IMPROVING INFRASTRUCTURE
Fifty-year-old Upper Brushy Creek Dam was deemed a “high hazard” and needed extensive upgrades. Using hydraulic modeling, an ACEC Texas member firm designed modifications to meet current safety and flood-control protection. The community now benefits from flood-hazard protection and upgrades to a popular trail amenity that crosses the dam.
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ABOUT THE COVER
Mesquite Metro Airport transitions from a recreational airport to a competitive corporate jet destination.
The Texas Municipal League exists solely to provide services to Texas cities. Since its formation in 1913, the League’s mission has remained the same: to serve the needs and advocate the interests of its members. Membership in the League is voluntary and is open to any city in Texas. From the original 14 members, TML’s membership has grown to more than 1,150 cities. Over 16,000 mayors, councilmembers, city managers, city attorneys, and department heads are member officials of the League by virtue of their city’s participation.

The League provides a variety of services to its member cities. One of the principal purposes of the League is to advocate municipal interests at the state and federal levels. Among the thousands of bills introduced during each session of the Texas Legislature are hundreds of bills that would affect cities. The League, working through its Legislative Services Department, attempts to defeat detrimental city-related bills and to facilitate the passage of legislation designed to improve the ability of municipal governments to operate effectively.

The League employs full-time attorneys who are available to provide member cities with information on municipal legal matters. On a daily basis, the legal staff responds to member cities’ written and oral questions on a wide variety of legal matters. The League annually conducts a variety of conferences and training seminars to enhance the knowledge and skills of municipal officials in the state. In addition, the League also publishes a variety of printed materials to assist member cities in performing their duties. The best known of these is the League’s monthly magazine, Texas Town & City. Each issue focuses on a variety of contemporary municipal issues, including survey results to respond to member inquiries.

For additional information on any of these services, contact the Texas Municipal League at 512-231-7400 or visit our website, www.tml.org.

ABOUT ★ TML

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Dear Texas City Official,

Does any issue get more to the heart of why many of us do what we do for cities than infrastructure? For hundreds if not thousands of years, the main point of the world’s cities is building and maintaining the infrastructure that makes it possible for large numbers of people to live in relatively small spaces. In Texas, believe it or not, 74 percent of our population live in cities which makes up just 4 percent of the land mass. What makes that density possible? City infrastructure.

In this issue, you’ll read about innovative approaches to drainage, airport facilities, water utility leak detection, and much more. If this magazine whets your appetite to learn more, I urge you to join me in San Antonio this October for the League’s Annual Conference, where many of the concurrent sessions will expand upon the theme of infrastructure improvement.

The decisions we make now about the foundations of our cities will affect citizens long after we leave our offices or jobs. We owe it to them to make those decisions as informed as we possibly can. The future of our state depends on it.

John B. Love III, CMO
Mayor Pro Tem
City of Midland
TML President
Save the Date: TML Annual Conference and Exhibition

Mark your calendar for the Texas Municipal League’s 107th Annual Conference and Exhibition on October 9-11 in San Antonio. You’ll enjoy three days of education and networking, explore new products and services that can benefit your city, and enjoy the Riverwalk’s dining, shopping, and cultural attractions.

Attendee registration and housing will open on Tuesday, July 23, at 10:00 a.m. at www.tmlconference.org.

Follow these simple steps to register for the conference and reserve your sleeping room:

- You will need your TML member ID to register.
- From the TML Annual Conference and Exhibition website, go to the registration tab.
- On the conference registration page, register as a conference attendee using your member ID.
- Once you register, you will be directed from the conference registration page to the hotel reservation system. (Only registered conference attendees will receive a link to the housing reservation system.)
- Select a hotel from the available options, and reserve your room.
- You may register multiple delegates at one time and reserve a sleeping room for each.
- If you cancel your conference registration, you must also cancel your room reservation separately.

TML and the City of San Antonio are excited to welcome you in October!

TML Legislative Wrap-Up: An Insider’s Perspective

Get a behind-the-scenes briefing on the outcome of the major city-related bills from the 86th Texas Legislative Session at this one-day workshop on Monday, June 24, at the Hilton Austin. You’ll hear about the deals reached, the measures that fell short, and the impact the legislation will have on cities. TML staff will brief you on the key bills that passed, and explain what you need to know to prepare for the laws’ enactment.

Register early to reserve your place at www.tmllegislativeseries.org.

Prepare Your Newly Elected Officials for Success

Encourage your city’s first-time mayors and councilmembers to register for the Newly Elected City Officials’ Orientation – July 18-19 or August 15-16 in San Antonio. This one-and-a-half-day training will help your newly elected city officials prepare for a successful term in office. From understanding their financial oversight responsibilities to the basics of city regulation, your mayors and councilmembers will acquire the knowledge they need to shine in their governance role. The orientation is also a great refresher for seasoned elected officials. Learn more at www.newlyelectedofficials.org.
List Your City’s Festival in *TTC*

Texas towns and cities hold festivals to celebrate everything from cheeseburgers to crawfish and red poppies to whooping cranes. In the August 2019 issue of *Texas Town & City*, we’ll feature select city-hosted events happening throughout the state. If your city is planning an event that takes place in the September 1, 2019 through February 28, 2020 timeframe, we’d like to feature it. The deadline for submitting your event is June 14. Learn more and submit your festival at www.tml.org/formcenter/business-development-4/festival-listing-form-46. ★

**TML TRAINING CALENDAR**

**JUNE-JULY**

- **June 5-7**
  Texas Association of Municipal Information Officers Annual Conference
  Denton

- **June 13**
  TML Budget and Tax Rate Workshop
  Austin

- **June 19-21**
  Texas City Attorneys Association Summer Conference
  San Antonio

- **June 19-21**
  Texas Municipal Utilities Association Annual Conference
  Irving

- **June 24**
  TML Legislative Wrap-Up Workshop
  Austin

- **June 27**
  TML Hometown Workshop: Leadership and Your Legacy
  Midland

- **June 27-30**
  Texas City Management Association Annual Conference
  Fort Worth

- **July 11**
  TML Budget and Tax Rate Workshop
  San Antonio

- **July 18-19**
  TML-TAMCC Newly Elected City Officials’ Orientation
  Round Rock

- **July 31**
  TML Hometown Workshop: Your Legal and Ethical Role as a Community Leader
  McAllen
Disasters and Our Most Valuable Resource: Our Employees

Public service is a noble calling and employees work diligently to ensure that their communities are well taken care of. Those same employees are likely required and trained to perform emergency management-related activities to ensure the entity is prepared for an emergency or disaster utilizing, among other resources, their local emergency management plan.

When a hurricane, flood, tornado, fire, earthquake, or other natural or man-made disaster or emergency occurs, it is taxing on all involved. Employers should take steps to do all they can to care for their most valuable resource—their employees.

The list below is designed to help employers consider how to reduce employee stress during disasters and emergencies.

1. Communicate, well in advance of any disaster, with employees determined to be essential personnel and identify their role(s) before, during, and after an event so the employee can plan appropriately.

2. Have a building evacuation plan in place. Practice it with all employees and safety personnel. Locate safe rooms, exits, and barriers that could prevent easy egress/ingress.

3. Allow employees time off in advance of a disaster (when possible) to ensure their property and family are situated, especially if they are designated to work before, during, and/or after an event. Remember, when employees are working during a disaster, you don’t want them to be distracted or worried about their family’s safety and property any more than they already are.

4. Ensure managerial personnel are familiar with Texas law related to disasters and emergency evacuations. Generally, Texas law prohibits an employer from discharging or discriminating against an employee who leaves the employee’s place of employment to participate in a...
general public evacuation ordered under an emergency evacuation order or a local disaster declaration. See Tex. Lab. Code §22.002. There are exceptions. Please see Legal FAQs on TML’s website for detailed information on this topic at www.tml.org/260/Disaster-Management.

5. Update employee contact information and emergency contact information and provide ways to notify all employees including those designated as non-essential employees during a disaster of delayed openings, early or total closures of offices and/or unsafe conditions.

6. Provide employees the appropriate training (before a disaster) and maintain the appropriate documentation that allows organizations to maximize any potential reimbursement source available. Legal FAQs on TML’s website provide information on training requirements. Training on National Incident Management System (NIMS) is also offered by the Texas Department of Emergency Management (TDEM) and may be taken in person or online. A listing of NIMS classes can be found at https://www.dps.texas.gov/dem/Preparedness/nimsTraining.htm.

7. Ensure pay policies are adopted prior to an emergency, which may allow for special pay provisions for exempt employees who may be eligible for reimbursement if a disaster is declared. Special pay rules should be considered and understood prior to an emergency.

8. Ensure that employees are trained and equipped to properly and safely perform tasks during a disaster that they might not normally perform in their normal job. For example, don’t assign an employee to operate a chainsaw and assume they can safely and properly operate the equipment unless they have received training and have the proper safety equipment. Even if they offer that they “can operate” equipment, they should still be trained to reduce the risk of a severe or life-threatening injury. Further, an employee should not be put in a position to recognize dangers they have not been adequately trained to recognize, such as electrical hazards during clean-up when downed and live power lines could be catastrophic.

9. Plan in advance of a disaster for employee injuries that may occur during a disaster, and if your workers’ compensation coverage is provided through TMLIRP, determine what Political Subdivision Workers’ Compensation Alliance (PSWCA) in-network facility or emergency facility will be available to treat injured employees.

10. Consider an Employee Assistance Program for counselling or provide other resources to employees and their families after a disaster. Community resources should be considered and contacts established prior to an event so that assistance may be expedited.

Have a plan in place prior to a disaster. Inform, communicate, and practice the plan on a regular basis to provide for the safety and security of personnel, the public, property, and facilities.

Specific questions related to disaster management should be directed to your organization’s emergency management coordinator.
Texas Utility Systems Recognized for Reliability and Safety

The American Public Power Association’s Reliable Public Power Provider program recognizes utilities that demonstrate high proficiency in reliability, safety, workforce development, and system improvement. Criteria within each category are based on sound business practices and represent a utility’s commitment to safe and reliable delivery of electricity.

Six public power utilities in Texas currently hold diamond level status under the program. This is the highest level of recognition which is only awarded after a rigorous application process and outside review. The Texas public power utilities that currently have diamond level status are Austin Energy (2019), Brownsville Public Utilities (2017), Bryan Texas Utilities (2017), City of College Station (2018), CPS Energy (2019), and Georgetown Utility Systems (2019).

Being recognized by the RP3 program demonstrates to community leaders, governing board members, suppliers, and service providers a utility’s commitment to its employees, customers, and community. Additionally, an RP3 designation is a sign of a utility’s dedication to operating an efficient, safe, and reliable distribution system. Currently 254 of the nation’s more than 2,000 public power utilities hold an RP3 designation. This recognizes the utility for providing its community with high quality, reliable, and safe electricity. At an April city council meeting in Georgetown, Mayor Dale Ross proclaimed April 18 as Lineman Appreciation Day in recognition of the work Georgetown Utility Systems lineman do 24 hours a day, 365 days a year to keep Georgetown’s electric system operating.

Carrollton Prioritizes Health and Safety Through Sewer Line Maintenance

With recent instances of heavy rainfall, the City of Carrollton reminded citizens of its commitment to effectively maintain its 430 miles of public sanitary sewer lines and 5,947 manholes to help prevent sanitary sewer overflows (SSO).

Sanitary sewer systems collect and transport domestic, commercial, and industrial wastewater to treatment facilities. Creek bank failure due to heavy rainfall is a common cause of SSO, as the large amount of pressure on the pipes can cause the line to break and overflow. SSO can contaminate our waters, kill fish, cause serious water quality problems and economic loss, and result in property damage and public health impacts.

The Environmental Protection Agency estimates there are at least 23,000 SSO per year in the United States, but Carrollton is proud that in the past 10 years, there have only been 13 overflows in the City caused by heavy rains in which the Trinity River Authority (TRA) Plant was over capacity. Five of those overflows occurred in May 2015 when Carrollton experienced heavy flooding.

“Carrollton strives to be the City that families and businesses want to call home, and the prioritization of our citizens’ health and safety through the upkeep of our infrastructure is an important part of progressing toward that vision,” said Marc Guy, Assistant City Manager for Public Safety and Development Services.
To prevent overflows in instances of heavy rainfall, the City’s Public Works Department utilizes smart covers installed in three manholes on its transmission mains that send alerts if the flow begins to rise. This technology gives the department ample time to investigate the problem before an SSO occurs. They also conduct smoke testing on more than 100,000 linear feet of sewer lines each year to identify breaks, defects, and illegal connections to the wastewater collection system. This testing helps to both prevent SSO and save the City money on wastewater treatment costs.

Additionally, the City performs sanitary sewer system rehabilitations in several neighborhood subdivisions each year with priority placed on its design standards.

"Preventative measures like smart covers, smoke testing, and sanitary sewer system rehabilitations play an integral role in the well-being of citizens and the local economy," said Jody Byerly, Interim Public Works Director. "Our crews are committed to keeping the community safe and functioning smoothly."

For more information about the City’s sanitary sewer lines and SSO prevention practices, visit www.cityofcarrollton.com/publicworks.

Dentons Conducts Full-Scale Disaster Exercise

The City of Denton and the University of North Texas (UNT) collaborated on May 3 on a full-scale disaster exercise at UNT Apogee Stadium and Discovery Park. The exercise – named “Operation Thunderstruck” – simulated a large-scale disaster to test the response capabilities and emergency operations of first responders, hospitals, and other agencies.

Denton engages in a full-scale disaster exercise each year to evaluate current response concepts, plans, and capabilities, and test response systems for strengths and needed improvements. Departments and agencies participating in the full-scale disaster drill include: City of Denton public safety departments, UNT Risk Management, Denton County, the National Weather Service, FEMA Region 6, Texas Division of Emergency Management, Texas Department of Public Safety, Atrium Medical Center, Medical City Denton, Texas Health Presbyterian Hospital of Denton, The Heart Hospital – Baylor Denton, Wise Health Surgical Hospital in Argyle, and other regional police and fire departments providing mutual aid.

“The annual disaster drill is an excellent way to test our emergency response capacity and capabilities,” said Denton Fire Chief Kenneth Hedges. "It is important to ensure that we are prepared and ready to respond to the needs of the community. We are also thankful that our community partners, like UNT and local hospitals, join us in working together to help protect the citizens of Denton."

Planned over the course of several months, the disaster exercise simulated a severe weather and tornado event impacting both Apogee Stadium and Discovery Park. It involved simulated storm impacts, including victims and casualties, and evaluated the aspects of the response provided by and coordination between UNT, the City of Denton, and other emergency response partners.

The exercise involved personnel from multiple jurisdictions and included the use of aerial equipment such as helicopters and small unmanned aircraft systems (drones). The City of Denton notified the public of the disaster exercise through its social media channels and, for residents who live near the two exercise sites, the CodeRED alert system.
In 2006, the largest wildfire complex in the State of Texas ignited three miles southeast of Borger. The wildfire eventually burned more than 400,000 acres and took the lives of 12 people, including the sister of the then Borger fire chief. Afterwards, Borger took aggressive and innovative approaches to wildfire mitigation by adopting a Rural/Urban Interface Hazard Mitigation Program to reduce the fuel load and create buffer zones to protect against wildfire. The program resulted in Borger being the first city in the United States to be designated as a FireWise community.

On May 12, 2014, a wildfire started in the developed area outside the municipal limits of Fritch, just 12 miles west of Borger. The fire eventually destroyed more than 100 homes. This wildfire again emphasized the need for urban interface mitigation and FireWise principals. Wildfire threat and occurrence continues to increase each year. Wind-driven wildfires, and other wildfires within the State, show that any one city alone cannot mitigate the threat. The actions or inactions of regional communities impact both their community and other regional communities.

With the help and cooperation of the Texas A&M Forest Service and the National Park Service, the City of Borger started a regional push to get other communities in the area to implement Wildfire Hazard Mitigation. Using the programs started for the City of Borger, the Borger Fire Department and Office of Emergency Management set out to model the program and assist regional jurisdictions in adopting mitigation programs to protect life and property within the Texas Panhandle. Each program consists of public education, training, regional cooperation, and mitigation activities.

Borger currently participates in FireWise, and is also a member of the International Association of Fire Chiefs’ “Ready, Set, Go!” program. These public education platforms provide tools to increase the public education component of a successful program and the City of Borger assists other jurisdictions with best practices for these efforts.

In 2017, Borger was awarded a National Wildfire Mitigation Award from a coalition of National Association of State Foresters, National Fire Protection Association, United States
Department of Agriculture Fire Service, and the International Association of Fire Chiefs. The awards help spread the word to the public and area fire departments on our duty to protect our communities. The success of our program builds legitimacy and support among the public and elected officials when a community considers adopting its own program.

After public education and support, training in modern wildfire and urban interface hazard mitigation remain paramount. To ensure safe and effective mitigation burns, Borger currently employs three Texas Certified Burn Managers and routinely teaches National Wildfire Coordinating Group (NWCG) classes to area departments, including local ranch operators with firefighting equipment. The classes and outreach by the burn managers help ensure the coordination of area agencies actions and ensure that all activities and methods maintain current standards.

By maintaining paid burn managers and NWCG instructors, the City of Borger can share these resources and reduce the cost of training to area departments. This cost reduction remains vital in an area predominantly served by volunteer fire departments. Area volunteer departments fight for every budget dollar they receive and often prioritize emergency response over mitigation efforts. By completing and conducting training, Borger can help volunteer agencies develop their own skill set within their department that may not otherwise have been possible. In return, the volunteer agencies aid Borger with personnel, which offsets the cost to Borger.

Regional cooperation remains important in mitigation efforts, and not just in emergency response. Helping others remains ingrained in the Panhandle and Texas spirit; however, we most often confine this to emergency response and not to mitigation efforts. As part of the City of Borger’s initial program development, the Annual Fire Summit formed and brought agencies together from within the county. The Summit has expanded to a regional summit and now draws firefighters from the entire Panhandle, even as far as Lubbock which is 175 miles away. The Annual Summit and coordinated efforts create a collaborative approach to emergency response and mitigation.

Borger participates in the Texas Intrastate Fire Mutual Aide System (TIFMAS). Additionally, the Borger Fire Department has a seasonal wildfire program that is made up of certified wildland firefighters who provide additional personnel to respond to wildfires and work on the more than 20 mitigation project areas in and around the region. These positions have been filled from local firefighters, hot shot
crew members, the National Park Service, and tribe members from the Bureau of Indian Affairs “Navajo Scouts” federal firefighters. These crews also assist with mitigation and emergency response within the Panhandle helping bolster protection for Borger and the entire region.

Hazardous fuel reduction is key, whether it’s done by prescribed fire, chemical, or mechanical means. Borger routinely conducts approximately 12 prescribed burns per year. These burns now serve as more than the hazard mitigation they provide. They create collaboration and training opportunities when area departments assist each other in the preparation, operations, and command of the burns. The collaborative approach provides excellent opportunities for departments to learn and improve skills that result in helping their home agencies. This reduces the cost to conduct a mitigation burn since personnel and resources are shared throughout the region.

Recently the cooperation has expanded to include industrial partners with agreements to conduct prescribed burns in and around Phillips 66 and Nutrien industrial facilities. These facilities are located in the rural/urban interface and are major regional employment centers. Wildfire threats to these facilities could cause even greater hazards and would have a major impact on the economic stability of our community and region.

Borger firefighters have worked with the Cities of Fritch, Stinnett, Canyon, and Amarillo on prescribed burns in their respective communities. Three of these cities have since formally adopted ordinances and policies establishing wildfire mitigation programs. Mitigation burns reduce the available fuel load and create a defensible space to increase the community’s protection from wildfires.

In 2018, mass evacuations from wildfire threats were ordered five times within Hutchinson County. The fires approached cities participating in mitigation programs and, unlike 2006 and 2014, not a single house was lost. We believe this success is directly related to the mitigation efforts, public education in helping homeowners construct and/or modify their property to be more resilient to wildfires, and the increased cooperation of area fire departments that developed through the Annual Fire Summit.

Mitigation case study research indicates that for each dollar spent in mitigation, a reduction of four dollars in disaster recovery efforts can be expected. Wildfires in the urban interface have a devastating effect on our communities and citizens, and often have a long-term economic impact.

The program provides a proven long-term method to reduce the catastrophic threat of wildfire to the City of Borger and the region. Many stand-alone departments simply cannot sustain a mitigation program on their own. The cooperative nature of working with our neighboring cities, counties, ranches, and industries through exchanging personnel, training, and equipment reduces the cost burden and staffing. In turn, it allows more programs to be created and completed which makes each community safer, educated, and stronger. The establishment of a fully adopted mitigation program works and is proven to save lives and property.
And then it happens.

You find yourself in a place that’s as close to far away as you’ll ever be. A place where you can get reacquainted with the things that matter. Where traffic jams are called parades. And the biggest stress of the day is the decision between buttermilk biscuits and corn bread.

Uniquely located in the center of town, Uvalde’s SSGT Willie de Leon Civic Center is close to hotels, restaurants, shopping, and many outdoor attractions. Whether you need a large or small meeting room for a class or seminar, a large banquet hall for a reception, or the entire facility for your convention or trade show, the exceptional service of our professional staff will help make it your best event ever.
**Q & A**

**Q.** What is zoning?

**A.** Zoning is the division of a city into districts and prescribing regulations for each district. The purpose of zoning is to promote the public health, safety, morals, or general welfare and protecting and preserving places and areas of historical, cultural, or architectural importance and significance. Tex. Loc. Gov’t Code § 211.001. Usually, a city that implements zoning is divided into residential, commercial, industrial, and agricultural districts. Within these districts, the city may regulate the erection, construction, reconstruction, alteration, repair, or use of buildings, other structures, or land. Id. § 211.005(a). Each district can be regulated differently, but the regulations must be uniform within that district. Id. § 211.005(b).

**Q.** What may a city regulate thorough zoning?

**A.** Zoning may regulate:

1. the height, number of stories, and size of buildings and other structures;
2. the percentages of a lot that may be occupied;
3. the size of yards, courts, and other open spaces;
4. population density;
5. the location and use of buildings, other structures, and land for business, industrial, residential, or other purposes; and
6. the pumping, extraction, and use of groundwater by persons other than retail public utilities, for the purpose of preventing the use or contact with groundwater that presents an actual or potential threat to human health.

Id. § 211.003(a); see Tex. Water Code § 13.002 (definition of retail public utilities).

**Q.** What is a comprehensive plan?

**A.** A comprehensive plan is a plan adopted by a city for the purpose of promoting sound development of a city and public health, safety, and welfare. Tex. Loc. Gov’t Code § 213.001. A city may adopt a comprehensive plan for the long-range development of the city and may define the content and design of that plan. Id. § 213.002(a). The comprehensive plan may:

1. include, but is not limited to, provisions on land use, transportation, and public facilities;
2. consist of a single plan or a coordinated set of plans organized by subject; and geographic area; and
3. be used to coordinate and guide the establishment of development regulations.

Id. § 213.002(b).

**Q.** What is the relationship between a city’s comprehensive plan and zoning regulations?

**A.** Zoning regulations must be adopted in accordance with a city’s comprehensive plan and must be designed to:

1. lessen congestion in the streets;
2. secure safety from fire, panic, and other dangers;
3. promote health and the general welfare;
4. provide adequate light and air;
5. prevent the overcrowding of land;
6. avoid undue concentration of population; or
7. facilitate the adequate provision of transportation, water, sewers, schools, parks, and other public requirements.

Id. § 211.004.
Q Is a city required to establish a zoning commission?

A A home rule city is required to establish a zoning commission in order to exercise any zoning regulation authority. However, a general-law city is not required to establish a zoning commission. Id. § 211.007(a). The city council of a general-law city can serve as the zoning commission. Id. § 211.007(e).

Q What procedure must a city follow to adopt or amend zoning regulations?

A In order for a city to adopt and amend zoning regulations, a city is required to have public hearings before the zoning commission and the city council. Notice of the time and place of the public hearing must be published in the city’s official newspaper or a newspaper of general circulation in the city before the 15th day before the date of the hearing. Id. § 211.006(a). Also, written notice of the zoning commission’s public hearing must be sent to each owner of real property within 200 feet of the property on which a change is proposed. This written notice must be sent before the 10th day before the hearing date. Id. § 211.007(c). If a general-law city does not have a zoning commission, that city council is also required to send the above written notice. Id. § 211.006(b). Also, the zoning commission must comply with the Open Meetings Act. Id. § 211.0075.

The zoning commission is required to make a preliminary report, hold the public hearing, and submit a final report to the city council. Id. § 211.007(b). The city council must receive the zoning commission’s final report before the city council can hold a public hearing on the zoning regulation. Id. Generally, the city council needs a simple majority of the council to approve the final report of the zoning commission. However, the city can adopt an ordinance that would require an affirmative vote of at least three-fourths majority of the city council in order to overrule a recommendation of the zoning commission. Id. § 211.006(f). Also, if the city council receives a written protest signed by the owners of at least 20% of either: a) the area of the lots or land covered by the proposed change; or b) the area of the lots or land immediately adjoining the area covered by the proposed change and extending 200 feet from that area; then the city council’s vote has to be at least a three-fourth majority to approve the change. Id. § 211.006(d).

Q What is a restrictive covenant?

A Restrictive covenants are sometimes called “deed restrictions.” They are essentially a restriction on the use of land so that the value and enjoyment of adjoining
land will be preserved, and often contain restrictions on the use of property for certain purposes and other lawful restrictions. According to state law, a restrictive covenant is any covenant, condition, or restriction contained in a dedicatory instrument, whether mandatory, prohibitive, permissive, or administrative. Tex. Prop. Code §§ 202.001(4), 209.002(11). Restrictive covenants are liberally construed to give effect to its purpose and intent. Id. § 202.003(a).

Q Who enforces restrictive covenants?
A Generally, property owners associations (POAs) have discretionary authority to enforce restrictive covenants. Id. § 202.004. Their discretionary authority is presumed reasonable unless a court determines the exercise of discretion was arbitrary, capricious, or discriminatory. POAs have the ability to initiate, defend, or intervene in litigation or administrative proceedings that affect the enforcement of restrictive covenants or the protection, preservation or operation of property covered by the dedicatory instrument. See id. §§ 202.001(1), 209.002(4) (definition of dedicatory instrument). Certain cities that take certain steps can also enforce restrictive covenants. (See below.)

Q What is a property owners association?
A A property owners association (POA) is an incorporated or unincorporated association owned by, or whose members consist primarily of, the owners of the property covered by the dedicatory instrument and through which the owners, or board of directors or similar governing body, manage or regulate the residential subdivision, planned unit development, condominium or townhouse regime, or similar planned development. Tex. Prop. Code § 202.001(2). However, the property owners associations that govern most subdivisions within a city are covered by Chapter 209 of the Texas Property Code and are defined as an incorporated or unincorporated association that:

• is designated as the representative of the owners of property in a residential subdivision;
• has a membership primarily consisting of the owners of the property covers by the dedicatory instrument for the residential subdivision, and
• manages or regulates the residential subdivision for the benefit of the owners of property in the residential subdivision. Id. § 209.002(7).

Q Is there a difference between POAs and home owners associations (HOA)?
A Generally, POAs encompasses home owners association and condominium owners association. See id. § 202.001(2). HOA usually refers to a POA in a planned community that does not have condominiums, membership is mandatory, and the association collects regular or special assessments on all or a majority of the property in the subdivision. See id. § 209.003.

Q Does a city have authority to enforce restrictive covenants?
A Only two types of cities have the ability to enforce restrictive covenants: 1) a city with a population of 1.5 million or more; or 2) a city that does not have zoning ordinances. Tex. Loc. Gov’t Code § 212.151. Both types of cities have to pass an ordinance that requires uniform application and enforcement of restrictions with regard to all property and residents. Id. § 212.156. Restrictions are defined as land-use regulations that:

1. affects the character of the use to which real property may be put;
2. fixes the distance that a structure must be set back from the property lines, street lines or lot lines;
3. affects the lot size, or the size, type, and number of structures which may be built on the lot;
4. regulates or restricts the type of activities that may take place on the property;
5. regulated architectural features of a structure, construction of fences, landscaping, garbage disposal, or noise levels; or
6. specifies the type of maintenance that must be performed on a lot or structure.

ld. § 212.152. Also, these cities may sue in court to enjoin or abate a violation of a restriction contained or incorporated by reference in a properly recorded plan, plat, or other instrument that affects a subdivision on the city limits. Id. § 212.153(a). However, if the subdivision has a POA with the authority to enforce a restriction and files a suit to enforce that restriction, then the city may not initiate or maintain such a suit. Id. § 212.153(b).

Cities that have adopted a zoning ordinance do not have the authority to enforce restrictive covenants.

Q What is the relationship between a restrictive covenant and a city’s zoning ordinance?
A A restrictive covenant and a zoning ordinance can both be imposed on private property. Usually, restrictive covenants are said to “run with the land”; meaning the covenants and the property are inseparable and all subsequent owners of the property are subject to them. On the other hand, zoning ordinances are created for the general welfare of the community. However, a zoning ordinance cannot override a restrictive covenant. Farmer v. Thompson, 289 S.W.2d 351 (Tex. Civ. App. — Fort Worth 1956, rev. denied); City of Gateville v. Powell, 500 S.W.2d 581 (Tex. Civ. App. — Fort Worth 1973, rev. denied). If there is a conflict between a restrictive covenant and a zoning ordinance, the general rule is that the more restrictive one will prevail as to the owner’s use of the property. Id. ✯
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Well, for ten former TCAP member cities wooed away last year by retail electric salespeople’s “magical savings”—presto changeo—those savings disappeared with a POOF! And, those ten cities ended up spending $1.2 million more in that first year alone than they would have had they stayed with TCAP. **What kind of magic is that?** TCAP is Texas’ only non-profit, by-cities-for-cities aggregator of electricity. Contact us today for a free, unbiased appraisal of your buying options. *No profit motive. No hidden gotchas. No magic tricks.*

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We have an infrastructure problem in America. In 2019, the National League of Cities (NLC) is calling on Congress to pass comprehensive infrastructure legislation to address local concerns and build for the future.

Texas is no stranger to these infrastructure challenges. The cities and towns in Texas are some of the fastest growing in the nation, and the list of projects to keep up with that growth might just stretch all the way across the 80,000 miles of Texas roads. Communities around the country are faced with the dueling challenges of both exponential growth and trying to maintain investments in projects that meet residents’ diverse set of needs.

When the United States built our major infrastructure networks, we sought to invest in connecting our communities
and our nation. Our connectivity was essential to boosting our regional and national economic potential. However, Congress’ investment plan after the transportation build out was closer to a "build-it-and-forget-it" philosophy, leaving us with a $2 trillion-dollar modern maintenance backlog. Today, the most important question for our representatives on Capitol Hill must be—what’s next? We need Washington D.C. to prioritize our nation’s infrastructure and demonstrate the leadership necessary to make the “what’s next” into a reality.

NLC believes that we need a bold new commitment from Congress to rebuild and reimagine our future infrastructure. This must be done in partnership with you – America’s cities and towns. Local leaders are innovating, prioritizing the projects that needed to be finished yesterday, and piecing together the funds to pay for our share. Since 2016, local communities and states have approved nearly $250 billion in investments to modernize local infrastructure. If Congress wants to start making the necessary fixes to our infrastructure, they need to support communities with investment and a seat at the table when building out policy priorities.

And so, NLC is calling on Congress to make this the year we come together and pass a comprehensive infrastructure package. Every day, NLC is working across the aisles of Congress and with the White House on proposals to rebuild our essential infrastructure and equip our workforce with the skills to build, maintain, and strengthen that infrastructure for the future. Until a comprehensive package is passed at the federal level, infrastructure must remain the top legislative priority.

Texas has been a great partner to NLC, both in Washington D.C. and at home. In February, Texas Municipal League president-elect Mayor Eddie Daffern of Staples traveled to our nation’s capital for our State League Fly-In to stand with NLC on Capitol Hill to meet with recently-elected members of Congress. In March, 178 local leaders from Texas visited Washington D.C. for the Congressional City Conference, to sit down with members of the Texas Congressional delegation and to highlight the projects the federal government can be a partner on going forward.

Local leaders must continue to take action. Mayor Ron Nirenberg from San Antonio testified before the House Transportation Committee on behalf of NLC to highlight cities’ priorities for the next federal transportation bill. With the bold vision ConnectSA, the city of San Antonio has crafted a plan to leverage innovative transit options, improve traffic flow, and embrace regional connectivity with city-to-city rail links in high-growth corridors. In order to align congressional investments and cities’ needs, local leaders must continue to showcase a commitment to elevating solutions and building partnership to address our national infrastructure challenges.

Some of these national challenges have the most extreme effects locally. Our infrastructure crisis has left our roads congested and commuters frustrated. In the Fort Worth region, on I-35, there are over 884,000 hours of delay per mile per year, costing residents over $60 million in wasted time and gas. Local leaders like Mayor Brian Johnson of Kennedale are watching the Southwest Connector project’s proposed options closely to see how changing access to I-20, I-820, and US 287 could reduce crashes and relieve heavy congestion for America’s small towns.

As a nation, as we look to rebuild, we need to develop the critical workforce programming that would help ensure residents have the skills needed to compete in the ever-growing and in-demand sectors of infrastructure. Houston has chosen to push forward, with Mayor Sylvester Turner’s Hire Houston Youth program, bolstering Houston’s workforce by supporting underserved youth. Upskill Houston is creating career paths, providing training, and making clear connections for those seeking to enter the infrastructure workforce that is so crucial to the local economy.

NLC is asking local leaders from every city and town to educate their members of Congress on the critical needs facing America’s communities. To be the best advocate for our residents, we must partner on a shared vision that helps communities compete in today’s connected economy, grow new businesses, create jobs, and rebound from disasters. America’s infrastructure problems can become opportunities. We need to build that future starting today. We look forward to continuing this work with each and every one of you this year. ★
The Texas Municipal League (TML) 2019 Water and Wastewater Rate Survey was sent to all 1,159 Texas cities; 775 cities responded. Information is presented only for cities that provide water and wastewater services to their residents. Information for cities that provide water and wastewater services through municipal utility districts, interlocal agreements, and other private sources is not included in the survey. The information contained in the survey results was provided by the cities, and TML did not verify the accuracy of information reported. Where no response to a specific question was received, a zero is used to indicate no response; zeroes are not included in the computations of averages.

A total of 605 cities reported that they provide water service to their residents. No cities with population 350,001-500,000 reported. The average cost of water usage of 5,000 gallons in all cities is $39.76, an increase of 3.59 percent over the 2018 average of $38.38. The average monthly residential consumption in all cities is 5,809 gallons. Chart 1 shows average residential and commercial water rates by city size.

Wastewater service is provided in 580 of the cities responding to the survey. The average cost of wastewater service for residential usage of 5,000 gallons is $30.67, an increase of 5.07 percent over last year’s average of $29.19. Chart 2 shows average residential and commercial wastewater rates by city size.

The results of the 2019 Water and Wastewater Rate Survey are now posted on the TML website at www.tml.org/229/Water-Wastewater-Survey-Results. You can also access previous years’ results there. If you have any questions about the survey, please contact Jacqueline Redin at jredin@tml.org or 512-231-7400.
## Water Fees by Population Category Summary 2019

<table>
<thead>
<tr>
<th>Population Group</th>
<th>No. of Cities Reporting</th>
<th>Avg. Total Customers</th>
<th>Average Usage</th>
<th>Average Fee for 5,000 Gal.</th>
<th>Average Fee for 10,000 Gal.</th>
<th>Average Fee for 50,000 Gal.</th>
<th>Average Fee for 200,000 Gal.</th>
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<td>2,000 OR LESS</td>
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## Wastewater Fees by Population Category Summary 2019

<table>
<thead>
<tr>
<th>Population Group</th>
<th>No. of Cities Reporting</th>
<th>Avg. Total Customers</th>
<th>Average Fee for 5,000 Gal.</th>
<th>Average Fee for 10,000 Gal.</th>
<th>Average Fee for 50,000 Gal.</th>
<th>Average Fee for 200,000 Gal.</th>
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<tr>
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<td>917.71</td>
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<td>46.17</td>
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<td>699.49</td>
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When a city breaks ground on a new infrastructure project, most of the nearby residents don’t know that the project has been underway for some time. Effective planning and design lay the groundwork for cost-effective infrastructure suited to the unique needs and geography of a city. Making sure the i’s are dotted and t’s are crossed, approvals and permits are granted, and public opinions are heard may often be the most difficult steps before a project is shovel ready. Fortunately, the Texas Natural Resources Information System (TNRIS), a division of the Texas Water Development Board, offers several free resources that can help a town or city move a project forward from concept to groundbreaking and beyond.

For example, TNRIS maintains an extensive library of over one million frames of historic aerial photographs dating back to the 1920s. These photographs can provide a valuable, historical reference to property being considered for development. Cities considering infrastructure projects and developers seeking to purchase property for subdivisions, road or highway expansions, or any other use should understand the history of the property before development begins. Photos may be able to shed some light into past uses that may impact the project scope or deter development and construction altogether.

Lidar is another tool that can help ensure cities and engineers are planning comprehensively before a project begins construction. This technology uses light in the form of invisible lasers to measure variable distances to the Earth. These light pulses can generate precise 3-D representations of the shape of the earth and its features. Lidar-derived elevation data can help understand the spatial relationships of the earth and manmade features. Generating computer models with help from Lidar data can help engineers plan for new city infrastructure, improvements, and expansion in a very cost-effective way by understanding how the city may benefit or be impacted by a project in advance of construction. Project adjustments can be accomplished virtually and extensively tested prior to breaking ground.

When a Texas school district was looking to expand its property, this 1958 photo from the Texas Natural Resources Information System’s Historical Imagery Archive revealed that the number of oil and gas tanks previously on property was greater than initially thought.
TNRIS has a library of Lidar data covering approximately 50 percent of the State and is continuously seeking partners to capture new and updated data.

The soil database on the TNRIS website provides an additional resource for city planners. Because soil type can make or break a construction project, detailed soil information helps determine the feasibility and scope of infrastructure projects. This dataset can help provide an understanding of the ease or difficulty of property excavation for a proposed project. Knowing in advance that soil conditions may pose a potential problem could help communities avoid costly mistakes and ensure that the right building isn’t in the wrong place.

Flooding is an issue for many cities throughout the State, from hurricane-prone southeast Texas all the way to the high plains region and beyond. Flood planning is a necessary step to ensure the safety and sustainability of communities and their infrastructure. Available on the TNRIS website, the National Hydrography Dataset is the most comprehensive database for rivers and streams in the United States. It represents the country’s water drainage network with features such as rivers, streams, canals, lakes, ponds, coastline, dams, and stream gages. Along with Lidar and other modeling tools, the National Hydrography Dataset helps accurately model drainage and flooding potential for city projects. With this data, engineers can perform preliminary drainage assessments for infrastructure or other development projects—planning ahead for flooding instead of dealing with its unexpected consequences.

Other datasets such as land parcels and statewide addresses can also be very beneficial to city planners. Most new construction in urban areas impacts citizens in some way. Knowing what property may be affected and who owns it is an important first step in the planning process. Outreach programs can be identified in advance of development to inform the public and specifically those individuals that will be directly impacted by the project.

Each of these datasets can create an accurate virtual environment by which city planners and engineers can create and test almost every type of infrastructure project. By identifying problems early on, communities can adjust and test until the desired outcome is achieved. Additionally, when a project is equipped with the right data and models, the public can be brought into the discussion earlier to more easily understand the project before construction begins.

Our doors at TNRIS are always open and our resources are at your disposal. To learn more about these datasets and other geospatial data products available, visit www.tnris.org.

Richard Wade is the Deputy Executive Administrator of the Texas Natural Resources Information System (TNRIS), a division of the Texas Water Development Board. He provides direction and management for all TNRIS-related activities and programs and serves as the Geographic Information Officer for Texas. He has 30 years of experience in Geographic Information System (GIS) technology and computer mapping.

The Texas Water Development Board’s mission is to provide leadership, information, education, and support for planning, financial assistance, and outreach for the conservation and responsible development of water for Texas.
CROSS-FUNCTIONAL TEAM FINDS INNOVATIVE SOLUTION

In a concerted effort to address water loss noted in a water rate study conducted in 2017, the City of Melissa has taken the issue head-on, implementing proactive measures, mobilizing its resources, and developing an aggressive plan of action, while setting a benchmark in reducing water loss.

The weight of the outlying 2017 water loss numbers, higher than the generally acceptable range, resulted in City Manager Jason Little convening a high-level, cross-functional team of Melissa personnel, tasking its members with developing a plan of action to address the issue. The team began by creating their roadmap, including thoroughly investigating the issue, reviewing the causes of the anomaly, proposing workable solutions, making the necessary corrections, and devising a plan to reduce the water loss.

Citing the need for a multi-pronged, strategic approach to the issue, the city manager assembled the team by choosing employees with skills in a variety of seemingly disparate disciplines. In addition to Public Works Director Jeff Cartwright and City Engineer Bob Helmberger, others appointed included Finance Director Gail Dansby, Director of Development and Neighborhood Services Tyler Brewer, and Administrative Services Manager Carrie Mikeska. Mikeska is also the utility billing supervisor.

The team set about its work with the full support of the mayor and city council, who were kept fully apprised of the issue by the city manager.

In February 2018, a set of initial recommendations was presented to the city manager. These included contracting with two external audit firms to review the data and conduct leak detection, repairing those leaks identified in...
the reports, implementing improvements to the various processes involved, and conducting detailed calibrations of wholesale purchase water meters.

Andrew Chastain-Howley of the Dallas office of Black & Veatch analyzed the City’s water system to assess potential water losses, including billing data, wholesale water purchases, and retail water sales. Austin-based Sam Godfrey, owner of Samco Leak Detection, physically surveyed the City’s approximately 75 miles of service and distribution lines, identifying over 50 active leaks.

The expedient measures enacted at the time stemmed the flow of water loss. Perhaps more importantly, the measures provided a tell-tale clue that shed light on one of the principal underlying reasons for the water loss issue. Copper piping that connected Melissa homes built before July 2012 to neighborhood water mains were beginning to show wear, and critically, were developing cracks and fissures that allowed water to leak, substantial amounts in some instances, and diminishing water pressure to the affected homes.

Called residential service lines, these individual connections to single family homes are the water lifelines that provide families with all of their water needs. And, in homes built before July 2012, copper was the material these pipes were made with. This practice was in line with construction standards approved and published by the North Central Texas Council of Governments. While copper pipes are generally reliable, the shifting, expansion, and contraction of Melissa soils under these decade-old homes were beginning to cause the service lines to develop cracks and breaks.

Moreover, the pressure of water flowing through copper service lines exacerbated the problem, converting small, pinhole leaks into larger, more serious seepages over time. The breakable nature of the copper pipes also came into play when the shifting of soils caused gravel and rocks, used as fill around the pipes, to puncture the lines.

City construction standards were modified in 2012 to eliminate copper pipes for use in service lines. The more resilient and durable polyethylene pipes, commonly referred to as poly, became the standard. But there were still many homes with copper service lines.

With the realization that the old copper service lines in pre-2012 homes, confined to a few specific subdivisions, were now failing, the team proposed a program that would
detect leaking service lines and replace them, launching a year-round effort of detection and replacement of copper pipes with poly.

The decision to take control of the detection and repair of the leaking service lines meant not only that special detection equipment would need to be purchased, but also that staff would have to be trained in operating it. After purchasing the leak detection device, which uses sensitive microphones that amplify the distinctive sound of leaks, several employees in Melissa’s public works department were trained. Even so, the City periodically calls in representatives of the equipment vendor to ensure that techniques used by Melissa staff maintain the highest level of accuracy.

Once detected and identified, a process of replacing the copper tubing with poly was devised and instituted, utilizing an excavation process requiring two relatively small holes, one at the home’s meter site and the other at the connection to the main, usually at curbside. The copper pipe is uncoupled at both ends and pulled out with a backhoe. The poly is then inserted in much the same fashion, threaded through the same channel and connected at both ends.

On a routine basis, a detection crew of two trained employees utilizing the listening device, walk from block to block stopping at each home. The water meter cover is removed, the listening device is lowered and placed on the exposed portion of the service line, and a crew member listens through soundproof earphones for the offending gurgling that denotes a leaking service line. If detected, a notation is made, and a work order produced.

Since beginning this program in mid-2018, some 60 service lines have been replaced. In addition, the several subdivisions that were constructed prior to 2012 are visited by the detection crews about once a quarter, ensuring that leaks do not escape detection.

The proactive, aggressive manner in which the City of Melissa has undertaken the challenge of service line leaks is setting the standard for in-house detection and repair. Moreover, combined with professional support from industry leaders, advanced tools such as the FATHOM WaterSmart portal provide customers with hourly usage data and automated leak alerts, state of the art metering by Aclara Technologies, LLC, billing by FATHOM, and community awareness and support in reporting any visible system oddities undergird state-of-the-art service to residents and businesses. ♠
## Congratulations!

**THE TEXAS COURT CLERKS ASSOCIATION IS PROUD TO ANNOUNCE**

### 100

**LEVEL III CERTIFIED MUNICIPAL COURT CLERKS**

<table>
<thead>
<tr>
<th>Name</th>
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In 2018, 670 clerks were certified at Level I and 544 clerks at Level II!

### 504 CITIES PARTICIPATED IN THE CERTIFICATION PROGRAM IN 2018.

www.texascourtclerks.org
When it comes to city services, not needing to think about them can be what residents count on most, from smooth roads to safe neighborhoods. Quietly reliable sewer service also ranks high on that list. That’s not news to Arlington Water Utilities – the North Texas municipal utility is taking a collaborative approach to make sure residents can count on sanitary sewer infrastructure.

The Arlington Water Utilities Sanitary Sewer Overflow Core Team was formed in 2017 to improve the prevention of sanitary sewer overflows. Sanitary sewer overflows happen when mains become overloaded because of a blockage, which is most often caused by grease or fats washed down drains in homes or businesses. These overflows can create property damage and dangerous environmental hazards for residents, and harm wildlife.

The Core Team’s regular meetings combined the experience and expertise of representatives from across the department’s divisions, including field operations, engineering, treatment, business, and public relations. “The purpose was to examine available data to formulate a plan that would meet customer expectations for sanitary sewer reliability and improve decisions about infrastructure replacement spending,” said Robert Stanley, senior engineer for Arlington Water Utilities.

Results have included a three-pronged approach centered on leveraging new technology, better focusing inspections and cleaning, and fostering collaborative research for the future.

“As a public utility we must meet customers’ expectations...
- when they turn the faucet on, water comes out and when they flush the toilet, the water goes away,” Stanley says. “We also need to do what we can to protect our residents’ environment, and be the best stewards of their system and the rates they pay. So, we are continually looking for ways to improve and better meet these goals.”

**A Starting Point**

Arlington Water Utilities is responsible for the maintenance and operation of 1,231 miles of public sewer main, which serves the city’s more than 375,000 residents and millions of visitors annually. Maintenance of the system includes replacements of the most problematic mains. But, at a renewal rate of less than one percent each year, the efforts to prevent backups must focus largely on preventative cleaning and educating the public about protecting the system from grease.

In fiscal year 2018, the department had 7.5 sanitary sewer overflows per 100 miles of sanitary sewer main. The number was down dramatically from 10 years earlier; but up slightly from the previous year. Engineers tracking the numbers knew the overflows were more likely in the colder winter months. But they couldn’t pinpoint clear reasons for the movements or predict the future.

About 96 percent of Arlington’s sanitary sewer system is made up of mains that are less than 24-inches in diameter. Preventative cleanings were being done throughout the system, with a goal of cleaning 20 percent of the mains each year. However, the data informing those cleaning schedules was mostly anecdotal and it had been years since a comprehensive evaluation of them had been done. When the Core Team began its work, the department only had closed-circuit television assessments for about 8.5 percent of those mains.

The department wanted to improve its asset management of the sanitary sewer system. The first challenge was getting the data they needed to act.

**Making Changes**

In 2018, the Core Team’s initial work led it to recommend the purchases of a new side scan CCTV camera as well as Jetscan HD video nozzles for the departments cleaning trucks. Though not as sophisticated as CCTV footage, the Jetscan nozzles allow crews to gather more video footage as they work and to check on the effectiveness of their cleanings as soon as they are done. Plus, engineers can later examine the footage from both the regular CCTV and the JetScan to check for obvious defects in the lines and make better decisions about managing the system’s assets and making replacements.

Michael Mosier, another Arlington engineer who led the Core Team’s work, said an important part of leveraging technology included creating buy-in from field crews who were doing the monthly cleaning of sanitary sewer mains. “One of the things we did was enable a rating system within the city’s work management system, where cleaning crews can score a main with red, yellow, or green, and report specific problems they are seeing for follow up,” Mosier says. The department also recently purchased two new combination jet-vac sewer cleaning trucks to replace older units.

During 2018, the Core Team also used the data that was already available to refine the sanitary sewer cleaning schedule. A closer examination of records of CCTV data and crew input in relation to areas targeted for cleaning resulted in big changes. The existing list of cleaning locations was reduced from 51,789 linear feet to 31,106 linear feet and a new monthly, quarterly, bi-annual, and annual schedule was instituted for those lines.

“We tried to put data science analysis behind what the crews were already doing,” Stanley says.
In the future, cleaning targets will be added or subtracted based on a computerized algorithm developed in-house. The formula tracks repeat sanitary sewer overflows, maintenance history, and sewer blockages throughout Arlington. The results from the algorithm determine whether cleaning is needed and feed directly into work order assignment systems.

“We’re effectively moving to a more dynamic list that will update as data comes in,” says Brendan Hamilton, the Arlington engineer who developed the new algorithm.

**Beyond Maintenance**

Arlington Water Utilities’ location gives it convenient access to an effective partner for transformative research – the College of Engineering at The University of Texas at Arlington. As engineers and others on the SSO Core Team look at improving services and strengthening the City’s sanitary sewer system, two collaborations with the University are sure to show results.

First, the University and Arlington engineers teamed up in 2017 to conduct an evaluation of all of the City’s sanitary sewer mains more than 24 inches in diameter using a multi-sensor robot that gathers laser, sonar, and video data. That information – as well as planned core sampling from targeted mains – will help guide asset management and future projects. In addition, the water department is teaming with the College of Engineering to study manhole corrosion protection needs. Researchers will examine 350 of the city’s concrete manholes to measure hydrogen sulfide, which can build up in sanitary sewer systems and lead to corrosion of manholes and mains.

This spring, the city council also approved the purchase of 50 battery-operated SmartCover Systems installed in manholes to measure sewer system flow at their locations. The devices alert City engineers and field operations staff by text or email when sewage levels in the in the manholes rise quickly, a condition that could indicate a backup in the system downstream.

The new web-based SmartCover program also tracks data over time to help the city determine areas where flow may be affected by root intrusions or other damage to the main. Data is transmitted wirelessly, and workers do not have to enter manholes to install the device. The SmartCover Systems can also be moved to other locations if engineers determine they are needed in another area of the sanitary sewer system.

Even with the progress already made, the Sanitary Sewer Overflow Core Team still has a big component of its work to look forward to: seeing what the measurable results of this cross-disciplinary efforts will be. Core Team members are hopeful residents will benefit from their work, even if sanitary sewer service remains something the average person doesn’t often think about.

“‘We knew when we started this that we were looking at limited resources, just like any municipality,’” Stanley says. “We’re working with less to do more and we’re hoping to improve efficiency and effectiveness.”
Rivers flow, ideas flow, and so should sewers.

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The City of Huntsville sits on a unique landscape featuring hills, trees, and creeks. One of those is Town Creek, which is a large part of a network of streams that serve as the stormwater drainage system, spanning almost one-and-a-half miles through the heart of the City. More than 160 acres of land adjoins Town Creek.

Having experienced a variety of drainage and flooding problems ranging from localized nuisance flooding to larger scale watershed flooding, Huntsville was the victim of a damaging flood in the early 2000s. The results included devastating damage to roads, buildings, and other properties.

During the 1960s, the City of Huntsville utilized decommissioned 72-inch diameter railroad tanker cars as culverts to enclose portions of the Town Creek drainage system to build parking lots and roads in the downtown area.

While the rail cars worked for many years, the City still experienced flooding. Streets were often under water and buildings began having issues as far back as 1972. In 1973, the City conducted a study to determine the scope and expense to replace the train cars, but the cost constraints prohibited Huntsville from pursuing the project. Meanwhile, citizens, businesses, and Walker County facilities continued having flooding issues and the threat of sinkholes as the tankers continued to deteriorate.

The best long-term solution was to construct a drainage structure and channel encompassing 7,700 linear feet of the existing system. The level of protection provided by these improvements is for a 100-year storm event. The total estimated preliminary project cost of the proposed improvements was approximately $11 million. This included the estimated costs for permitting, survey, engineering, materials-testing, grant administration, construction inspection, and contingencies.

The City of Huntsville submitted a grant application to Federal Emergency Management Agency (FEMA) through...
the Hazard Mitigation Grant Program (HMGP) in April 2009 for drainage improvements and upgrade along Town Creek.

The project consisted of installing large diameter culverts in place of the train cars, which were located under streets and buildings in Huntsville. The City was notified in July 2015 that the improvements along Town Creek between 7th Street and Bearkat Boulevard in downtown Huntsville had been approved and was given 36 months to complete the project.

The City hired Garney Construction as the construction manager-at-risk to complete the project and work hand-in-hand with other local agencies to ensure success. Garney also took time to meet with all the property owners in the construction area to uncover their needs and ease their concerns. RPS Klotz Associates served as the contract engineer. Upgraded drainage construction added increased capacity to the system and provided relief to outdated infrastructure. A combination of basins and pools within the creek were utilized between Avenue I and Bearkat Boulevard to provide enough detention to handle the flow, which might occur during a 100-year flood event.

City staff from various departments including neighborhood resources, permitting, engineering, finance, public works, parks and leisure, and the city secretary’s office coordinated efforts to embark on the Town Creek Drainage Project. Many private businesses and public entities worked alongside the City. Sam Houston State University (SHSU) provided more than four acres of land for detention ponds, and allowed the City to work on other areas of the creek that were on SHSU property, utilizing a work order instead of requiring an easement. Walker County granted access to their property at no cost and was invaluable in the outreach and community education efforts. Many surrounding businesses and property owners provided access without requiring Huntsville to gain easements or make any payments.

Alongside Garney Construction and the city engineer, staff continually updated the public about the progress of the project as Town Creek traverses much of the center of town and at any given time at least one street was closed. The traffic detours could have been a nightmare for travelers and citizens, but due to a vast amount of outreach and support for the project from the citizens, complaints were nominal. Citizens praised the City’s efforts and thanked the council for backing such an important public works project. One business owner opened his restaurant early to feed the construction crew since they were working nights to limit noise and access impacts on local businesses. The City held two doughnut drops and a cookie drop to thank everyone for their patience.

Ultimately though, the real test was going to be the next significant rain event. When Hurricane Harvey deposited almost 20 inches of rain in a 24-hour period, the City of Huntsville did not receive any damage or flooding to streets or entities within the Town Creek area.

Having successfully navigated the Town Creek Drainage Project and Hurricane Harvey, the City of Huntsville can maintain its designation as a Shelter City for natural disaster evacuees, providing safe harbor to approximately 15,000 inmates and 5,000 evacuees from the Gulf Coast Region. ★
"The plane! The plane!" That is a cultural reference to the opening of *Fantasy Island*, a television series that aired in the 1980s. However, the flight pattern taken by the Mesquite Metro Airport, founded in the 1980s that has helped it arrive at its recent accomplishments, is no fantasy.

There are no daily seaplanes approaching, like in the show, but there is certainly a lot of activity – both on the ground and in the skies. A combination of infrastructure projects mixed with creative economic development and marketing has propelled the airport’s ascension as a relevant economic engine in the North Texas region. The future of the airport looks bright as it already has a $22.7 million total economic impact on the Mesquite community.

The airport has completed a $2.8 million improvement project, which was 90 percent funded by the Federal Aviation Administration (FAA). The runway was extended to 6,000 feet for larger corporate aircraft. It opened earlier this year. Additionally, the runway lights were replaced, and taxiway signage was enhanced. The infrastructure project sets the airport up for
long-term success by providing a safer, more reliable airfield environment for both corporate and recreational pilots. The new lighting system helps airborne aircraft identify the airfield at night while also providing a field of reference for aircraft on the ground. This upgraded lighting system includes a back-up generator for the runway/taxiway lights as well as the airport’s navigational aids, which will allow these systems to continue to operate even during severe weather. There were also repairs to a nearby drainage system, which allows water to move away from the airport pavement system to help prevent erosion issues and extend the life of the airport’s paved surfaces. This improvement eliminates standing water issues, which can attract wildlife to the airfield environment. The runway extension along with the other infrastructure improvements will be inviting to larger corporate aircraft to choose Mesquite Metro Airport as a very viable and cost-effective option for flight plans to the Dallas-Fort Worth Metroplex.

Mesquite Metro Airport General Manager Eric Pratt said, “We are experiencing a tremendous increase in the use of our airport. Since 2011, there has been a 278 percent increase in jobs created and the economic impact has increased by 116 percent. The taxable value of our airport is up nearly eight percent, hangar rental revenue has risen by more than 10 percent, and fuel sales have gone up more than nine percent.” Pratt indicated a recent Texas Aviation Economic Impact Study published by the Texas Department of Transportation ranked Mesquite’s airport 32 out of 264 general aviation airports in the state.

The airport is transitioning from a recreational airport to a competitive corporate jet destination. Nearly 17 percent of all aircraft based in Mesquite are for business use. In 2017, the airport was named one of the nation’s top 25 busiest general aviation airports. Pratt stated, “We have 216 aircraft based here in 164 hangars. The mixture of aircraft operating in Mesquite includes single engine and multi-engine planes, jets, and helicopters. Our location, fuel prices, full-service terminal, on-site maintenance, and FAA-contract control tower situate Mesquite Metro Airport as a destination of choice by pilots and schedulers.” Additionally, the Texas Department of Public Safety uses the Mesquite Metro Airport as home base for their fleet of helicopters.

The area around the airport continues to be a popular location for developments. Ashley Furniture Industries Inc. built a $65 million, 850,000-square-foot southwest regional distribution and fulfillment center on 358 acres next door to the airport. That massive development will spawn other projects and developers on adjacent parcels in the coming years.

The future is bright for the airport. Total take-offs and landings are up from last year. The private sector investment in the airport is at an all-time high. There are an additional five hangars that have been leased and five more hangars that will be available in 2019. The airport has teamed with the Mesquite Convention and Visitors Bureau and the City’s economic development department on array of marketing and advertising opportunities to tout the benefits of the Mesquite Metro Airport to pilots and aircraft owners.

Pratt said, “The idea of this airport being productive and relevant is no longer a fantasy. The reality is Mesquite Metro Airport continues to make significant impacts on the local economy and is accelerating towards new profitable destinations.”

★
We would like to think we know spam email when we see it. When we think of spam, we think of the obvious emails selling Viagra, Nigerian princes giving us millions of dollars, or the obvious PayPal spoofs. But even the best of us can get tricked by trickier spam—and we need to stay vigilant against it.

While good antispam software will prevent most spam from reaching your inbox, it’s not perfect. In the world of cybersecurity, it’s foolish to think you are 100% safe. Doing so makes you more vulnerable and more likely to be the next victim. Often with cyberattacks, pride comes before the fall.

Just as your city may have the best police officers serving your community, they cannot guarantee 100% that a bad guy won’t drive into town today. Now, multiply that situation many times over with the internet. A cybercriminal can be working alongside you (yes, in your office), in your city, in your county, in your state, somewhere in the country, or across the globe.

We need to keep a careful watch for the possible dangers. With spam, some emails will still come through that attempt to trick you. Here are five that you must be extra careful about.

HOW TO SPOT FIVE TRICKY SPAM EMAILS

By Dave Mims, CEO, Sophicity, We put the IT in city®
1. FEAR-BASED EMAILS THAT SEEM LIKE THEY ARE LEGITIMATE.

These kinds of emails come in many flavors, but all have the same theme. For example:

- **Banks and financial institutions “alerting” you:** You receive an email from your bank that tells you something froze your account and you need to click a link to “confirm your credentials” and log back in.

- **Government agency threatening you:** The Internal Revenue Service, Federal Bureau of Investigation, or some other government agency threatens you with legal action or financial penalties unless you log in to correct an error.

- **Retail stores and online brands luring you in:** Emails from Apple, Best Buy, or Netflix tell you about a big discount, sale, or error with your account—requiring you to log in.

- **Software or applications warning you:** You receive emails from Microsoft, Google, or Facebook telling you about some technical error and that you need to log in to fix it.

Always be skeptical of these “legitimate” emails, especially if they seem to be scaring or threatening you. If you have any doubt, call the company directly about the issue instead of clicking on links in the email.

2. EMAILS FROM “TRUSTED” SENDERS.

These can be very, very tricky. Here is a real example:

From: Nathan Eisner <admin@ocess.net>
Sent: Tuesday, October 02, 2018 10:57 AM
To: [OMITTED FOR EXAMPLE]
Subject: Direct Deposit Info Update

Sue,
I changed my bank and I’d like to change my paycheck dd details, can the change be effective for the current pay date?

Regards,
Nathan

In this case, it looks like the email comes from a trusted contact. In some cases, the spammer may be sophisticated enough to even spoof your city manager’s or another official’s email address. But note three big red flags:

- A request for unusual information.
- A tone that doesn’t quite match the tone of the trusted contact.
- Odd grammatical errors.

If you have the slightest doubt or something seems odd about an email from someone you trust, call the sender directly and ask if they actually sent you that email.

3. TRICKS TO GET YOU TO CLICK.

Many spammers try to use tricks to get you to click that include:

- **Delivery Failed:** When emails bounce, you typically get a notification but you’re not required to do anything. But when you get an email message—sometimes out of the blue, even if you haven’t sent emails recently—that tells you several messages were not delivered, you should never click on it to “find out more.” That’s not how email works.

- **You Have Unread Messages:** Don’t ever fall for an email that says “you have unread messages” and requires you to click on it. Do you know how you should find out if you have unread messages? Simply, look at the ones in your inbox that you haven’t read. Most email software clearly shows you what’s read and unread, and there are options that help you filter unread from read email messages.

- **“Re:” Messages:** If you see a message with “Re:” in the subject line, you might think it’s part of an earlier conversation—and thus you’re more likely to think it’s valid. However, many spammers insert the “Re:” into emails to trick you into thinking you’re responding to an ongoing email thread.
4. UNKNOWN OR UNTRUSTED VENDORS.

This falls into a gray area. Many vendors, of course, still buy email lists and blast out emails across a wide variety of industries. A modern spamming tactic—which sometimes involves shady or less reputable vendors—is to reach out to “prospects” in a normal business way. Then, if you click and get interested in doing business with them, you may get promised something that the company won’t deliver.

5. UNSOLICITED ADS.

Again, this can possibly be another gray area. However, it’s a good general rule of thumb to avoid unsolicited ads from companies that are untrusted and not within your known network.

Even if the offer is legitimate, only engage with these emails if you absolutely know you subscribed to them and you’re used to a consistent look and feel. Pause to consider if this is an email you would expect to receive, or one you have received in the past. Is it reasonable that you should get this email? And even then, be careful. (Many companies will also share product and service promotions directly with you on their websites or in their stores.)

While employee training and awareness helps you spot these tricky emails, remember to supplement your efforts with good enterprise-level antispam software that:

- Stops most spam before it gets to your inbox.
- Sends the remainder of this spam to your junk mail.
- Allows you to set strict filters so that you can go through your junk mail and whitelist trusted senders.

Here are five tips on how to spot phishing attacks that take only seconds.

1. Review every letter in the sender’s email address. I want to stress “every letter.” Don’t quickly glance at the sender’s email address because it’s too easy to miss one letter being different—and cyber criminals know we are too trusting and busy! Is this an email address from one of my contacts? Does the email address look legitimate or one from whom I expect to receive email? Does the sender’s email address change if I reply to the email? If answering these questions cause you any doubts, then these are red flags.

2. Never click a link or download an attached document unless you are certain it is legitimate. You must be 100% sure that the email is legitimate before clicking or downloading.

3. Ask yourself, “Am I expecting this email?” Is it reasonable that you should get this email?

4. Hover over the links. Know that emails can include very long URLs that get translated into shorter URLs after you click. This is part of how email programs work. However, if you have doubts about an email (especially if you’re receiving an email from an organization for the first time), hover over the links with your cursor (but don’t click them). At the bottom of your screen, you will see the URL appear. Look at these URLs to see if you identify the name of the organization that sent the email (such as sophicity.com). If the URL looks very different from the sender’s organization (especially if it doesn’t even mention the organization’s name), then it may be spam. Remember, URLs can also be spoofed, so if you have any doubts at all, use the additional tips in this article to examine other aspects of the email that assess its trust factor. If you’re not 100% sure, contact your IT support and have them review it.

5. If you are not 100% sure about an email, get a second set of eyes on it. Ask someone you trust. Hopefully your IT support will review it, but you can also get someone next to you in the office to look over your shoulder at the email and review it. And don’t worry—checking emails like this is not the norm. It will be an exception that you will have to ask someone to review an email, if you follow the steps above. However, in these exceptional cases it’s much better to take a few seconds to do this rather than take hours, days, weeks, or months cleaning up a mess from a cyber incident.

When you know the email is a risk, don’t just delete it. Mark the email as spam or junk (depending on your email software) so that others too can benefit from your good work at spotting phishing. ★
“I wish to be useful, and every kind of service necessary to the public good becomes honorable by being necessary.”

NATHAN HALE

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Percussion Play

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- Power Facility Inspections
- Fire and Life Safety Inspections
- Environmental Site Assessments
- Food Complaint Investigations
- Food Handler/Manager Classes
- Food Establishment Inspections
- Temporary/Special Event/Seasonal Inspections
- Public Swimming Pool Inspections
- And More