



Creating **Better** Communities.

AN AT&T
PROGRAM



government
technology



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INTRODUCTION

Strengthening Special Districts

In 2017, AT&T and *Government Technology* launched a national initiative to create a community where special-purpose government organizations can connect and collaborate. The first-of-its-kind program gave the nation's 38,000 special districts a dedicated forum to share ideas, build relationships and solve problems — and it was immediately embraced by these vital, and sometimes overlooked, units of government.

In 2018, the focus was on expansion. We built on our initial success by growing key aspects of the program.

The Special Districts Advisory Board grew from 12 to 16 members, adding more depth and diversity to the leadership group that designs and spearheads program activities throughout the year. These additions strengthened the special districts community and underscored our commitment to build an

initiative that's designed by special districts for special districts.

Also, the number of live regional summits increased from four to five, giving special district leaders across the nation even more chances to meet, connect and learn from one another. Events in Sacramento, Atlanta, Columbus, Austin and Philadelphia drew a diverse cross-section of special districts that included water and sanitation districts, transportation

authorities, parks and recreation districts, housing authorities, port authorities and more.

The IT Innovation and Leadership Awards Program created additional opportunities to share best practices and recognize visionary leadership and savvy technology deployments. The 2018 honorees offered bright ideas to improve performance in a range of critical areas — everything from affordable housing and community safety, to digital customer experience and local economic development.

All of this and more was documented on the Special Districts microsite — www.govtech.com/districts — which tells the stories of visionary special districts as they mobilize their workforces, use data to drive new insights and effectiveness, implement

new cybersecurity tools and strategies, and reinvent customer experience.

Indeed, customer experience took on added prominence this year. A common thread running throughout our 2018 activities was “experience is the new normal” — a theme that acknowledged the need for special districts to meet rising user expectations around digital services and interactions. In this evolving environment, special districts are rethinking the digital experiences they provide to citizens, employees and other stakeholders to satisfy user demands, attract and retain talent, and deliver value.

“We’re in a super competitive environment being in the parks and recreation industry,” explains Omar Sandoval, IT director for the

Naperville Park District in Illinois and a member of the Special Districts Program Advisory Board. “There’s nothing better than telling people we have digital and mobile options that will make things easier for them to experience everything we have to offer.”

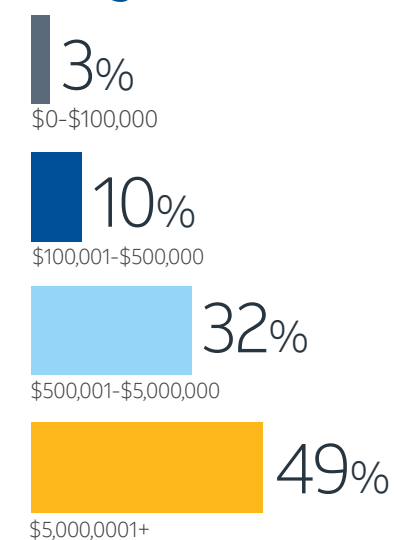
This report on year two of our program examines how special districts are navigating these and other significant issues. It presents insights from our 2018 Special Districts Survey and for the first time breaks down the national survey results to provide unique insights into the needs of key verticals such as energy, water, transportation, housing, and parks and recreation. And, perhaps most importantly, it includes real-world examples of how



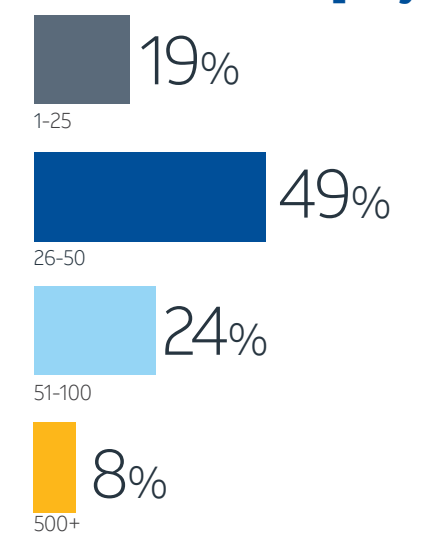
A Snapshot of the Nation's Special Districts

In 2017, the Special Districts Program launched the first national survey of special district leaders to identify their challenges and priorities. Our 2018 Special Districts Survey added a series of demographic questions to better understand their resources and workloads. One takeaway from the results: small district staffs support relatively large numbers of constituents, underscoring the importance of using technology to improve efficiency and data to drive smart resource allocation.

Budget



Number of Employees



* Not all charts in this paper equal 100 percent due to removal of a small percentage of “do not know” responses. Source for all charts in paper: 2018 Center for Digital Government Special Districts Survey

Big Needs, Tight Budgets

Results from our 2018 Special Districts Survey show that district leaders are prioritizing new digital services for citizens and mobile technology, while also protecting sensitive data. In addition, they're scrambling to react to changing regulations and requirements, and struggling to attract workforce talent. It's also clear that leaders confront these issues with fewer budget dollars than they might like — creating an environment that's ripe for innovation.

Technology Priorities

1. Budget and Cost Control
2. Citizen Engagement/Experience
3. Cybersecurity
4. Mobility for Staff and Field Personnel
5. Disaster Recovery/Business Continuity

Top Challenges

1. Insufficient Budget
2. Responding to New Regulations
3. Recruiting and Retaining Employees
4. Environmental Regulations
5. New State-Mandated Responsibilities

special districts across the country are modernizing their technology to improve performance and value.

Challenges and Opportunities

Results from the 2018 Special Districts Survey show that districts are confronting a series of interconnected challenges. Improving how citizens and other users experience digital services ranks among their top concerns, as does strengthening cybersecurity and providing new mobile tools for employees. And significantly, special district leaders are working toward these goals in an environment of tight budgets and thin resources.

Fortunately, technology modernization and growing adoption of data analytics offer a pathway toward delivering more responsive and personalized services at a lower cost, as well as boosting employee efficiency and beefing up cyber protection. Over the past two years, the Special Districts Summits have firmly established themselves as crucial information hubs for sharing examples of how to do this. Underscoring the importance of these events, special district leaders responding to the 2018 Special Districts Survey told us live peer-to-peer conversations and conferences are by far their preferred method to learn about new developments and share insights.

The 2018 summits gave attendees plenty to talk about, showcasing how a diverse set of special districts are confronting a range of crucial issues.

In Austin, attendees addressed the importance of keeping pace with evolving technology and building stakeholder support for modernization.

"We need to drive the message for change," said Ryan Hutchinson, chief technology officer for the South Central Planning and Development Commission in Louisiana. "The technology will change beneath you if you don't keep up — and business and political leaders don't always understand that."

In Columbus, special district leaders talked about the impact of mobile technology on efficiency and employee satisfaction.

"In our organization, the push for mobile access wasn't just for executives," explained one summit attendee. "It was driven by our employees' need for better tools to do their jobs."

And in Philadelphia, attendees emphasized the need for workforce development as special districts modernize.

"Right now, we don't have the staff capacity to explore new solutions," said Alexander Shermansong, an elected commissioner for the Seaview Ocean Bay Park Garbage District on New York's Fire Island. "Also, if we don't invest more in our workforce and help them understand how technologies work, they won't be in a position to help our customers adapt to new technologies and procedures."

AT&T industry experts played a key role in the Special Districts Summits as well, providing insights on how the Internet of Things (IoT), software-defined networks, 5G wireless and other emerging

"We need to drive the message for change. The technology will change beneath you if you don't keep up — and business and political leaders don't always understand that."

- Ryan Hutchinson, Chief Technology Officer, South Central Planning and Development Commission, Louisiana

technologies can be put to work by special districts to improve performance and service delivery.

Continuing the Mission

The success of our nation's communities is tied to the success of special districts. They deliver essential services to cities and towns in every corner of the 50 states. They manage critical infrastructure like electrical grids;

water and sewer systems; and highways, airports and seaports. They promote health and well-being by operating clinics and affordable housing programs. And they improve quality of life by managing parks, recreation programs and conservation districts. In short, they often form the backbone of everyday life.

Our Special Districts Program grew in important ways this

year to support the mission of these vital organizations. The following pages reflect the engagement, connection and interaction that took place in our special districts community throughout 2018. They illustrate how special district leaders are using smart technologies and innovative ideas to solve important challenges and meet new expectations.





Special Districts Technology Innovation Award Winners

The Special Districts Program includes a national awards program that highlights winners across three categories to recognize IT innovation and leadership. Here are our 2018 winners.

West Region

Technology Innovation: Citizens

Flood Early Warning System: San Francisquito Creek Joint Powers Authority, California
The interactive Flood Early Warning System website provides real-time information via text and email alerts to citizens about where and when flooding is possible or expected in residential and business areas of three cities along a flood-prone creek in the heart of Silicon Valley.

Technology Innovation: Operations

Regional Streetlight Program: Western Riverside Council of Governments, California
This program is designed to assist 11 jurisdictions in transferring their streetlights to local ownership and retrofitting them to energy-efficient LED technologies. It provides cost savings for the nearly 48,000 streetlights, reduces local and statewide energy consumption and greenhouse gas emissions by 65 percent, and enables revenue generation and smart city opportunities.

Technology Innovation: Leadership

Dante Ramirez: Principal Accountant for the Los Angeles County Metropolitan Transportation Authority

Ramirez initiated application improvements for several processes in the accounting department, which saved hundreds of staff hours, improved the accuracy of records and reduced erroneous payments. These initiatives overall have increased the efficiency, integrity and reliability of financial data.

Southwest Region

Technology Innovation: Citizens

MyGovernmentOnline: South Central Planning and Development Commission, Louisiana
The MyGovernmentOnline Software Partnership Program provides seamless cross-boundary services — for permits and licensing, planning and zoning, and public works, including in-field use — to hundreds of jurisdictions across 10 states, lowering costs and providing digital conveniences such as mobile apps, text notifications and digital plan review.

Technology Innovation: Operations

Fort Bend County Levee Improvement District No. 2, Texas
To make operations more efficient, effective and secure, and enhance flood protection for the region, the pump station/emergency operations centers installed separate high-speed internet connections linked by a fiber optic line and high-definition video

cameras to easily monitor flood levels. In addition, all district assets were inventoried using a GIS database that is available to field inspectors.

Technology Innovation: Leadership

Michael Parks: Deputy Executive Director for the Brazos Valley Council of Governments, Texas
Parks brought stakeholders and experts together to offer broadband service to the rural areas of Central Texas and provide a better future for Brazos Valley residents. He did this in part by forming COGnet, a fiber-sharing and management consortium comprising healthcare facilities, schools and local government, and working with Texas A&M University to design a double-ring architecture that provides bandwidth, speed, quality and reliability.

Midwest Region

Technology Innovation: Citizens

Website Redesign: Chicago Park District
By leveraging citizen testing and feedback, using open source platforms, implementing mobile-responsive design, and integrating the procurement portal and contract library for streamlined bid submission, the district was able to redesign its website and drastically improve the user experience.

Technology Innovation: Operations

Wet Weather Map: Great Lakes Water Authority, Michigan
The authority developed a mobile-friendly GIS map that displays real-time data along its interceptors and at its rain gauges, which increases transparency and improves communication and response times during wet weather events.

Technology Innovation: Leadership

Wesley Goodwin: IT Manager, Applications, Greater Cleveland Regional Transit Authority
Goodwin manages RTA's "Trip Planner" app, which offers riders personalized multi-modal transportation options alongside features that allow them to find landmarks, amenities, entertainment and city services — all in real time. Goodwin also created the IT Major Projects Dash Board, and managed both the transit app project and the district's transition to mobile ticketing, which now brings in more than \$340,000 monthly.

Southeast Region

Technology Innovation: Citizens

Landlord Program Enhancements: Atlanta Housing Authority
In an effort to bring more affordable housing to the city, the authority launched a portal that gives landlords immediate access to inspection results. The authority also provides tablets to inspectors to support mobile property inspection

filing, improve efficiency and reduce its carbon footprint.

Technology Innovation: Operations

Remote Monitoring of Plant Operations: Key Largo Wastewater Treatment District, Florida
The district's operations departments used real-time remote monitoring processes — including multiple cameras, various "level" indicators, automatic start and stop functions, historical trends and alarm set points — during Hurricane Katrina to enable continuous operations and help keep personnel safe.

Technology Innovation: Leadership

Edward L. Johnson: Chief Executive Officer, Central Florida Regional Transportation Authority (LYNX)
In 2017, Johnson rolled out free Wi-Fi on all 300 LYNX buses and implemented four mobile apps. His leadership is also instrumental in demonstrating the effectiveness of autonomous vehicles in the Bus Rapid Transit (BRT) corridor, as well as developing the plan for the integration of autonomous and connected vehicles, called the Autonomous Vehicle Mobility Initiative (AVMI).

Northeast Region

Technology Innovation: Citizens

Public Awareness/Public Information Campaign: Brunswick Sewer District, Maine

A year-long public awareness campaign, utilizing Facebook, YouTube, an interactive poster that works with QR codes, two kiosks and a walking trail, helped the district pass a referendum for a treatment facility upgrade with 72 percent voter approval.

Technology Innovation: Operations

Transform NY - mNTCS Transformer Monitoring & Diagnostic System: New York Power Authority
mNTCS — a monitoring and control system for transformer management — delivers a complete, real-time picture of transformer conditions and includes a vital predictive ability that helps the authority achieve significant cost avoidance.

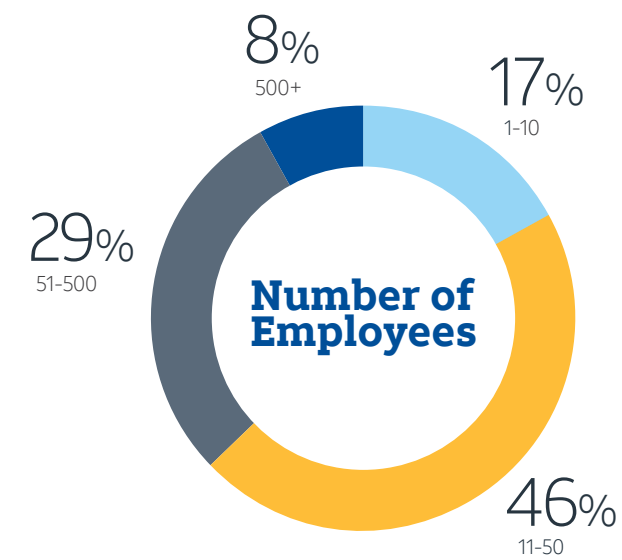
Technology Innovation: Leadership

Emily Schapira: Board Member and Executive Director, Philadelphia Energy Authority
Schapira helps develop and execute the Philadelphia Energy Campaign, a \$1 billion, 10-year initiative to advance energy efficiency and clean energy across Philadelphia, while creating over 10,000 jobs. In the first year, 225 jobs were created, more than 160 homes participated in the Solarize Philly residential program and more than 50 free energy audits for small businesses were completed.

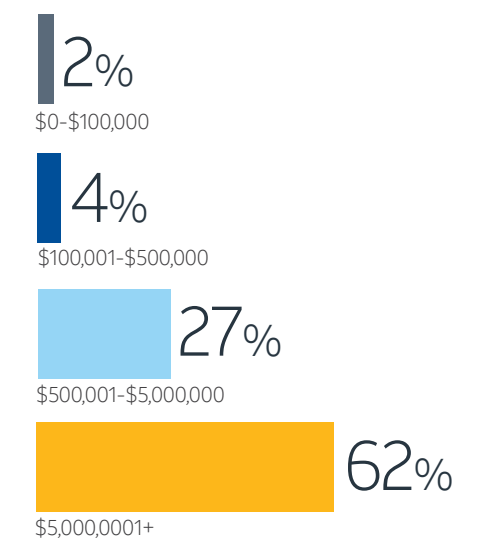
Utilities

There are more than 4,000 utility districts in the U.S., making them one of the nation's most common type of special district. The bulk of these agencies have annual budgets that exceed \$5 million, according to our research, yet many also have relatively small staffs. During 2018, we saw special district leaders undertake innovative clean energy programs, as well as mobility, automation and security efforts designed to increase staff efficiency and protect vital data.

District Overview



Budget



CASE STUDY: ENERGY

Philadelphia Energy Authority Connecting clean energy to city economic and social goals

The Philadelphia Energy Authority uses clean energy to power social good. Through an initiative known as the Philadelphia Energy Campaign, the authority works with city buildings, small businesses, schools and affordable housing to implement energy efficient and clean energy technologies that cut utility bills and improve quality of life for residents.

The Energy Campaign is a \$1 billion investment over 10 years in these clean energy projects, with the goal of creating 10,000 jobs. In the first year, it helped launch \$53 million in projects and created 225 jobs.

For example, when a Penn State study came out a few years ago indicating that owners of corner stores in Philadelphia often pay more for utilities than rent, the authority launched a program to offer free energy audits for small businesses. The authority also helps small business owners apply for grants and low-cost financing to pay for efficiency upgrades. One participating business cut energy costs by 30 percent.

Emily Schapira, executive director for the authority, says the program is designed to strengthen a valuable local resource.

“These are really important pieces of infrastructure in the city; they’re often the only place in neighborhoods to

get basic groceries,” she says. “So we felt it was important to bring in companies and build programs that could focus on helping these small businesses.”

Another initiative aims to reduce energy bills for affordable housing residents. After reviewing data from the Department of Energy, the authority found that renters at all income levels spend a larger portion of their income on utilities compared to homeowners in Philadelphia. And the city’s poorest renters spend almost a quarter of their income on utility bills.

The authority launched a pilot in 2017 that performed energy

audits in four multi-family affordable housing units in the city. As with its other programs, the authority worked with landlords to identify rebates and grants to help them install new lighting, smart thermostats and updated boiler controls. Those improvements reduced energy bills for tenants by 15 to 30 percent.

Schapira says the authority will continue to look for ways to improve the lives of city residents.

“We try not to just talk about energy for energy’s sake,” she says. “It’s a great way to save money and it’s important, but these improvements also help us tackle some of the big challenges in Philadelphia like poverty, education and public health.”

By performing energy audits and implementing efficiency upgrades, the Philadelphia Energy Authority reduced tenants’ energy bills by 15 to 30 percent in some affordable housing units in the city.



CASE STUDY: WATER

Clayton County Water Authority Safeguarding critical services and infrastructure

The Clayton County Water Authority provides water, wastewater and stormwater services to 80,000 residential and commercial customers in Clayton County, Ga., including Atlanta’s sprawling Hartsfield-Jackson International Airport. The authority is progressive on many fronts — it recycles treated wastewater into drinking water by running it through constructed wetlands, for instance, ensuring that customers have enough water even in times of drought.

The authority also is progressive when it comes to cybersecurity. A recent comprehensive cybersecurity assessment performed by a third-party firm enabled the organization to create a roadmap to safeguard vital infrastructure and data.

“An independent assessment is the foundation for a solid security strategy,” says IT Director Dan Holverson, who described the authority’s security efforts at the Special Districts Summit in Atlanta. “It helps you understand the areas where you need to focus.”

Among other things, the National Institute of Standards and Technology (NIST) standardized assessment examined internal and external vulnerabilities, analyzed web traffic and app security, and reviewed the authority’s controls on sensitive data. It resulted in a list of 20 recommendations, which were prioritized based on the severity of the risk.

In some cases, the assessment identified low-cost remedies. For

instance, configuration changes to existing asset management tools helped the authority get a better handle on hardware connected to its network. And an inexpensive software upgrade to the authority’s network equipment added important web content monitoring and filtering.

Ultimately, the assessment’s findings helped Holverson craft a security strategy that reduces risks and vulnerabilities for critical water and wastewater services in Clayton County.

“With the threat landscape progressing rapidly these days, you always have to be vigilant,” he says. “But knowing we have tools and strategies in place based on the recommendations from our assessment makes me feel a lot more confident that we are doing what we can to protect ourselves.”

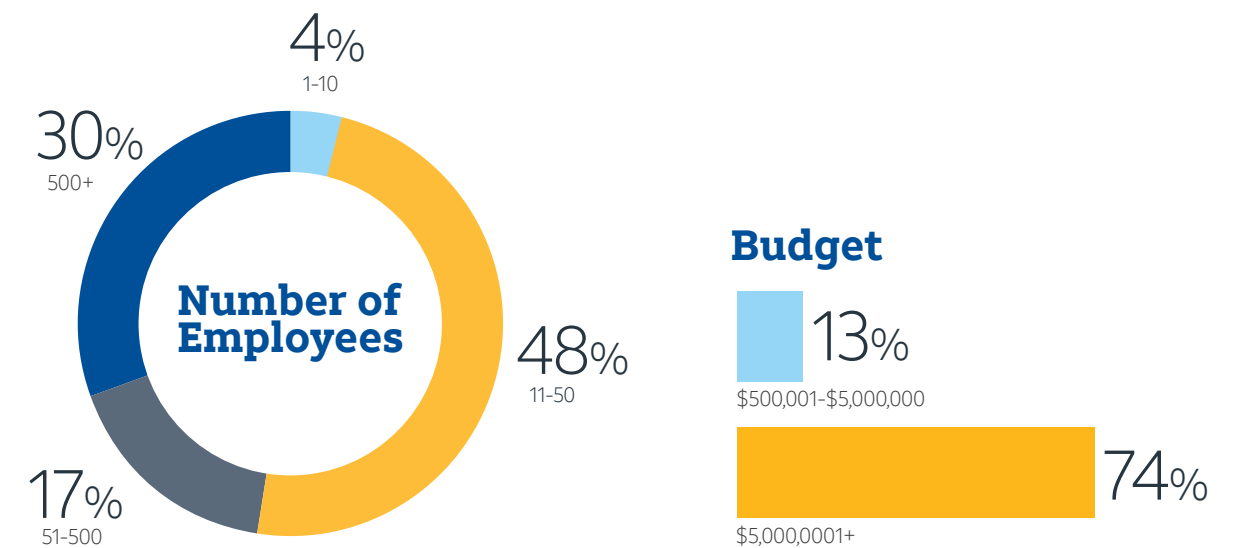




Transportation

Compared to other special districts, transportation-related districts have some of the biggest budgets and staffs, and they serve some of the largest populations. Leaders from these districts showcased efforts to implement emerging IoT solutions, and prepare for connected and autonomous vehicles. They also demonstrated the power of data analytics to improve customer experience and safety.

District Overview



CASE STUDY: TRANSIT

Greater Cleveland Regional Transit Authority Meeting critical transportation needs and enabling community success

The Greater Cleveland Regional Transit Authority, which takes some 200,000 area residents where they need to go every weekday, is designing and deploying technology to better meet the critical needs of the greater Cleveland area.

One example is a trip planner app packed with thoughtful features for low-income citizens and families who make up nearly half of the authority's regular riders. The app identifies city, county and nonprofit social services agencies, and easily builds routes to locations where residents can file for assistance programs, pay utility bills, access food bank resources and find other vital services.

Pete Anderson, CIO of the authority, says the new features stem from an internal poverty simulation session where executives stepped into the shoes of low-income riders to better understand their transit needs.

"We literally tried to live through a day, week and month of their lives. We only had so many transit passes and so much money to work with," he says. "It really hit home with everyone, and prompted us to start rethinking how we do business."

That experience led to new trip personalization features in the app that identify potentially useful services along the way when customers build routes to other locations.

"It'll show, 'Here's a place you can get emergency assistance; here are government offices you can connect to; here are lawyers' offices,'" Anderson explains. "It can make trip planning more efficient and convenient for these customers."

In addition, the authority launched a pilot project last spring with rideshare firm Lyft to provide paratransit services. The new arrangement delivers more convenient services to riders at a lower cost.

"It's giving better service to people who need us the most," says Anderson.

Of course, the authority also works to deliver a better experience for all riders. For instance, the trip planner seamlessly combines multi-modal transportation options like rail, bus, bus rapid transit and trolley to offer the most useful routings. Riders also can easily search for landmarks, amenities and entertainment.

In addition, a popular mobile ticketing app helps attract new riders into the system. The authority is on track to sell nearly \$4.5 million in tickets this year through the mobile app. Anderson says this type of innovation is crucial to keep transit relevant and accessible to a younger generation of citizens.

"Ultimately, we need to serve a wide spectrum of customers," says Anderson. "We have riders who depend on us for everyday transportation needs, and we want to serve them well. We also want to attract new riders because we know we're more efficient than driving yourself — we're trying to get cars off the road and improve the environment."



WIKIPEDIA.ORG / MICHAEL BARERA



CASE STUDY: AVIATION

Houston Airport System Data-driven insights for a better trip

Data and sophisticated analytics are giving the Houston Airport System a deeper understanding of how passengers use its facilities, helping it deliver a better and more reliable travel experience.

A newly created data lake collects a growing amount of information — everything from flight schedules and wait times at security checkpoints to parking lot occupancy and restroom conditions — and makes it available for analysis, says Tanya Acevedo, CTO for the system, which operates three facilities in Houston, including the massive George Bush Intercontinental Airport. The data initiative is yielding new operational insights now, and it opens the door to a range of intriguing applications in the future.

For instance, anonymized facial recognition data enables George

Bush Intercontinental to track how long it takes passengers to travel from the parking lot to a security checkpoint, and from the checkpoint to their departure gate. The airport currently uses travel-time data for internal planning, but in the future such information could be given directly to passengers to help with trip planning.

The airport also uses facial recognition and video analytics for security purposes. U.S. Customs and Border Protection employees use biometrics to ensure travelers' faces match their passports and visas as they exit their flights. And Acevedo wants to implement artificial intelligence to monitor video from airport security cameras to increase safety and efficiency.

"We want to get to a point where we can identify a bag left

behind and understand who left it and how long it has been there," says Acevedo, who spoke about her plans at the Special Districts Summit in Austin. "We could also identify incidents such as people walking the wrong way through security checkpoint exits and whether they are TSA employees. If not, the system could automatically trigger an alarm."

The airport system's experience during 2017's Hurricane Harvey — where torrential rains impacted operations at George Bush, as well as nearby William P. Hobby Airport — also exposed the need for a data-driven workforce management system.

"We were fine when the actual hurricane hit," says Acevedo. "But then the rain wouldn't stop, and the shift of employees that was at the airport couldn't leave. After that, communicating with and keeping track of a large amount of our workforce was extremely difficult, as they were displaced or otherwise pre-occupied by the storm."

Now the airport system is developing a solution that will provide real-time information on employee workforce, scheduling and on-site location. This will be coupled with the new data lake that has real-time data such as weather and road conditions and the skill sets needed by airport management to keep critical services operating.

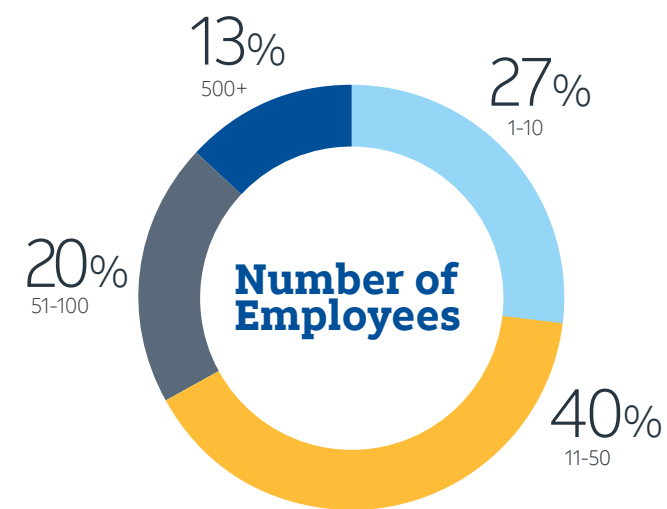
Ultimately, all of these data-driven efforts point in a similar direction, Acevedo says. "Everything we're doing with our data capabilities is about improving the traveler experience, safety and convenience."



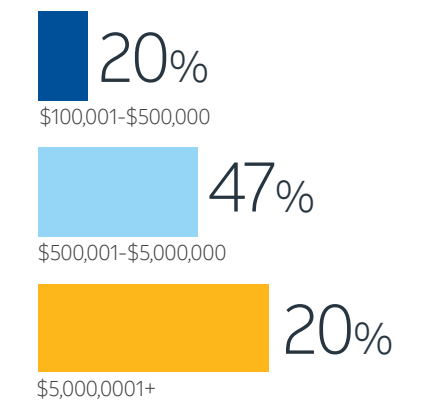
Parks, Recreation & Conservation

Parks and recreation districts tend to serve large constituencies on relatively lean budgets, according to our research. During our 2018 Special Districts Summits, leaders of these districts emphasized the importance of sophisticated digital tools to engage and attract citizens to park facilities and recreation programs. In the competition for citizens' leisure time, convenience and experience are key selling points.

District Overview



Budget



CASE STUDY: METRO

Chicago Park District Massive website redesign pays off

The Chicago Park District is the nation's largest municipal park manager, with a scope of operation that's somewhat staggering: It owns more than 8,800 acres of green space. It manages more than 600 parks, offering thousands of sports, cultural and environmental programs. It's responsible for 78 public pools and 26 miles of lakefront, including 23 swimming beaches.

The primary front door into all this activity is the district's website, which recently was overhauled to be more responsive to the needs of an array of users.

The site redesign, which won a Special Districts Program Technology Innovation Award in 2018, began with in-person usability testing conducted with Chicago residents to understand the current customer experience and how it could be improved. The district combined these findings with an in-depth analysis of website analytics data, as well as benchmarking research on similar sites.

These activities yielded a new mobile-friendly site focused on delivering better digital interactions for the park district's external

customers — citizens and other site visitors — as well as internal customers such as content creators.

For citizens, the site offers a cleaner, refreshed look built for devices of all types, stronger mapping and geolocation search capabilities, and detailed information on accessibility features at park facilities. Internal users received a variety of enhanced administrative functions, easier distribution of content responsibilities, and a procurement portal and contract library for streamlined bid submission.

The district built the new site using Drupal, a free and popular open source content management platform.

"Aside from its flexible design capabilities, we chose this solution because of its strong support in the developer community and the ability to integrate via application program interfaces (APIs) with other third-party applications,"

says Chicago Park District Chief Technology Officer Eli Reynoso.

That ease of integration has helped the district connect a range of third-party applications and data sources to the site to increase its functionality. For instance, the site integrates with the park district's employee recruiting and onboarding system to support the hiring of seasonal staff, its email marketing system to communicate with more than 150,000 newsletter subscribers and its procurement portal to streamline business processes. In addition, the site links with external data sources to provide real-time weather, water quality and surf conditions for the district's public beaches.

Now the new site is paying off in a variety of important ways. Online revenue is up 13 percent this year, according to the district. It also saw a significant jump in online enrollments for summer programs, as well as a 25 percent decrease in page load times.

CASE STUDY: SUBURBAN

Naperville Park District Engaging citizens through a mobile digital experience

The Naperville Park District in Illinois views mobile technology as an important tool to attract citizens to its park locations and recreational programs. The district operates more than 137 parks and other facilities and runs more than 1,500 programs and special events annually. Increasingly, it engages customers using a sophisticated and convenient smartphone app.

The app, launched a few years ago, enables citizens to sign up for classes, access turn-by-turn directions to park sites, pay fees and even carry digital membership cards for various park programs. In addition, the app allows users to easily report problems at district facilities using a new "Parks 311" feature — and all of this can be done using speech-to-text capabilities if users prefer.

For Omar Sandoval, IT director for the district and a Special Districts Advisory Board member, customer-focused technology is an integral part of keeping parks and recreation programs relevant for Naperville residents.

"We really try to focus on the overall experience visitors have with us, so they keep coming back," says Sandoval, who coded the initial version of the app himself in 2016. "We are in a super competitive space being in the parks and recreation industry. We constantly have to ask, 'What

can we give visitors that they can't get anywhere else?'"

Coding responsibilities have since been transferred to an outside developer and the district has steadily expanded the app's functionality based on user feedback. The app was integrated with Apple Wallet in spring 2018 to provide digital membership card capability, and it was connected to the Parks 311 system to enable mobile submission of service requests.

"The app is our way of reaching our visitors and engaging them over the long term," says Sandoval, noting that citizens have submitted more than 250 requests

through the mobile platform since Parks 311 was added a few months ago. "It's becoming almost like a 360-degree tool for the community to communicate with us."

But the app isn't just for program participants and facility guests. District staff also use the platform to submit service requests, and Sandoval is beginning to analyze trouble-ticket data using data visualizations to understand which parks consume the most resources to maintain. He intends to add more detail in the future, allowing users to drill down into the nature of the problems.

"We're using the app to serve both internal and external customers," he says. "And it's going to help us make more decisions that are actually based on the data."

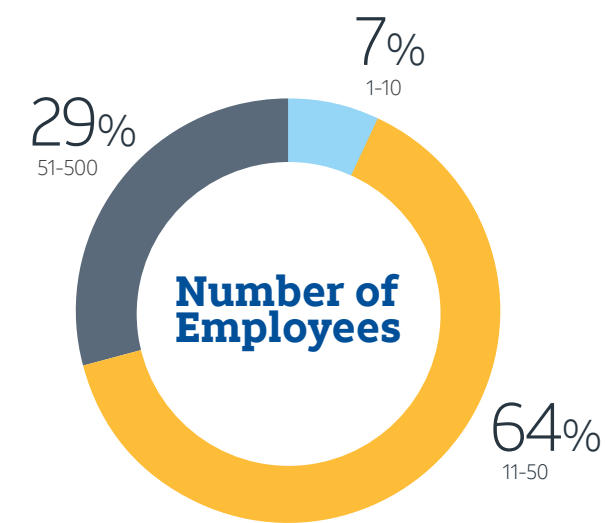




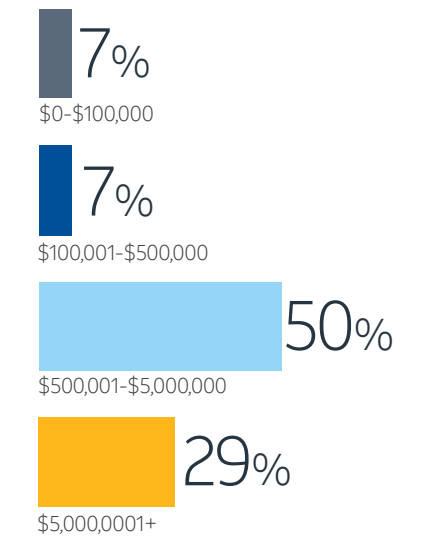
Development & Planning

Development and planning agencies serve large regional populations with mid-size budgets and staff. At our 2018 live summits, leaders of these agencies demonstrated innovative shared services strategies to modernize public sector technology. They also showcased sophisticated efforts to better understand user needs.

District Overview



Budget



CASE STUDY: G2G

South Central Planning and Development Commission Pooling resources for the public good

The South Central Planning and Development Commission in Louisiana helps state and local planning agencies move into the digital age through a long-running and highly successful shared services program known as “MyGovernmentOnline.”

The program provides a suite of digital solutions for permitting, code enforcement, planning and zoning — all available to government entities with no upfront cost. Jurisdictions simply pay a monthly subscription fee that’s based on their population size.

“It’s really a win-win partnership,” says Ryan Hutchinson, the commission’s CTO. “When a jurisdiction comes on board, we share all the knowledge of things we have learned over the past 12 years, as well as the software updates. But we’re also learning from them and relying on their feedback to help us innovate.”

Agencies can use the program to create a “one-stop shop” for digital planning and zoning, including customer-friendly features such as mobile apps, text notifications and digital plan review. Or they can implement individual services a la carte.

MyGovernmentOnline — a winner of a Special Districts Program Technology Innovation Award in 2018 — got its start in the aftermath of Hurricane Katrina in 2005, which brought

widespread destruction to the Gulf Coast. As the area undertook massive rebuilding, the state of Louisiana passed legislation to strengthen building codes and require jurisdictions to have certified inspectors, plan reviewers and building officials.

“Due to this, we decided it would be best to regionalize and use software to help facilitate this process,” says Hutchinson, a speaker at the Special Districts Summit in Austin.

The commission opted to build the software behind MyGovernmentOnline in-house and offer it to other jurisdictions throughout the nation, using subscription fees to fund system maintenance and upgrades. The government-to-government shared services concept has proven popular: today, it’s used by 13 states and hundreds of local governments.

“We’re pooling government resources for a public good that benefits everyone,” Hutchinson says. “And we’re saving money and improving our services in the process.”



CASE STUDY: PERSONAS

Mid-Ohio Regional Planning Commission Serving regional data needs from a customer perspective

The Mid-Ohio Regional Planning Commission (MORPC) already had a comprehensive data sharing hub when Aaron Schill joined the agency in 2017 to lead its regional data and mapping program. However, these activities weren’t always approached from a customer perspective.

“We didn’t stop and ask, ‘How do we expect people to use this?’” says Schill, a panelist at the Special Districts Summit in Columbus. “Instead, we built something and hoped we had guessed right. In some cases we were spot-on and in others we weren’t.”

That’s when MORPC — which supports the mapping and planning needs of a 15-county region, including the city of Columbus — decided to take a different approach. To get a better understanding of its customers, Schill and his team conducted extensive user experience research. This

consisted of a regional data user survey, internal focus groups, an external focus group with data experts and interviews with peer organizations across the country.

Out of this work, MORPC developed seven user personas representing the majority of its customer base. The personas range from a technical staff person at a local government who uses GIS and is familiar with the agency’s open data portal and other resources, to an elected official who needs formatted data that is easily accessible for talking points, to someone in the civic tech community who is looking for raw data to develop an app.

Schill says the personas help MORPC deliver meaningful data to its diverse customer base on a tight budget.

“Having that better understanding of who our customers are helps us be

smarter about allocating the limited resources we have to the needs we know exist,” he says. “Knowing our personas helps us target ways to deliver information in ways that will be most effective.”

The personas have become a lens through which MORPC staff view much of their work, Schill adds, bringing a sharper customer focus to a range of activities. The initiative also sparked interest from other agencies, prompting Schill and his team to publish a research paper to share MORPC’s methodology for persona development.

Ultimately the work helps better support the needs of MORPC’s local government members, which together serve nearly 2.5 million Central Ohio residents. These cities and counties increasingly rely on data to make smart decisions and meet citizen needs.

“Across the board we are seeing data become a higher priority with our members,” Schill says. “It’s becoming an ever-increasing consideration in how local governments conduct their work.”

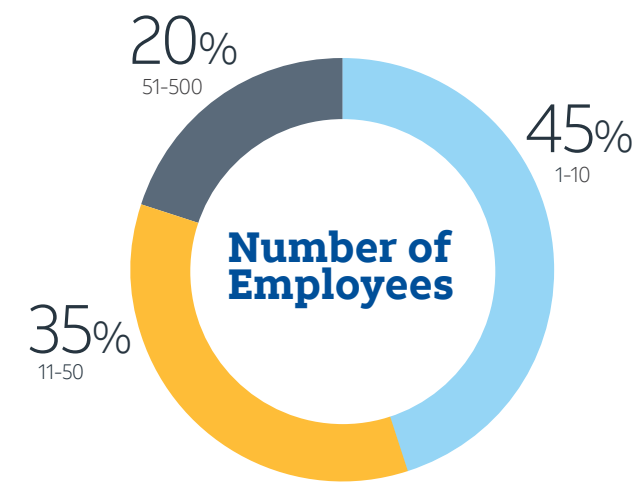




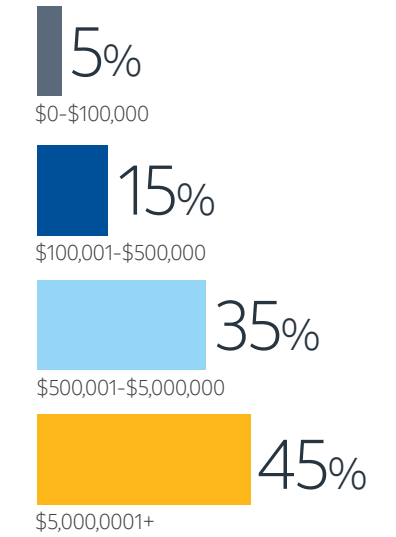
Housing

Housing authorities are on the front lines of the nation's housing affordability crisis. These agencies serve huge community needs, often with very small staffs. Digital and mobile technologies are key to boosting the effectiveness of housing authority staff and increasing affordable housing inventory.

District Overview



Budget



CASE STUDY: AFFORDABLE HOUSING

Atlanta Housing Authority Modernizing to meet big community needs

The Atlanta Housing Authority, which provides affordable housing services to 20,000 low-income families in the city, is adopting mobile technology and scalable platforms to help deliver better services to a growing customer base.

For instance, the authority recently equipped housing inspectors with tablet computers that enable them to enter inspection data and upload the results from the field. Previously, inspectors used paper forms and returned to the office to transcribe data into the authority's computer system.

is the process by which citizens apply for our programs, and more than 100,000 people applied for services," says Dr. Mark Campbell, former CIO for the authority.

Inspectors use a mobile inspection app that integrates directly with the authority's enterprise resource planning (ERP) system, speeding up data input and eliminating transcription errors.

In addition, the mobile process improves service for landlords participating in the authority's subsidized housing program. Inspection results are immediately available to

shift toward mobile platforms," he says. "We're shutting down some of our legacy systems that were built in-house."

The authority also is exploring new ways of engaging with its customers and stakeholders.

"We're looking at chatbots as a way of sharing information more readily with our program participants and property owners," says Campbell. "Our customer service group is very excited about the potential of that tool."

Also under consideration is a mobile app for Housing Authority clients. But Campbell

The Atlanta Housing Authority, which provides affordable housing services to 20,000 low-income families in the city, is adopting mobile technology and scalable platforms to help it deliver better services to a growing customer base.

The new mobile process speeds up inspections, making more subsidized housing properties available to families in need. Over the past year, the authority increased its housing inventory by more than 1,000 properties. The added efficiency is crucial for an agency serving huge community needs.

"Less than a year ago, we opened our waiting list, which

landlords through a new portal. The portal also enables landlords to request re-inspections online or exchange other data directly with the authority.

The authority's mobile inspection initiative, winner of a 2018 Special Districts Program Technology Innovation Award, is part of a larger push for technology modernization, says Campbell. "We're making a

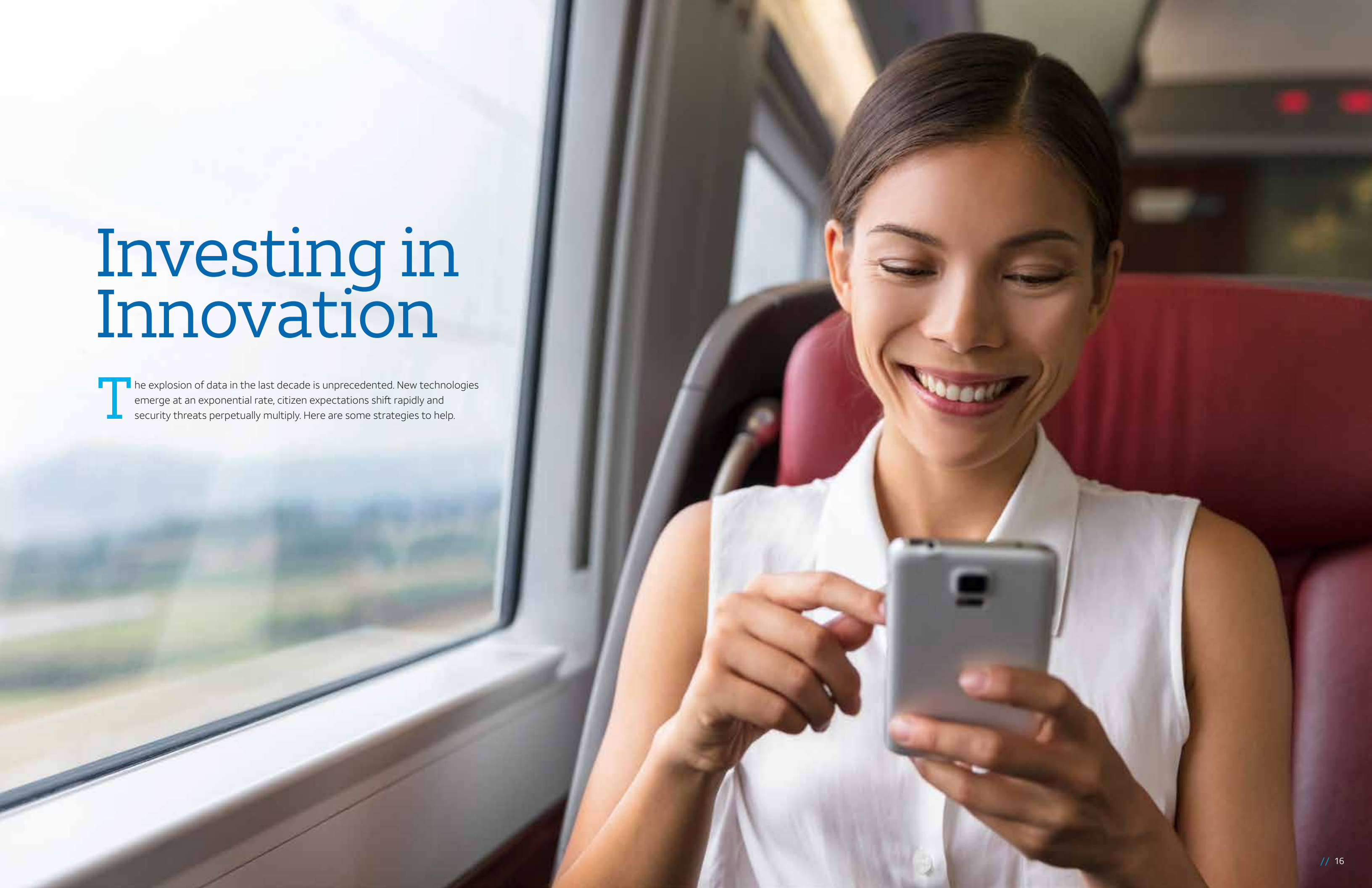
says excitement over new technologies will be tempered by a true understanding of what benefits they can deliver.

"We want to make sure that whatever we do is not done for technology's sake," he says. "We're being purposeful and working with end-user groups to test the feasibility and value of those technologies."



Investing in Innovation

The explosion of data in the last decade is unprecedented. New technologies emerge at an exponential rate, citizen expectations shift rapidly and security threats perpetually multiply. Here are some strategies to help.



✓ Agile Upgrades

As special districts implement new technologies, many are adopting an agile philosophy where projects are broken into phases and each iteration is shaped by user feedback.

For instance, the agile approach is becoming more common among agencies deploying IoT solutions, says Roger Blake, assistant vice president, AT&T Public Sector.

“They’re not really piloting as much anymore,” he says. “It’s go and do it, learn from it and then do more of it — instead of an event that has a defined start and stop.”

Network technologies also are evolving to support the phased approach, providing bandwidth on demand and the ability to scale as needed. AT&T’s Network on Demand Ethernet Service is one example, says Blake. And the company’s Flexware software-defined network solution is another.

These solutions are both flexible and smart — they can include intelligent automation that enables them to respond to changing requirements on the fly based on customer-defined business rules around cost, bandwidth consumption and other factors.

“They let special districts rapidly accommodate evolving demands at a predictable cost,” says Blake.

✓ A Smarter, Faster Network

5G — the latest generation of wireless technology — will have a huge impact on special districts by enabling near real-time data analytics and automated decision-making.

The new network technology will support greater adoption

“We’re seeing adversaries that we never would have expected before, and cyber attacks ranging from simple theft to foreign governments looking for weak links — maybe using a water system to access a city government, for example.”

- Patrick Robinson, Application Consultant, AT&T Public Sector

of autonomous vehicles, data-driven smart community initiatives and other cutting-edge technologies, according to Bob Zapotocky, principal architect, AT&T Public Sector — not just because these networks will be blazing fast, but because they’ll also include a growing amount of built-in intelligence.

Once fully rolled out, 5G technology will enable more computing power to be located at the edge of the network, closer to data sources, which will lead to faster processing. This capability will be crucial for self-driving vehicles and other types of robotic controls that must make split-second decisions to react to changing conditions.

“You’re removing latency, so you have a much better platform to meet these real-time requirements,” says Zapotocky.

In addition, 5G technology eventually will erase many of the differences between traditional corporate networks and mobile wireless networks. This will give special districts unified visibility and control over multiple network types.

“We’ll be able to bring all of those network pieces together in a

ubiquitous environment,” Zapotocky says, “so they’ll all have the same policy enforcement, security protection and access controls.”

✓ Everyone’s a Target

Today’s special districts operate in a rapidly evolving cybersecurity environment. IoT is bringing intelligence and connectivity to devices and objects that have never had it before. Processes are being digitized and mobilized. Data is being shared in countless new ways.

These advancements bring new opportunities for special districts to improve services and efficiency. But they also create new risks that must be mitigated.

“The threat landscape is changing faster, perhaps, than all other factors combined,” says Patrick Robinson, application consultant, AT&T Public Sector. “We’re seeing adversaries that we never would have expected before, and cyber attacks ranging from simple theft to foreign governments looking for weak links — maybe using a water system to access a city government, for example.”

As a result, no special district can take security for granted. As systems become more interconnected

and hackers continuously probe for weaknesses, even the smallest special district could be a gateway to penetrate other government agencies or organizations.

“Don’t assume you’re not of interest,” says Robinson. “Years ago, smaller districts may have thought they could avoid attacks because they’re too unimportant to be a target. That’s no longer the case.”

To guard against growing threats, all special districts should prioritize security awareness and training, he says. “Everyone needs to be alert, aware and reasonably suspicious.”

✓ Enlightened IoT

What’s the key to a successful IoT deployment? Thinking beyond your immediate task to consider all the ways new data and connectivity can provide value.

“IoT should never be viewed as a single endeavor,” says Ronald Singleteary, business development lead, AT&T Public Sector. “A singular perspective really limits what you can accomplish.”

For instance, an IoT-enabled fleet management solution will collect telematics from vehicles — location, route, speed, fuel consumption and other data — designed to reduce operating and maintenance costs. But some of this information also may be valuable to city traffic planners and public works departments.

These capabilities also can help protect critical infrastructure such as water and power systems, adds Ken Harth, associate vice president, AT&T Public Sector. Vehicle management and location data from utility fleets can provide situational awareness that enables special districts to spot

suspicious activity and respond faster to dangerous situations. And intelligence from sensor and camera networks can be vital for first responders during emergencies.

“You need to think about all the potential touch points and who can benefit from the data,” Harth says.

In addition, APIs increasingly will be used to integrate new capabilities into smart network platforms.

“AT&T is consistently rolling out new applications,” says Singleteary. “There’s a solution for smart irrigation, and we just launched a new solution for LED lighting. These are simple applications that plug into our smart platform — it’s built today for applications that are continuously evolving.”

Analytics can be added to the network platform as well — an important consideration as special districts collect more and more data from IoT-enabled objects and equipment. Given the difficulty of attracting data scientists into government service, special districts will need analytics services that help them make sense of data without high-priced experts on staff.

“We’re providing solutions that unlock the value of data right out of the box,” says Singleteary. “Essentially we’ll package up artificial intelligence, machine learning and similar capabilities and allow agencies to understand their data right off of a platform.”

✓ Better Business Continuity

Special districts often perform critical functions — providing water and power or running airports and seaports — which

must stay operational during disasters or disruptive events. Network redundancy is crucial to ensure these organizations maintain communications and connectivity. Now, advances in wireless technology are helping to improve redundancy strategies and make them more affordable.

Using a technology called carrier aggregation, AT&T enables customers to use multiple bands of wireless frequency at the same time to provide excellent throughput and reliability, says Chris Gray, assistant vice president, AT&T Public Sector. As a result, wireless connectivity is now a viable backup for fiber and other wireline connections.

Traditional redundancy strategies require trenching and the installation of a second wired connection to critical facilities. But even then, these connections may be physically close together making it possible that both could be severed in a serious incident. A wireless backup connection reduces this risk.

“I recently met with a large municipality, and this is one of the things they’re looking at,” says Gray. “They have fiber running to their 911 call center and they could run a second line for redundancy. But what happens if both lines are cut, or if the basement is flooded and that’s where the network equipment is. Now they can consider wireless technology, instead.”

A wireless backup solution also can be put in place quite economically, Gray adds.

“There’s relatively little cost to set it up and it’s there when you need it,” he says. “Advances in wireless technology enable us to provide a true, redundant backup.”

CONCLUSION

Faster, Smarter & Safer In 2019

Year three of the Special Districts Program will be the biggest yet. We're evolving the program to deliver even more value and insights into crucial issues.

Our 2019 theme — A Faster, Smarter and Safer Future for Special Districts — underscores both the opportunities and challenges facing special district leaders.

FASTER

Technological change is accelerating at an unsurpassed rate. Keeping pace with modernization to deliver faster and better citizen services will be an important differentiator for special districts.

SMARTER

As the world around us becomes ever more connected and inter-connected, technology will be a vital enabler for special districts to increase efficiencies, impact the bottom line and deliver value to constituents.

SAFER

From traditional public safety to critical infrastructure protection, special districts must safeguard people, assets and information in an environment of growing risk.

We'll focus our 2019 activities around these core capabilities — and we'll deliver fresh advice and best practices to achieve them. Bigger live summits next year will give special districts across the nation even more valuable forums to build relationships and share ideas. A series of new reports will unpack important issues facing special district leaders as they plan for the future. And an expanded advisory board will ensure these activities continue to be designed by special districts for special districts.

You'll find all the details online at www.govtech.com/districts. Connect with us in 2019 and join a special districts community built specifically for you.





Our first name has always been American, but today you know us as AT&T. We're investing billions into the economy, providing quality jobs to over 200,000 people in the U.S. alone. We're supporting the veterans who make our country stronger and providing disaster relief support to those who need it the most. By bringing together solutions that help protect, serve and connect — committed AT&T professionals are working with the public sector to transform the business of government.

For more information about the Special Districts Program, visit: govtech.com/districts



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