

He added, "Communication is huge, planning is huge and, of course, be ready the best you can for any of these variables that might pop up. Basically, that means you're going to be planning year-round for the event; it's not something that you can do in two to three weeks; and again, it's about communication and planning preparation. Be ready for things that come out of the blue and have a good working relationship with your city partners, your county partners, your local media and your law enforcement, which is all very important when you're putting together an event of this size."

Burlington Memorial Auditorium is on the grounds and is a very large building, Johnstone said. There is also another building on hand for shelter when the weather is dangerous.

"However, we try to work very closely with the National Weather Service, and we make every attempt to keep our crowd apprised of any upcoming weather threats and give them a time frame as to when the severe weather might arrive. Lightning and wind that pop up quickly are cause for concern and we'll move the people into the

auditorium, or many of them will go home or back to their cars."

Carry-on alcohol of any kind is prohibited per the state law for liquor license and establishment.

"Burlington has a liquor license, which covers our facility and it's extremely important that we keep that liquor license healthy,

which means we cannot over-serve anyone," said Johnstone. "All of our servers go through a state-mandated instruction course so they are trained to identify intoxicated people and turn down someone who has been drinking excessively. The servers use eye-pack training and are required to successfully pass that test before they are able to serve at Steamboat Days, and that helps a lot."

The event has not had any large issues with crowd control at all, and even the big assemblies of 10,000-plus people have been cooperative.

"The Iowa code dictates that all bars and the drinking have to be all picked up and everything closed down by 2 a.m.," said Johnstone. "During the week, we're usually closed down by 12:30 a.m. and on weekends we wrap everything up about 1:30 a.m."

Asheville, N.C., holds music festivals in the summer, but city leaders moved these events to Community and Economic Development

"Communication is huge, planning is huge and, of course, be ready the best you can for any of these variables that might pop up"

Department in 2013, according to Roderick Simmons, director of parks and recreation.

"Many viewed festivals as an economic drive and believed that there were numerous organizations in the community producing festivals; therefore, the city government should not

be competing with nonprofits' producing events," said Simmons.

"The thought was that Bele-Chere Music & Arts Street Festival, now defunct, and the Film Festival could be operated by a private group, which would save the city money. Economic Development issued RFP for Festivals."

Jon Fillman, outdoor event manager with the Community and Economic Development Department, noted of the shift, "This is a good example of a highly successful and longstanding event and how cities can evolve their approach to festivals."

Fillman said, "Today, the city's role in festivals is focused on maximizing the positive impacts and mitigating the less desirable through policy, partnerships, planning and permitting. The city maintains agreements on a three-year cycle with several nonprofit organizations, which produce a variety of outdoor special events and festivals.





Left & Right: Lower Keys Underwater Music Festival attracted about 400 divers and snorkelers last year who listened to a local radio station's four-hour musical broadcast as well as several coral reef conservation announcements, all piped beneath the sea. (Photo provided by Bob Care/Florida Keys News Bureau)



In return, city departments provide in-kind support and fee waivers at a maximum annual value set by city council."

Further in the South, the 35th Underwater Music Festival will take place in the Florida Keys National Marine Sanctuary off Big Pine Key, Fla., which is the only one of its kind in the world. Last year 400 divers and snorkelers submerged themselves to hear four hours of pipedin music of ocean-related songs by US1 Radio, as well as coral reef announcements. Some of the snorkelers even play sculpted music instruments.

This year's Underwater Music Festival will take place from 10 a.m. to 2 p.m. Saturday July 7, 2018, at Looe Key Reef. The monies from this unique event will go toward reef preservation. According to Sue Miller,

executive director of the Lower Keys Chamber of Commerce, their festival is so awesome there is no need for a police presence.

"Those who are going on the Captain Hook's Looe Key Adventure Strike Zone boats park in their lot; other divers/snorkelers park at Looe Key Reef Resort to board their boat," said Miller, "and many of the 400 divers last year came in their own boats from their own docks."

The underwater music festival itself, which draws photographers and videographers globally, truly does not make any on this venture.

"It's a community effort geared toward raising awareness of preserving our delicate reef," concluded Miller.

For more information, contact the Lower Keys Chamber of Commerce at 305-872-2411 or email executive director@lowerkeys chamber.com.





## When you find a good thing, run with it

By CATEY TRAYLOR | The Municipal

Whether it's a summer festival that can't be beat, a restaurant that's the envy of surrounding states or a unique tradition that residents embrace and love, half the fun of living in a community is taking whatever it is that community does well and running with it.

Holland is a small midwestern town with deep Dutch roots situated in southwest Michigan. Nicknamed The Tulip City due to an estimated 5 million tulips planted across town, residents and city officials alike embrace the nickname and have even branded a festival in its honor.

"Holland's roots are really found in the Dutch settlers who founded our city, and the festival is a nod to that history," said Susan Zalnis, the marketing and public relations director for Holland's Tulip Time Festival. "The festival started in 1929 when a schoolteacher presented the idea of planting tulips in honor of the city's heritage. That year, the city council approved about 100,000 tulips to be planted across town, and that has continued to expand ever since."

Today's Tulip Time Festival is a massive ordeal that draws crowds of more than half a million — the nine-day event features authentic Dutch food, a Dutch market with handmade crafts and goods, more than 50 Dutch dance performances with more than 700 dancers in authentic garb and a variety of local attractions.

Although the festival's namesake is for the popular flower, the impact of Dutch culture as a whole is apparent throughout the city. "Holland really capitalizes on the tulip and Dutch theme," Zalnis said. "You'll find Dutch influences in artwork across town, statues in gardens and even structures. The windmill at Windmill Island is not only a huge tourist attraction, but is actually one of the last authentic



Holland, Mich., has embraced the legacy left by its Dutch founders, first planting 100,000 tulips in 1929. Since then about 5 million tulips have been planted across town, and the city has also incorporated other Dutch influences into its cityscape. (Photo provided)

operational wind mills to leave the Netherlands, and it lives right here in our city."

Tulips are not to be forgotten, however.

"We're very famous for tulips, and that's something we take great pride in. Holland has won awards year after year for how beautiful and well-maintained our gardens are, and that takes work yearround," Zalnis said.

Meanwhile, across Lake Michigan, nobody knows year-round work like the farmers of Viroqua, Wis. The town is tiny — the population as of the 2010 census is just over 4,000 — but what they're cooking up has made a huge wave in the food industry.

Vernon County — home of Viroqua — has one of the highest concentrations of organic family farms in the nation. Viroqua itself has



A marching band performs in the Tulip Time Festival, which draws in crowds of more than half a million. (Photo provided)

one of the largest farmer's markets in the state, with more than 60 seasonal vendors and a packed house every weekend.

"More than 30 years ago, a group of farmers wanted to focus on small-scale organic family farms with high standards and created (what is now known as) Organic Valley right here in Vernon County," said Nora Roughen-Schmidt, executive director of Viroqua Chamber Main Street. "As the demand for organic products grew, new businesses were able to be established and flourish due to the creation of Organic Valley right in our own backyard."

Numerous eateries in the town tout national awards, and the products produced on locally owned and operated farms are sought after across the nation.

"We have a number of award-winning organizations and businesses, and they exist because Viroqua is a community that values farmer-supported business and high-quality, local products that are traded fairly," Roughen-Schmidt said.

As time has gone on and the desire for organic, farm fresh foods has swept the nation, Viroqua's prevalence in the food industry has grown tremendously.

"We are aware of tourists traveling to the area, savoring local food from family farms and spending their nights in town enjoying our colorful community," Roughen-Schmidt said. "There are nights in Viroqua during tourist season where streets are lined with visitors from Minneapolis, Chicago, Madison, Milwaukee and the likes."

One of the town's most popular eateries—the Driftless Café—brought great notoriety to the area after being nominated for a prestigious James Beard Foundation award.

"The secret about our fantastic little community is out," Roughen-Schmidt said. "Food has put Viroqua on the map in a very important way and created a destination. It's something we're very proud of and the reach has been tremendous."

So, how did they do it? How does a town carve a niche for itself and capitalize off of that?

"I think in Viroqua's case, it was a bit of a domino effect," Roughen-Schmidt said. "Organic Valley founders took the risks and those risks became a catalyst for new business and other cooperatives. Us locals, we choose to live in this small-town paradise because of the abundant resources at our fingertips." M



Viroqua, Wis.'s, food scene has landed it on the map as a destination. Its farmer's market is one of the largest farmer's markets in the state, with more than 60 seasonal vendors and a packed house every weekend. (Photo provided)



A number of award-winning organizations and businesses call Viroqua home. The community's commitment to farmer-supported business and high-quality, local products that are traded fairly has helped these businesses thrive. (Photo provided)



Driftless Cafe — owned by husband and wife duo, Ruthie and Luke Zahm — brought Viroqua great notoriety after it was nominated for a prestigious James Beard Foundation award. Pictured is Luke, who is also the cafe's chef, visiting a local Wisconsin field. (Photo provided)



By ANDREW MENTOCK | The Municipal

In 2016, 12.3 percent of the United States population was food insecure, according the website for the United States Department of Agriculture. For a household to be deemed food insecure, its members must have been uncertain that they were going to have enough food to feed all of its members due to a lack of economic or social resources at any point during the year.

While 12.3 percent may seem relatively low, that still means that roughly 40 million out of the United States' 323.4 million citizens in 2016 were at-risk of not having enough food at some point. And food insecurity was prevalent throughout the entirety of the country. Even Hawaii, which had the lowest percentage of food insecure households, was still at 8.7 percent on average from 2014-16. Mississippi was the highest at 18.7 percent.

In order to help fight food insecurity, government and charitable organizations have been utilizing some creative solutions.

#### **Summer food programs**

For the more than 20 years, the parks and recreation department in Sidney, Ohio, has offered a summer food program designed to feed school-aged children in need.

"A lot of our kids in the school system are on free and reduced lunches," said Jennie Rogers, a recreational specialist with the Sidney Parks and Recreation. "I just feel like if we didn't provide this in the summer, they would possibly go hungry."

The program drops off food at eight different locations throughout the city. These

**ABOVE:** Cultivate Kansas City, a nonprofit organization, aims to grow farms, food and communities in order to create a healthy local food system within Kansas City. (Shutterstock.com)

locations include a Salvation Army building, a community center and several parks.

"Kids are in parks already, so here's an opportunity while we have them there to at least make sure they eat during the months the schools are closed," said Duane Gaier, the Sidney Parks and Recreation director.

The program is funded through a grant that is provided by the Ohio Department of Education. The meals are created at a local hospital, Wilson Health, which gets ingredients from the same vendors that the hospital uses for its food. Meals must meet USDA requirements for children between the ages of 5 and 13. The children are given a cold meal one day a week, and hot meals on the other four weekdays.

More recently, the parks and recreation department also started a "backpack program" to help feed children over the weekend. For this program, children are given a backpack full of food at the start of every weekend in the summer. Food items put in the backpacks are



For more than 20 years, Sidney Parks and Recreation in Ohio has been providing summer meals to area children. (Photo provided)



Sometimes code inspectors cannot tell the difference between a plant and a weed; this can lead to challenges for urban farmers. (Shutterstock.com)

non-perishables such as pudding cups, beef sticks, juice boxes, crackers and fruit. To pay for this program, Rogers applies for several grants and receives private donations.

"We hear stories from kids who will actually take their backpack home and hide it for the weekend, so they will have food or eat it before they get home so they will have something in their belly for the weekend," Gaier said. "There's a need there and we're fortunate that we can help out."

#### **Community gardens and urban farming**

While food programs are a valuable option for communities that can find the necessary funding, there are other organizations that are using creative techniques to help people feed themselves.

Cultivate Kansas City is a nonprofit helping to grow farms, food and communities in order to create a healthy local food system in an urban environment. The organization and its farmers are working to feed the local community.

"Our focus is on local foods, specifically, and our expertise is in working with urban farmers, so people who want to grow fruits, vegetables have food for sale to fellow community members," said Katherine Kelly, the co-founder and executive director of Cultivate Kansas City. "In pursuit of that we have a new farmer training program, new roots for refugees, which is a partnership with Catholic Charities of Northeast Kansas,

Meals for Sidney's summer food program are prepared at a local hospital and meet USDA requirements for children between the ages of 5 and 13. (Photo provided)



where we take refugees who have come here with agricultural skill and help them develop and apply those skills here in the city for city residents who need good food.

"We also work with metro farmers all over the urban area and then we also run a program that is a way to help overcome economic barriers for low-income families who use EPT Card — also known as food stamps."

While organizations such as Cultivate Kansas City can certainly help fight food scarcity, there are several challenges and limitations to urban farming.

The main barrier for urban farms is dealing with local municipalities, especially code inspectors, who often struggle to tell the difference between a lot full of weeds and a garden.

"They look out and see a mass of green and their brain tells them it's weeds," Kelly said. "And it's not necessarily that they are trying to crack down on somebody—they're not being mean, whatsoever. It's literally they don't know what a garden looks like. In all municipalities, we've had people run into problems with that where somebody would look at a squash planting and think of weeds."

This is magnified for Cultivate Kansas City since its city is in both Kansas and Missouri. This means that Kelly and other members of her organization need to be aware of a variety of rules and regulations.

While this might require them to constantly be jumping through hoops and educating local government officials on farming, Kelly said it's worth it because of all the good her organization does. The nonprofit



Sidney, Ohio's, summer meal program is funded through an Ohio Department of Education grant. (Photo provided)

is providing fresh, nutritional options to a community that otherwise might not have enough food.

"Food scarcity issue—that's a huge issue," she said. "The amount of food you can grow on vacant lots is much more limited than you can grow on a 1,500-acre farm in California. So I want to be very practical about that. (Our organization) does increase food access for families who are in the immediate neighborhood. Friends and family of the grower. That's not something to be dismissed, but I want to be modest about it."



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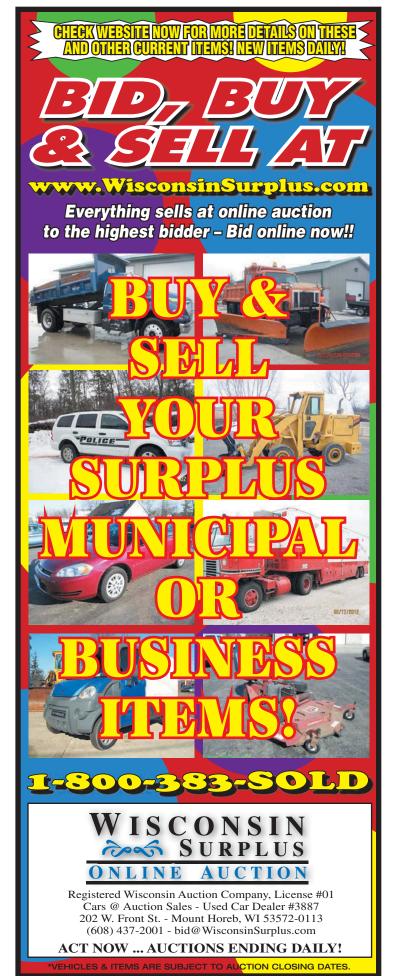
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## Resurfacing fleet engines can save money

By DENISE FEDOROW | The Municipal

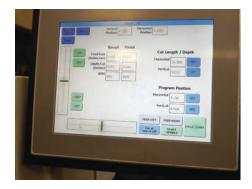
When it comes to municipal fleets, resurface could be the fourth "R" in the "reduce, reuse, recycle" mantra. Engine resurfacing can be done on any type of engine and can save cities and towns thousands of dollars versus the cost of replacement, according to the experts.

Technological advances in cutting edge control has led to the development of the world's most advanced surfacing machines available today in the Rottler Manufacturing S80 series. The CNC automatic surfacing machine has allowed for more versatility in the types of engines and cylinder heads that can be resurfaced

and the precision of the machine can return them to nearly brandnew condition.

Tom Rohr, owner-operator of Advanced Engine in Plymouth, Ind., has been specializing in engine resurfacing and balancing in his shop for over 35 years.

**LEFT:** This CNC resurfacing machine can extend the life of vehicles for cities and towns. The engine part is clamped down and the diamond cutting edge travels above it while the touch screen, where the machine is programmed, extends out to the side. (Photo by Denise Fedorow)



The touch screen of the Rottler Manufacturing S86A CNC resurfacing machine makes resurfacing engines quick and easy. Operators can set the program and walk away. (Photo by Denise Fedorow)



Tom Rohr, owner-operator of Advance Engine in Plymouth, Ind., takes a call while standing next to the Rottler Manufacturing CNC resurfacing machine his shop got last year. (Photo by Denise Fedorow)

Rohr said the Rottler S86 A series CNC resurfacing machine can resurface engine blocks, cylinder heads and exhaust manifolds on anything from walk-behind mowers to heavy-duty diesel dump trucks and resurface them to a smooth mirror finish — within one-tenth of 1,000 of an inch.

The machine smoothes out any nicks or rough spots. Rohr said new diesel engine requirements call for extremely smooth RA finishes for head gaskets in order to seal combustion pressure and oil and water, something the machine can deliver.

There's a tiny diamond cutter on the cutting head that goes across the engine block or cylinder head with increased travel time compared to older resurfacing machines. An "added benefit," according to Rohr, is that the machine can handle extra long exhaust manifolds.

The older technology for resurfacing was very manual labor intensive and a lot of shops didn't offer resurfacing services for that reason but this new CNC machine is so easy to operate the user sets it up and can walk away. Rohr said he can train someone in a day to operate the machine. >



Located in Marshall County in northern Indiana, Bremen often uses resurfacing as a means to maintain its fleet and extend the life of its vehicles. (Photo by Denise Fedorow)



This smokestack identifying Bremen, Ind., can be seen for miles. The town's head mechanic often uses resurfacing to keep his town's vehicles in top shape so they can be used several years longer. (Photo by Denise Fedorow)

"It's very user friendly—it doesn't matter who's operating it," Rohr said.

The touch control screen allows for simple programming for how much material needs to be cut, depth of cut, multiple passes and finishing speeds. The machine is moved by sliding a finger on the touch screen's slide bar. The operator can lock the head in place, program the machine for the length of the part to be machined, set it and let it go. The machine will travel the exact distance it needs to and then return home.

"It's not reliant on operator's experience, the machine will do exactly what it's set to do, you'll get the same result," he said.

It's also very quick, and when it comes to municipalities, this means their equipment can be back in service sooner.

There is also an "infinite" amount of finishes that can be done, and the machine gives such a close finish it can split a hair on one's head 10 times.

Aside from heavy-duty vehicles in the fleet, equipment owned by cities and towns—like

Caterpillar equipment, leaf vacs, mowers and wood chippers — can also gain new life by having parts of the engine resurfaced. Doing so can give an additional eight to 10 years of use before having to replace the equipment, according to Rohr.

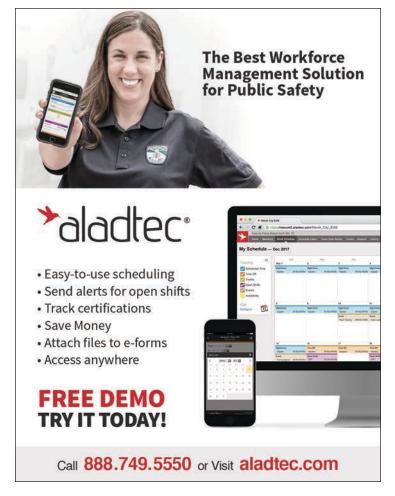
#### Small town benefits from resurfacing

Pat Siple, head mechanic for the town of Bremen, Ind., oversees the maintenance of all the vehicles for the street department, electrical department, police department and the wastewater department. He has often used resurfacing as an option for the town's vehicles.

He said that any engine can develop a head gasket leak. He added that sometimes head bolts wear and one gets a blown head gasket, but the part is still salvageable so in that case they'd get the part resurfaced.

"Take a vehicle that's not yet met its life expectancy—it doesn't get a lot of miles on it but gets a lot of hours on it," Siple explained. "It's still a viable piece of equipment."





Since Bremen is small, vehicles have more idling hours than miles as they pick up brush or perform other similar tasks. According to Siple, having engines idling is one of the main causes of wear and tear on engine parts.

"Resurfacing can give an additional eight to 10 years of use before having to replace the equipment."

> years, ladder trucks every 15 years, plow trucks every 10 years, trash trucks every eight years, etc.

He said at the cost of replacing vehicles — a small dump truck could cost between \$60,000-\$80,000 and a large one between \$100,000-\$150,000 — resurfacing engines makes good fiscal sense. Even the cost of a new motor at \$5,000-\$10,000 or more, depending on the vehicle, makes resurfacing a viable, less costly option.

Siple said he's not had the occasion as of yet to utilize the new CNC machine but is aware that "with that kind of machine everything is more precise — right down to the cat's meow."

As far as longevity, he knows getting engines resurfaced extends the life of a vehicle. He said they usually keep a 2 1/4-ton dump truck for 10 to 15 years and what typically happens in the town of about 4,600 is that the body usually goes before the engine.

#### Larger city takes alternative approach

On the flip side, a city the size of Columbus, Ohio, has a different approach. Kelly Reagan, fleet administrator for the city of Columbus, said the city has a replacement schedule for its vehicles that eliminates the need for trying to extend the life of their vehicles.

"We have a stringent replace-

ment standard and we seldom

fall outside of that replacement

According to Reagan, fire

engines are replaced every 10

schedule," Reagan said.

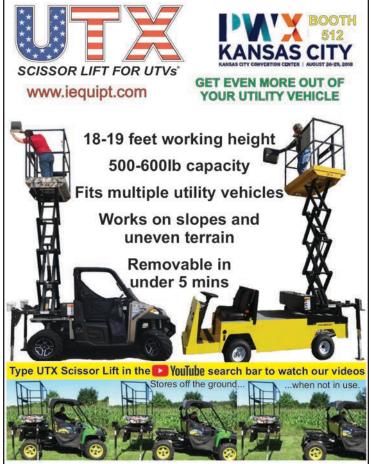
"We don't look at extending the life of our vehicles to reduce capital expense," Reagan said, noting that the city of Columbus has the funding to support this type of replacement schedule where other municipalities may not.

Another factor to consider when resurfacing engines is whether your city or town will recoup that cost if the vehicle is damaged in an accident. One fleet manager of a small town in Illinois found out they couldn't and that put a stop to the fleet department's refurbishing program.

When Rohr got his CNC resurfacing machine last year there were only a handful sold in the world, to date there are approximately 30 that have been sold in the United States, according to sales representative Robbi Galahan of Rottler Manufacturing.

This is still fairly new technology as far as being able to resurface so precisely and quickly, but if you're looking to extend your equipment for a few more budget cycles before replacing, resurfacing engine parts may be the answer for you. ■





#### Conference Calendar

For a complete list of all upcoming events, visit 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.

#### IUNE

#### lune 3-6 EUFMC 2018

Williamsburg Lodge and Conference Center, Williamsburg, Va. www.eufmc.com

#### June 3-6 International Parking **Institute Conference and Expo**

Orlando, Fla. www.parking.org

#### June 3-6 Prima 18 Conference

Indiana Convention Center, Indianapolis, Ind.

conference.primacentral.org

#### June 3-6 Safety 2018

San Antonio, Texas safety.asse.org

#### June 4-7 Government Fleet **Expo & Conference**

San Diego Convention Center, San Diego, Calif. www.governmentfleetexpo.com

### June 7-10 International

**Hazardous Materials Response Teams Conference** 

Baltimore, Md.

www.iafc.org/events

#### June 9-12 Tennessee **Municipal League Annual Conference**

Knoxville, Tenn.

www.tml1.org/2018-annualconferece

#### June 10-14 Community **Transportation Expo**

David L. Lawrence Convention Center, Pittsburgh, Pa. web1.ctaa.org

#### lune 11-13 Fire-Rescue Med

Henderson, Nev. www.iafc.org/events

#### lune 11-14 NFPA 2018 **Conference and Expo**

Mandalay Bay Convention Center, Las Vegas, Nev. www.nfpa.org

#### June 13-16 NYSAFC 112th **Annual Conference & FIRE 2018 Expo**

Turning Stone Resort, Verona, N.Y.

www.nysfirechief.com

#### June 18-21 AAMVA Region 2 Conference

Sheraton Myrtle Beach Convention Center Hotel, Myrtle Beach, S.C.

www.aamva.org/events/

#### June 20-22 League of **Minnesota Cities 2018 Annual Conference**

St. Cloud. Minn. www.lmc.org/page/1/AC2018.

#### June 22-26 Georgia Municipal **Association Annual** Convention

Savannah International Convention Center, Savannah,

www.gmanet.com/Training-*Events/Annual-Convention.aspx* 

#### June 26-27 Police Security **Expo 2018**

Atlantic City Convention Center, Atlantic City, N.J.

www.police-security.com

#### June 26-29 SIMA 21st Snow & **Ice Symposium**

Huntington Convention Center, Cleveland, Ohio www.sima.org

#### **IULY**

#### July 13-16 2018 NACo Annual Conference

Gaylord Opryland Resort and Convention Center, Nashville, Tenn.

www.naco.org

#### **July 13-17 National Association** of Police Organizations 40th **Annual Convention**

San Diego, Calif. www.napo.org

#### **July 13-17 Florida Fire Chiefs Association Executive Development Conference**

Sawgrass Marriott Golf Resort and Spa, Ponte Vedra Beach, Fla.

www.ffca.org

#### July 15-19 Community Anti-**Drug Coalitions of America Mid-Year Training Institute**

Gaylord Palms, Orlando, Fla. www.cadca.org/events

#### July 19-22 Municipal **Association of South Carolina's Annual Meeting**

Marriott Hilton Head Island, Hilton Head Island, S.C. www.masc.sc

#### July 28-31 IMSA Forum & Expo Orlando, Fla.

www.imsasafety.org

#### **AUGUST**

#### Aug. 8-11 Fire-Rescue International (FRI 2018)

Kay Bailey Hutchison Convention Center, Dallas,

www.iafc.org/events/fri/about

#### Aug. 12-16 StormCon

Hyatt Regency Denver, Denver,

www.stormcon.com

#### **AUGUST**

#### Aug. 14-15 Midwest Security & Police Conference/Expo

Tinley Park Convention Center, Tinley Park, Ill.

mspce.com

#### Aug. 16-18 Florida League of **Cities Annual Conference**

The Diplomat Beach Resort, Hollywood, Fla. www.floridaleagueofcities.com

#### Aug. 19-22 NIGP Forum

Gaylord Opryland, Nashville, Tenn.

www.nigp.org

#### Aug. 20-23 ITE International and Midwestern/Great Lakes **Districts Annual Meeting and Exhibit**

Minneapolis, Minn. www.ite.org/annualmeeting/ default.asp

#### Aug. 26-29 American Public **Works Association's PWX**

Kansas City Convention Center, Kansas City, Mo.

pwx.apwa.net

#### Aug. 27-30 Florida Recreation and Park Association 2018 **Conference**

Orlando, Fla. www.frpa.org/conference/ confgeneral

#### SEPTEMBER

#### Sept. 24-28 Ohio Association of Emergency Vehicle **Maintenance and Repair Program**

Ohio Fire Academy, 8895 E. Main St., Reynnoldsburg, Ohio www.oaevt.org

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AUGUST 2018

Waste & Recycling

Deadline Monday, June 29

SEPTEMBER 2018

**Storm Management** 

Deadline Monday, Aug. 6

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By ANDREW MENTOCK | The Municipal

The city of Batavia, Ill., is a small suburb of Chicago, with a population of roughly 26,000 people. It's known as "The Windmill City" because it's been home to six windmills companies. But perhaps the city's proudest claim to fame is that it was the home of Dr. Bernard Cigrand on June 14, 1916—the first ever Flag Day.

Considered by some to be the "Father of Flag Day," Cigrand was an activist who petitioned President Woodrow Wilson to honor the American flag with its own day.

"It's one of the most prominent symbols in the world today, and it still stands high," Jeffery Schielke, who has been the mayor of Batavia for 37 years, said. "Cigrand, I think, was on the right track. I think the American flag is a special symbol in the world and something that everybody knows and looks to. There are probably very few people in the world, regardless of what country they are in, who haven't seen or doesn't understand what the American flag is."

There is some debate as to how much credit Cigrand deserves for the nationwide observance of Flag Day, but no matter how one looks at it, it's clear he was a major force in pushing the movement forward.

"There is kind of National Flag Day commission, and I've chatted with them several times and they said they got concerned when some other people had described Dr. Cigrand as the father of the American Flag Day," Schielke said. "Basically, they said he was one of the leading spokesman to it, but they're not crediting any one individual with having that honor."

Due to the American flag's influence on the United States and the world as a whole, Batavia residents have decided to put together a monument to honor the movement Dr. Cigrand helped start over 100 years ago.

The monument is still in the design phase, but if all goes according to plan, it will be featured prominently near a Batavia park. At the center of it will be a 50-foot-tall flagpole displaying a 10-by-18-foot flag. This will be surrounded by a 40-foot-diameter helix monument with a 6-foot-wide walkway that will tell the story of America and its flag, starting in 1776 and continuing through 2016.

"This is a legacy project," said Austin Dempsey, a Batavia resident who is spearheading the implementation and construction of the monument. "It's easy to get lost in the problems of today and think we have it harder than anyone else has ever had it, but in truth in America, every generation has faced adversity. Every generation has faced challenges and obstacles, and every generation of America has risen to meet the obstacles and challenges head on and made the world and especially our country a better place. This monument will show the building of that."

Dempsey's goal is to raise between \$650,000 and \$700,000 for the project, with 100 percent of the funding coming from private donations.



Pictured is one of the informational placards that will be displayed in the monument. This one notes the placement of the U.S. flag on the moon on July 20, 1969. (Photo provided)



Pictured is the proposed Flag Day monument that Batavia, Ill., resident Austin Dempsey is hoping to see installed near a Batavia park. It will tell the history of the U.S. and its flag from 1776 to 2016. The project has been well received by the mayor and Batavia Committee of the Whole. (Photo provided)

"I should say the city of Batavia is donating the land ... but we're not asking for any taxpayer dollars to go toward this monument," he said. "Then we have an agreement with the local community foundation to create an endowment fund for the perpetual upkeep and maintenance so that this can outlive me, my kids and my grandkids."

Dempsey created a 501(c)(3) to establish the project as a charitable organization that is officially recognized by the federal government and to help facilitate funding for the Flag Day monument. Thus far, he says he has raised about 40 percent of the money necessary toward his goal. He has not been able to do any public outreach for the project since, as of press time, the project has not been officially approved by the city. But the Batavia Committee of the Whole and the mayor have been very supportive of the project, so there's plenty of reason to be optimistic.

"I would certainly like to think that I have been an encouraging force," Schielke said

Once the monument has officially been approved, Dempsey and his board will spend the following year aggressively raising the rest of the money for the monument through a crowdfunding campaign, while still seeking large, private donations.

His goal is to have the monument officially unveiled and opened to the public on Sunday, June 14, 2020 — just in time for the 104th Flag Day.

"The American flag is probably one of the most prominent symbols in the world that we live in today," said Schielke. "Certainly, whenever something bad happens in the United States, be it the big



This rendering relays the scale of the proposed Flag Day monument. The monument also serves as a nod to Batavia resident Dr. Bernard Cigrand's effort to see Flag Day become an annual observance. (Photo provided)

battles of World War II, Pearl Harbor or Sept. 11 in New York, one of the most prominent moments admits all those terrible moments is when somehow somebody finds a damaged American flag and raises it into the sky and shows its resilience, its meaning and its passion."

For more information on the monument, visit FlagDayMonument.com. M

## The U.S. Conference of Mayors pushes for larger capacity wastewater management systems to stimulate economic growth

 $\begin{tabular}{ll} \textbf{By ABBEY MCLAUGHLIN} & \textbf{I} \textbf{The Municipal} \\ \textbf{WASHINGTON}, & \textbf{D.C.} - \textbf{When city offi-} \\ \end{tabular}$ 

cials think of expanding and growing, they often think of large company headquarters, tourism or a family-friendly community. One overlooked attraction is a city's wastewater management system. The larger the company, the greater the resources required.

The U.S. Conference of Mayors recognizes this and advocates for industries in need of more work, more jobs and, therefore, more businesses.

One industry suffering from the economic recession of 2010 is construction. Contractors have few job assignments given that many cities can no longer expand and improve. For this reason, The U.S. Conference of Mayors continues to support evidence that a \$1 billion investment in wastewater infrastructure would provide more than 28,500 jobs and generate \$3.46 billion as well as about \$82.4 million in state and local tax revenue.

"Most businesses want to know they have wastewater capacity," said Rich Anderson, a representative of the U.S. Conference of Mayors.

One question difficult to answer regards who is responsible for this infrastructure growth. Several departments are required to be involved in these projects. These include the departments of economic growth, wastewater management, city planning and other municipal-specific specialties. To attract businesses, cities need to offer strong wastewater capacities, but in order to fund these systems, cities need businesses.

"(Businesses) even help pay for it," he said. "In fact, we have a lot of industries that will pay by far the largest share into the system which supports the system every year."

Cities attempting to take the first steps toward larger wastewater infrastructure face obstacles unique to each plant.

"Systems are built and rebuilt and they're not uniform or the same," Anderson said. "Each one's rates differ by region and update."

The U.S. Conference of Mayors' next goal is to get their bill to remove federal funding restrictions on tax-exempt bonds for water and wastewater projects approved and moving. This is just one of many ongoing proposals to encourage more updated, affordable wastewater management systems for economic growth.

### NAFA's FLEXY Awards presented to top professionals in fleet

**PRINCETON, N.J.**—NAFA Fleet Management Association, the vehicle fleet industry's largest membership association, announced the recipients of the sixth annual Fleet Excellence Awards, or FLEXYs, presented during the Tues-



day, April 24, opening of its annual conference, the NAFA Institute & Expo, April 24-27.

The FLEXYs shine a spotlight on those who have impacted fleet management in both the corporate and public fleet segments during the previous year. Three finalists were chosen for each of the seven categories.

#### The winners of the 2018 FLEXY Awards are:

- Outstanding Achievements in Public Service Fleet Management: Robert Gordon, director of fleet management, DeKalb County, Ga., Fleet Management
- Outstanding Achievements in Corporate Fleet Management: Adam Orth, CAFM, fleet services manager, General Mills
- Excellence in Public Fleet Sustainability Accomplishment: Rick Medina; fleet, fuel and equipment services; Mission Support and Test Services
- Excellence in Corporate Sustainability Accomplishment: Safelite AutoGlass
- Excellence in Public Fleet Safety: Charles Grab, UCONN Transportation and Fleet Services
- Excellence in Corporate Safety: Joe Suarez, director, Florida Power & Light Company
- Excellence in Fleet Leadership: Steven Schoen, director, Mobility Services Americas, Siemens
- Regular Member of the Year: Gary Lentsch, CAFM, Eugene Water & Electric Board, Eugene, Ore.
- Associate Member of the Year: Marianne Stewart, CAFM, Auto Driveaway

The FLEXYs are open to all fleet professionals, regardless of whether or not they were members of NAFA Fleet Management Association. Industry leaders, acting as judges in the selection process for finalists and winners, never saw the names of nominees or the organizations they work for. Voting was 100 percent blind, based solely upon the actions and ideas listed by the nominees on their submission forms. This allowed for unbiased selection based strictly on the quality of nominee accomplishments. Wheels Inc., was the corporate sponsor of this year's FLEXY Awards.

For information about NAFA's Institute & Expo, visit the official conference website: www.NAFAInstitute.org. ■

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## **M TOP 10**

## Cities with high salaries and low costs of living

At the beginning of 2018, GOBankingRates released its analyzation and rankings of 270 cities in the U.S. based on their livability. GOBankingRates took into account "the median home rent, groceries, utilities and transportation to ultimately determine the average monthly living expense for that area." Its website explains, "That number then was subtracted from the average yearly income for each city so residents know exactly how much they stand to pocket after the expenses." All of its numbers were sourced from the U.S. Census Bureau, Zillow and Numbeo.

Oklahoma City, Okla., topped the list—titled "12 Cities With High Salaries and Low Costs of Living—with the average household being able to live comfortably for less than \$50,000 a year, a figure the average household income exceeds by almost 50 percent. GOBankingRates goes on to add, "You'll find great deals on both rental apartments and single-family homes. Oklahoma City ranks high on our list of the low cost of living cities for its affordable groceries (\$293), transportation (\$40) and monthly rent (\$1,070)."

City Ranking	Average household income	Total necessities	
1. Oklahoma City, Okla.	\$72,385	\$18,701	
2. Kansas City, Mo.	\$69,301	\$19,756	
3. Lexington, Ky.	<b>\$77,827</b>	<b>\$20,535</b>	
4. Phoenix, Ariz.	\$73,135	\$21,412	
5. Durham, N.C.	\$74,401	\$21,625	
6. Omaha, Neb.	<b>\$74, 125</b>	\$21,779	
7. Bakersfield, Calif.	\$76,673	\$22,632	
8. Tampa, Fla.	\$80,121	\$23,035	
9. Dallas, Texas	\$76,726	\$23,057	
10. Charlotte, N.C.	\$86,922	\$23,249	

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