Private Sector Associates of The United States Conference of Mayors

United States Conference of Mayors Business Council 2020 Best Practices Report

# Mayors and Businesses Driving Economic Growth



THE UNITED STATES CONFERENCE OF MAYORS



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The United States Conference of Mayors is the official non-partisan organization of cities with each city represented in the Conference by its chief elected official, the mayor.



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# Foreword

The United States Conference of Mayors is proud of the members of the Mayors Business Council and the work they have accomplished with cities to improve the quality of life in America's cities. Working together, our cities have become more livable and more competitive, and the economy is growing stronger every day.

The United States Conference of Mayors Business Council Best Practice Report: Mayors and Businesses Driving Economic Growth showcases outstanding and innovative public/private partnerships submitted by the Mayors Business Council to inspire other cities and companies to work together in addressing the economic challenges facing cities and our nation. Due to the recent COVID-19 pandemic affecting our nation, Business Council members were invited to also include the efforts they were involved in with mayors to combat the virus, flatten the curve, and ensure our fellow citizens have the basic necessities of life.

Mayors and business leaders agree that creative public/private partnerships are a major force in shaping cities of the 21st century and experience has shown when businesses and local governments work together, our cities benefit and our nation is stronger.

The Mayors Business Council has been an integral part of the structure and activities of The United States Conference of Mayors for over 20 years. Central to the mission of our Business Council is the goal of both improving the business environment in cities and sharing the successful public/private partnerships that take many forms with benefits ranging from economic development and environmental improvements to better schools, a more educated workforce, and connected cities through technology.

### **Tom Cochran**

CEO and Executive Director The United States Conference of Mayors

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# Accela: Accela Software and Shelby County Flex to Meet COVID-19 Restrictions

**Project Description:** Shelby County is the largest county in Tennessee, encompassing 785 square miles. Home to Elvis Presley and some of the best barbecue in the country, this vibrant county is a hub for economic growth and development.

The Memphis and Shelby County Division of Planning and Development has quite a broad purview, serving both the city of Memphis and unincorporated Shelby County, as well as four nearby municipalities. The Division recently implemented a new customer-centric program to eliminate siloed operations for the development community. At the heart of the initiative is a modern customer service center located in city hall, bringing both planning and building functions under one roof.

Busy developers would no longer need to drive to one office for planning proposals and land development projects and then to another for building permits and inspections.

The agency engaged Accela to deliver a perfectly seamless customer experience. With Accela's public-facing portal, citizens and businesses can complete forms, upload documentation, interact with reviewers, and submit applications regardless of the location or device.

**City Challenge:** The sudden disruption of the COVID-19 pandemic mid-way through the Accela project threatened to derail the Division's plans. Along with the rest of the country, the Planning and Development Divisions quickly closed their doors to protect the public's health. Customers could pick up and drop off forms, but the new restrictions delayed or prevented many services.

Fortunately, Accela could remove the physical barriers impacting the planning and permitting processes. With local leadership's engagement and approval, the team fast-tracked Accela's COVID-19 Response Solutions for Online Citizen Services. Within days, the new online portal launched to shorten turnaround times, establish transparency, and achieve customer satisfaction. With the right tools, staff were just as effective working from home.

**Impact**: The public immediately responded to the new online service, with 91 new accounts and 55 submitted applications just one week after deployment. The development community now has one less impediment during the uncertainty of COVID-19 restrictions, and agency staff have been empowered to conduct their work safely and remotely with Accela.

Customer surveys confirm the community's satisfaction with the convenient and time-saving Accela portal, says Nidia Logan Robinson, Deputy Director in the Division of Planning and Development for Shelby County: "The comments we are receiving from the public have been positive, thanking us for an added option."

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| Search Applications   | Search & Renew Licenses   |  |
| Schedule an Inspection  | Schedule an Inspection  |  |

The homepage of Accela's COVID-19 Response Solutions for Online Citizen Services, where customers can complete forms, upload documentation, and interact with agency staff.

**How-To:** Thanks to Accela's and the Division's early intentional efforts to formalize project management processes and decision-making hierarchies, the project team responded to this abrupt emergency with solution-oriented thinking and flexibility.

Upon realizing the full extent of the pandemic's closure, Accela and the Division team met to discuss expediting the portal's launch. The pre-designated Project Manager, responsible for day-to-day activities, gathered and relayed options to the Project Sponsor, who serves as the link between the businesses, the community and executive-level decision makers. The Shelby management team then connected with their internal stakeholders to determine each department's unique needs.

Ultimately the Project Team leveraged the Accela Civic Platform's exceptional configurability to jointly to mana r the unique circumstances of social distancing.

Accela's decades of experience working with hundreds of local governments across the country facilitated the mutual trust necessary to be flexible in face of disruption. By investing early on in a good working relationship, both in-person and online, Accela and the Division stayed the course to deliver for the Memphis and Shelby County communities.

**Tags:** Service Delivery Improvement, Impact on City Economy, COVID-19 Response

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### Airbnb: Frontline Stays: Los Angeles County

**Project Description:** In April 2020, Airbnb launched Frontline Stays, a program that allows hosts to share their homes with those on the front lines of the COVID-19 pandemic.

Within weeks of the first cases, Airbnb worked with LA County and Service Employees International Union-United Healthcare Workers West (SEIU-UHW) to provide free and discounted stays to those fighting the spread of COVID-19, including those serving the four county-run public hospitals and SEIU-UHW members working in a variety of public and private hospitals across California. Through the program, frontline responders had access to temporary accommodations to safely distance from their families and stay close to their patients.

**City Challenge:** Through our partnership with LA County and SEIU-UHW, we were able to provide accommodations for over 500 frontline responders. By offering a comfortable place to stay, first responders were able to focus on serving those impacted by the pandemic.

To continue serving those on the frontlines of the pandemic, the County and Airbnb are in active discussions around how to continue to collaborate on this work

**Impact**: To date, in LA County, we have provided 500+ frontline workers with temporary stays - a total of 9000+ nights - through the Airbnb platform.

**How-To:** Once we knew of the need in LA County, we focused on building intentional, thoughtful relationships with the leaders on the ground who work with the community every single day.

We spent several hours on the phone with county staffers, mapping out all of the community partners that were responding to the COVID-19 pandemic to assess their temporary housing needs.

From there, we spent additional time trying to figure out what other first responder accommodation options existed in the County, and what the particular gaps were. We came to understand that while many hotels were offering free or discounted accommodations to first responders, a number of factors, including nightly parking fees and night caps, were forcing first responders to piecemeal their housing options amid so much uncertainty.

Further, we designed our program to house any of the heroes working in our target public hospitals daily. Doctors and nurses, but also other healthcare workers, including licensed vocational nurses, environmental services workers, technicians, therapists, transporters, kitchen dining staff, janitorial staff and many others who were part of a coordinated response to this pandemic.

As we launched our program, we leveraged Brian Chesky's donation to provide free and discounted stays to frontline responders. We knew that our program had to be easy to use, with limited red tape. Co-building a program with the County allowed us to build trust and inspire confidence in our work. We actively worked with the County to show we were committed to identifying gaps, and working with them to meet the actual needs on the ground.

From there, together with the County, we built a "press-play" strategy; a streamlined way to get the word out about the program to the County's employees and contractors. We had staff on hand at Airbnb facilitating the booking process to make it as easy as possible for first responders to find a place to stay as soon as possible.

**Budget:** \$1 million + contribution from Airbnb CEO and co-founder Brian Chesky

Funding: Private Financing

Tags: Innovation, Cost Savings

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# **Amazon:** Enhancing Remote Learning and Staff Productivity at the Los Angeles Unified School District

**Project Description:** As higher education and K-12 schools around the world quickly moved to remote learning environments, education institutions needed access to technology solutions to reduce barriers for students learning online. This included working with education technology companies that could rapidly scale to meet the demands of high-volumes of concurrent users, connecting students to devices and tools to learn online, and providing parents and students with a way to communicate with school staff. By collaborating with Amazon Web Services (AWS), the Los Angeles Unified School District transitioned an organization of more than 75,000 employees and almost 700,000 students from in-person instruction to virtual classrooms.

**City Challenge:** Working with Los Angeles Unified, AWS deployed its Amazon Connect service, a cloud-based contact center, launching six contact centers within a week to support families and employees. Today twelve call centers allow parents and other callers to connect with an IT help desk, a mental health hotline, their school principal, a learning management system, and other services.

The district also needed to ensure that students had access to a device and online tools for remote learning and called upon Amazon to help students at 1,386 schools in over 30 municipalities. Amazon donated its delivery services for contactless, doorstep deliveries of district-issued devices to tens of thousands of students' homes, a critical service for families under stay-at-home orders.

Los Angeles Unified also recognized that students needed to eliminate distractions while learning online. Amidst intense device shortages, Amazon Business acted fast to source noise-reducing headphones and delivered them to all district high school students. Amazon Business similarly equipped remote contact center staff with headphones to ensure they could be effective while working remotely.

**Impact**: By working hand-in-hand, Los Angeles Unified and Amazon quickly designed and delivered an alternative learning and working environment as the COVID-19 pandemic redefined the "new normal." By using Amazon Connect contact centers, the school district was able to support students, teachers, staff, and call center agents to remain productive, safe, and informed. In total, AWS enabled 75,000 employees and 700,000 students to stay connected through the twelve call centers launched in the first six months of the COVID-19 pandemic. In the first two weeks, the contact centers handled 20,720 calls with 234 agents having logged in to support those calls. Equipped with their own devices, 700,000 students could continue their learning experience uninterrupted at home and 132,000 high school students were given a more distraction-free environment in which to learn.





How-To: In late March, Los Angeles Unified called the AWS team to mobilize quickly around the remote learning and mental health needs of their students due to COVID-19 and the needs of district employees and contact center agents. AWS recommended Amazon Connect for its highly scalable, portable and flexible design and its ability to launch in a few days' time. Deployment of Amazon Connect had also produced significant cost savings for LA County in 2019 and had a proven track record there. The AWS team worked through the weekend with Themy Sporangis, Sr. IT Director, and his staff using defined call flows and decision trees and created routing paths for the first six call centers. By Monday morning, parent, principal and employee call centers were in production. This was followed closely by the Los Angeles Unified Mental Health hotline (staffed by 2,000+ nurses making 33,000 outbound calls in one month) and the Schoology hotline to handle learning management questions for struggling Los Angeles Unified families. All of these hotlines were expected to handle large spikes in demand without increasing wait times for anxious callers.

Additional features were added over time such as the ability to have callers leave voicemailswhich were then converted to text using Amazon Transcribe allowing district subject matter experts to quickly resolve students' and parents' issues.

"Amazon is helping us get things done. The mental health and family hotlines were up and running within just a few days. The same quick response is being used to strengthen Schoology—the knowledge sharing platform our educators use to provide lessons to students. Amazon is providing brainpower and a can-do approach to help us provide learning to students and support students and families in need." Los Angeles Unified Superintendent Austin Beutner

**Budget:** For a fraction of the budget set aside for one call center on-premises at Los Angeles Unified, AWS was able to stand up 12 call centers in less than three months.

Additional Investment: Prior to the COVID-19 pandemic, Los Angeles Unified used a paper and pencil-based system for student enrollment. To keep families safe, Los Angeles Unified needed an on-line option. Working closely with the district IT department, AWS quickly designed and produced a web-based enrollment system in two weeks. The solution was scalable and saved the district legacy licensing and additional hardware costs while handling 80,000 student registrations between May 11th and Aug 31st. https://enroll.lausd.net/

**Tags:** Service Delivery Improvement, Innovation, Cost Savings, Business Benefits, Employee and student safety, health and productivity during the COVID crisis

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# **American Chemistry Council:** Improving Access to Water Safety Lessons for Minority Youth

**Project Description:** The Chlorine Chemistry Foundation, a 501(c)(3) tax-exempt organization established by the American Chemistry Council's (ACC) Chlorine Chemistry Division, donated \$100,000 to the YMCA of the USA to sponsor access to lessons on water safety instruction for underserved African-American and Hispanic children who are historically at a greater risk for drowning. The YMCA's "Safety Around Water" program teaches children the fundamentals of water safety, which can help prevent drownings. Through this program, children will learn these life-long fundamentals so they can enjoy recreational water activities and be better prepared in emergency situations involving water.

The program launches in 2021 as a result of the COVID-19 pandemic closing many YMCA facilities in 2020. During the first quarter of 2021, local YMCAs can apply for a grant to the YMCA of the USA. Upon meeting specific criteria to serve communities in need, those local YMCAs will be eligible to receive funds to fully sponsor underserved children in the Safety Around Water program.

**City Challenge:** According to the Centers for Disease Control and Prevention (CDC), minority children are at greater risk for drowning than their white peers. One 2014 CDC report found drowning rates in pools for black children aged 5-19 were 5.5 times higher than those among white children of the same age. This is often a result of less access to swimming pools and lessons. According to a study in the journal Archives of Pediatrics and Adolescent Medicine, formal swim lessons can reduce the risk of drowning by 88 percent.

ACC believes this donation will help break down the barriers to entry underserved children face when it comes to water safety.

**Impact**: Through the Chlorine Chemistry Foundation's \$100,000 donation, the YMCA will be able to enroll 1,333 minority youth in the Safety Around Water program at no cost to students. The YMCA is a trusted institution with widespread reach across the U.S., making it an obvious organization with which to partner. The program is not restricted to a certain city or region of the country. Any YMCA chapter in the U.S. that meets the criteria can apply for a grant to sponsor water safety instructions for minority youth. This program will accept local YMCA grant applications in Q1 2021, and will provide lessons later throughout 2021.

We encourage mayors to learn about the benefits of the YMCA's Safety Around Water program and to promote water safety instruction programs that address racial disparities in drowning incidence. Furthermore, we encourage local businesses and organizations seeking philanthropic opportunities to consider the YMCA's Safety Around Water Program and similar programs for the benefit of minority children in their communities.



**How-To:** After ACC's Chlorine Chemistry Division presented at the Women in Government's (WIG) virtual meeting in July 2020, WIG member and Washington State Representative Cindy Ryu asked about swimming proficiency and drowning statistics for minority children versus white children. We anecdotally knew there was a gap, but later discovered it is a significant gap. Wanting to help address this issue, we contacted the YMCA of the USA to inquire about water safety programs and whether we could improve access to them for minority children.

The YMCA of the USA's enthusiastic response to our inquiry helped set the wheels in motion. From there, ACC and the YMCA of the USA worked together to develop a specific program, including the grant application, targeted towards minority youth with the least access to water safety instruction. ACC provided the funds, while the YMCAs provide the expertise, venues and opportunity to teach minority children water safety. ACC's Chlorine Chemistry Division continues to work with the Women in Government membership to educate them on the program, as they will assist in its promotion and encourage their local YMCAs to apply for the grants.

**General Tips:** ACC's Chlorine Chemistry Division represents chlorine manufacturers, including those that make pool chemicals. Chlorine chemistry is critical in sanitizing pool water to reduce the risk of waterborne pathogens that can cause illness. Such chemicals are essential to safe and healthy pools so they can be enjoyed by pool patrons; and ACC has a long history of promoting the proper use and storage of pool chemicals and swimmer hygiene. This partnership with the YMCA builds on our support of healthy and safe swimming by improving access to swimming for minority youths that may otherwise have no opportunity to learn potentially life-saving water safety skills.

Budget: \$100,000

Funding: Foundations and Philanthropy

Tags: Social Inequity

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# Association of American Railroads (AAR): New Online SERTC Academy

**Project Description:** TTCI, a wholly owned subsidiary of the Association of American Railroads in Pueblo, CO is an incredibly unique place. It is an outdoor lab for testing rail technology and safety. But it is also the home The Security and Emergency Response Training Center (SERTC), which trains first responders in containing rail accidents. In light of COVID-19, SERTC mobilized to take crucial training online. With business travel on hold due to the pandemic, the launch of a fully-online training module means that emergency preparedness need not take a back seat to COVID-19 safety in communities nationwide.

**City Challenge:** Adapting to the pandemic alongside the nation, SERTC Academy offers a new medium for first responders to make progress in their career and community goals despite COVID-related stay-at-home restrictions. The online, interactive classroom component is mirrored on adult education and will use the same high-quality SERTC material and instructors to create an engaging experience for trainees while allowing virtual flexibility.

When travel restrictions are lifted, SERTC Academy participants can fulfill the inperson, hands-on component of their course work at the Colorado facility in just three days instead of the traditional five days. With state and local budgets stretched thin due to the pandemic, this shortened commitment reduces the financial burden associated with covering the shifts of employees who are training.

**Impact**: While just launched in September, the program will allow mayors to get their fire fighters access to training (and funding in many instances) in lieu of a visit to Colorado.

Railroad and government-supported funding initiatives are available to ensure that interested men and women nationwide have access to SERTC training. America's Class I freight railroads sponsor thousands of in-person trainings each year at the center. Alternatively, first responders across the country can secure funding through the National Domestic Preparedness Consortium (NDPC). Interested participants can visit SERTC.org, navigate to the NDPC website, and submit their applications — all in a few minutes. For qualifying firefighters and first responders, NDPC offers full funding for the new online training courses as well as the in-person component.

**How-To:** AAR, TTCI and SERTC work closely with the federal government (through DHS) and localities on all things training. We were able to launch the online program through this continued collaboration, including with cities and mayors. Constant communication and understanding what localities need is paramount.

Funding: Private Financing

Tags: Cost Savings, Emergency Preparedness

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### Atkins North America: Boulder County Resiliency Study

**Project Description:** Cities are facing challenging futures. Rising seas, bigger storms, more intense heat waves, cyber-attacks, and pandemics like COVID-19 are just a few of disasters cities will have to battle. An emerging best practice is to increase resilience through agent-based modeling. In this process, the city creates a digital twin of itself including all infrastructure, natural systems, vehicles, everything. Within the digital twin, a statistically matched population of avatars moves about the city; commuting, shopping, working, going to school. The city is simulated over the course of decades with a forecast of disasters hitting the city periodically. As the avatars manage through the disasters, disruption is measured on a person-by-person basis. The result is a detailed and clear picture of the vulnerabilities of the city. The city can then add mitigation and adaptation actions to their digital twin and measure the return on investment in terms of the triple bottom line of economy, people, and nature. Through this approach, cities can pinpoint where to spend their limited resources, and prove to funding agencies why giving them funding to increase resilience is a good investment.

**City Challenge:** Boulder County's Department of Transportation worked with Atkins and its City Simulator tool to forecast Boulder from 2019-2050. The County's focus was on finding the bridges and culverts that would be the most disruptive to traffic within the county in a climate change influenced future. Maintaining open and operational roads in Boulder is key, as commuting into and out of the County from nearby Denver is a significant part of the County's economic engine. The county simulation showed that of the nearly 150 bridges and culverts, ten would be large disruptors in the future, causing thousands of trips per year to be disrupted due to road damage from flood. In remote locations in the mountainous western portion of the county, this disruption might last for weeks, preventing residents from getting to work and essential services. Hardening and elevating the top ten structures turned out to be the best way Boulder could spend their resilience dollars. Armed with this information, Boulder applied for funding from FEMA to design the bridge renovation and now Atkins is helping them develop new designs with that funding

**Impact:** Boulder is now aware of their weak points in terms of transportation infrastructure and future flood. The knowledge base they built through agent-based simulation helps define resiliency focus areas. Their successful application for FEMA funding to future-proof their top disrupting bridges is clear proof that federal entities will fund communities that have done the work of exploring resilience options. The focus of Boulder's study was resilience to future flood. The same approach can be taken with pandemic threats like COVID-19. Using the epidemic modeling feature within City Simulator, communities can add a forecast of one or even several epidemics to their forecast. As City Simulator is agent-based, it includes modeling measures like social distancing and stay-at-home directives, communities can find solutions that reduce the epidemic's potential to stop the economy – as COVID19 has done to many communities. In a recent study, the City Simulator epidemic model showed that with aggressive social distancing, peak cases in a community can be reduced from approximately 78% to 12% of the population.





**Disrupted Trips Boulder** 

Top Disruptors Boulder

**How-To:** Boulder followed the three-part rule for increasing resilience:

- 1. Work Together if all stakeholders aren't included, then the effort is doomed to fail.
- 2. Get Informed build a deep understanding of how resilient you are and how resilient you can become.
- 3. Think Outside the Box in-direct solutions are sometimes better than direct ones, consider the whole landscape of possible actions you can take.

In terms of Work Together, Boulder's Department of Transportation convened a steering committee of stakeholders that included the transportation department, the floodplain manager, the planning department, parks, social services, the IT department, and many others. The committee also included the governments of municipalities within the county, local experts from the county's active academic community, and many others. This committee continued to meet and guide the process throughout the study and is now up-to-date on findings and is moving forward with their respective resiliency plans with that knowledge.

In terms of Get Informed, Boulder made City Simulator a centerpiece of the study, and leveraged its agent-based forecasting approach to build a detailed understanding of how future floods will impact the county down to the level of each building and each segment of highway.

In terms of Think Outside the Box, Boulder tried multiple actions such as elevating homes, buy out programs, requiring no basements in FEMA floodplains, incentivizing DIY flood protection through reduced permit fees and taxes, and enhancing infrastructure to reduce disruption. In the end they found they would get more return on investment by focusing their funds on a few bridges, rather than spreading the funding thin on multiple actions across the county.

**General Tips:** Approaching epidemics like COVID-19 should be done with the same Work Together, Get Informed, Think Outside the Box approach that Boulder used. The city-wide view that agent-based simulation provides can help cities identify solutions that aren't immediately obvious. Also, cities shouldn't lose sight of the fact that they have the other disasters to contend with in their futures. Atkins is currently doing a study to investigate how to manage when both an epidemic and hurricane happen at the same time. Please contact Stephen Bourne from Atkins for more details.

### Budget: \$175,000

Funding: Federal Grants, State Grants, General Purpose City Funds

**Additional Investment:** The project led to additional grant funding from FEMA.

Tags: Service Delivery Improvement, Innovation, Cost Savings, Impact on City Economy, Business Benefits

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# **Badger Meter and City of Columbia, S.C.:** City of Columbia, S.C., Advanced Metering Infrastructure (AMI) and Smart Water Implementation

**Project Description:** As part of the Envision Columbia smart city initiative, the City of Columbia, South Carolina, partnered with Badger Meter to provide an AMI system that increases the system's resiliency, enhances water usage transparency and provides its 150,000 metered accounts, including 400,000 residents spread across 320 square miles, with high-quality water services.

Badger Meter deployed smart water technologies including BEACON® Advanced Metering Analytics (AMA), ORION® Cellular LTE-M endpoints, Recordall® Disc Series meters and E-Series® Ultrasonic meters.

Columbia was interested in not only modernizing and updating its metering system but also providing an increased level of customer service and support to its residents. As part of that effort, Columbia provided its constituents with access to the EyeOnWater<sup>®</sup> consumer engagement tool. This platform allows them to monitor their usage down to 15-minute increments via an app on their mobile phones, tablets and computers. Using the app, residents also receive alerts and alarms to track their usage patterns and gain valuable insights on their water consumption.

**City Challenge:** City and utility leaders in Columbia recognized a need to upgrade the city's aging water system to improve reliability, efficiency and conservation.

The new water system needed to support its core values of accountability, transparency and outstanding customer service.

It also needed to be interoperable with other smart city initiatives the city may implement down the road as part of its Envision Columbia initiative. Ideally, this smart water metering solution could be expanded and upgraded as service needs change.

**Impact**: Columbia has benefited from operational efficiencies including improved customer service, increased meter reading efficiency, assured long-term meter accuracy, and enhanced utility resiliency.

Because BEACON AMA uses existing cellular networks to bypass gateway infrastructure, utility personnel do not have to manage or maintain their own infrastructure. This allows the utility to focus on what it does best: providing quality drinking water to the citizens of Columbia.

BEACON AMA and ORION Cellular LTE-M endpoints provide actionable intelligence which provides Columbia with faster leak detection, quicker data collection for compliance reporting and better revenue management. The utility can access meter reading data down to a 15-minute interval, so it is easier to spot leaks, track consumption trends, right-size meters, and monitor district metered areas to decrease non-revenue water.

The AMI system also allows Columbia water customers to access consumption data from the EyeOnWater consumer engagement tool via their mobile phones, tablets and computers. This tool enables customers to set water controls and early leak detection to catch issues before they result in high bills.



**How-To:** The City of Columbia identified a need to replace its aging infrastructure and spoke with numerous metering manufacturers to determine the best solution for its needs.

After speaking with their third-party resources, the City of Columbia ultimately selected an AMI solution from Badger Meter. The technology provided the most cost-effective solution and did not require spending on infrastructure or continued maintenance.

Columbia worked jointly with an installation partner and began the steady rollout of the meters and technology products over a three-year period. To date, the installation has been very successful, with read rates regularly upwards of 99.98% range. Choosing the right flow measurement solution can have a major impact on operational and business performance. For this reason, companies anticipating a flow meter purchase should consult with a knowledgeable instrumentation supplier in the early stages of a project. The effort spent learning about basic flow measurement techniques and available meter options will ensure a successful application once the equipment is installed.

Three months after project kickoff, the City of Columbia introduced the customer-facing mobile app. Whenever a customer called in with a question, the utility's customer service representative would provide instruction on how to sign up for the service. So far, the utility team is receiving overwhelmingly positive feedback from their customers and will soon begin a targeted and direct community outreach campaign to encourage more participation and use of the tool.

### **General Tips:**

Columbia has benefited from the cellular technologies available today—which reduce or eliminate the need to install and maintain infrastructure, saving time and expense and freeing up employees for other projects.

Rather than just replacing aging water meters, Columbia had an opportunity to look at the entire system and how technology can enable its teams to better manage and monitor the system, reduce leaks and improve customer service. The city realized its water utility is one of many services that can be interconnected within a smart city infrastructure.

To support a complete and rapid installation of the new metering equipment, the City of Columbia researched and hired a third-party installation service. This service provided real-time inventory management and worked seamlessly with the utility employees to resolve real-time installation issues.

Budget: \$49.5 million

Funding: General Purpose City Funds

**Tags:** Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact, Impact on City Economy

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# Black & Veatch: Black & Veatch's Rapid Modular Health System helps combat COVID-19

**Project Description:** Because no one saw COVID-19 coming, everyone turned reactive. Black & Veatch was not different, first focusing on the safety of its global professionals by shifting to a work-from-home mentality where it could best manage their health, environment and with whom they came into contact. The company then pivoted into thinking how to use its critical human infrastructure skills to make a difference for hospitals, given their place on the front lines and the fact that their facilities, doctors and personal protective equipment were in short supply. To address some of these needs, Black & Veatch developed and deployed its Rapid Modular Health System (RaMHS) as an alternate testing site outside of traditional emergency room or doctor office settings. These repurposed and windowed, 20- or 40-foot intermodal containers are powered by electricity directly from the grid or a generator, and the weather-resistant, lockable space provides security for personnel and equipment in any environment. Their diverse applications can benefit municipal health testing sites, schools, large businesses and office complexes, industries such as meat-packing sites, and commercial development.

**City Challenge:** As a global infrastructure solutions provider for more than a century, Black & Veatch – like countless other enterprises – shuttered its suburban Kansas City headquarters and the bulk of its offices in roughly 100 countries worldwide, then set about finding COVID-19 solutions with broad applications. Vastly experienced in pathogen-tracking methods and the construction of biological safety-related facilities, the company used outside-the-box thinking in repurposing intermodal containers into mobile, scalable coronavirus testing sites. The units, including one in use at Black & Veatch's headquarters, can give health care, government and business leaders an effective tool for safe COVID-19 screening and other diagnostic purposes.

**Impact:** As everyone adjusts to a safer work environment, Black & Veatch has helped add some comfort to patients, businesses, shoppers, students, parents and consumers with an added layer of coronavirus protection visible and achievable by partnering with Black & Veatch. The company has moved testing from the tents into climate-controlled modules designed with negative pressure isolation systems and both HEPA and ultraviolet germicidal filters to remove 99.984 percent of particulates 0.3 microns or greater in size. Screenings can be done away from the primary occupancy setting and in conjunction with other personal protective gear, reducing exposure risks. The units are a manifestation of the expertise of Black & Veatch, which designs and builds biological Safety Level 3 (BSL-3) testing facilities to research dangerous pathogens and tracks infectious diseases in more than 20 countries for the U.S. government.

**How-To:** Show your constituents that you are taking that added visible, practical and affordable measure of precaution to keep everyone safer. Anyone who decides to deploy the versatility of a RaMHS unit also should supplement that with COVOPERATE, an innovative new workforce-management application for self-awareness and identification of your current health status known only to you but presented as verification of your willingness to protect yourself and those around you. COVOPERATE relies on a series of screening questions and health declarations paired with in-person temperature checks and other safety protocols to generate an easily trackable "boarding pass" to assist in evaluating if professionals are clear to return to work or require additional verification.

**Budget:** The cost of deployment is \$2,000 to \$3,000 per month per RaMHS unit.

Funding: Private Financing, Federal Grants, General Purpose City Funds

Additional Investment: Black & Veatch wholly or in part contributed to each location.

**Tags:** Service Delivery Improvement, Innovation, Cost Savings, Impact on City Economy, Risk Management, Health Benefits



An architectural drawing illustrating the schematics of a RaMHS module.

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Black & Veatch's Rapid Mobile Health System conveniently allows for drive-up screenings, expediting testing while minimizing contact.



The repurposed and windowed, 20- or 40-foot intermodal containers are powered by electricity directly from the grid or a generator.

# **Booster Fuels:** Booster "Fuels" San Mateo Fire Department During Coronavirus Pandemic

**Project Description:** Booster, the leading same-day contactless fuel delivery service, was created to provide consumers a safer, healthier, more convenient alternative to getting gas. Booster offers significant environmental benefits to communities: reduced emissions, spillage, and vehicle miles traveled. Each "boost" saves 15 minutes, 1.2 miles, 1.1 pounds of CO2, and 80¢ of wear and tear to customer vehicles. When COVID-19 struck the country, Booster supported essential fleets through the only 100% contactless way to fuel a vehicle. In these sensitive times when health and safety are paramount, Booster's mandate was to help communities limit the spread of the coronavirus. The company quickly set up contactless gas stations throughout the community to provide no-touch fueling for their customers and anyone who needed to avoid the gas station during the pandemic. Booster pumped more than 8,000 gallons at these pop-up contactless gas stations during the outbreak. Essential services also relied heavily on Booster, from ambulance to fire departments, to keep their workers safe and at the ready. Booster delivered fuel safer, more efficiently and with less environmental impact.

**City Challenge:** When COVID-19 arrived in San Mateo County, by late summer, the county had more than 7,000 confirmed cases, and 154 essential firefighters were at an increased risk at work. San Mateo Consolidated Fire Department (SMCFD) was committed to taking every precaution against the virus, and leadership began considering new ways to enhance safety and efficiency on the job. The County identified one measure that would help decrease response times, curb the spread of the virus, and save wear and tear on fire engines: contactless mobile fueling ondemand. Going to the gas station adds more than 20 minutes to any call, and 71% of gas station pump handles are contaminated with microbes that can spread COVID-19. SMCFD saw the challenge the pandemic presented to essential workers and communities, and wanted to be ahead of the game by improving its service and providing added protections through mobile fueling on-demand.

**Impact**: The immediate impacts of the partnership helped save time for those on the frontlines responding to emergencies. Other impacts included:

Better protections to the community, including more than 150 firefighter personnel, and thousands of residents who made calls for emergency services; Reduced costs of operations and wear-and-tear on fire suppression vehicles; Better, more rapid response to fires, medical emergencies, rescues and wildfires overall, while avoiding accidents; Improved environmental practices resulting in reduced carbon emissions, spillage, and vehicle miles traveled; Increased time spent on activities that improve firefighter response, such as training, preparation of equipment, and planning for evolving community needs during crisis; Added confidence in the community regarding the measures taken to stop the spread of the virus by essential workers, enhancing the health and trust of the public; and Extra protections already in place by the time wildfire season began, leaving additional time and resources for an active season.





Chief Ray Iverson San Mateo Consolidated Fire Department

Booster Service Professional at Work

**How-To:** Booster Fuels launched its mobile fueling on-demand service in 2015, and as part of its mandate, works with fire marshals all over the country to ensure the highest standards of safety in its operations. In 2018, the two organizations governing fire codes - the International Code Council (ICC) and the National Fire Protection Association (NFPA) - adopted official rules regulating mobile fueling. The inclusion of these rules paved the way for the industry across the US, and now mobile fueling is available in more than 50 cities. Those that have not yet adopted these rules can pursue an "Alternative Materials and Methods Request" (AMMR), which enables fire departments to adopt new services more easily.

**General Tips:** Booster Fuels had been operating in San Mateo prior to pursuing a partnership with the department, and had proven its ability to offer its services safely, conveniently, and affordably. While partnership was established on this foundation, it thrived because Booster Fuels was providing a significant tool for emergency management and crisis response, which was the primary need of SMFD. Partnerships pursued on the basis of trust, benefits to taxpayers and communities, and mutual respect for the needs of the locality ultimately result in better services delivered.

**Budget:** The contactless mobile fueling service is available to San Mateo essential workers free of charge. The fire department did not incur any additional costs in this partnership, saving taxpayers money, time and resources associated with conventional fuel.

**Funding:** Private Financing

Tags: Service Delivery Improvement, Innovation, Cost Savings, Minimizing COVID-19 spread



Booster Service Professional Fueling SMCFD Fire Engine

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# **CentralSquare Technologies:** How a Pandemic Transformed a Public Safety Software Go-Live into a Fully Remote Experience: Littleton, CO

**Project Description:** CentralSquare's mission is to help build safer, smarter communities. During a global pandemic, that pledge is more important than ever. Used by more than 5,000 public safety agencies nationwide, CentralSquare public safety software plays a critical role in ensuring fast emergency response, maintaining safety for first responders and the public and prioritizing efficient workflows.

The Littleton Police Department in Colorado recently selected CentralSquare Records Enterprise to modernize their records management system (RMS) and substantially reduce the time needed to manage reporting. Typically following the selection process, teams from Littleton and CentralSquare would work together in the same location to get the new system up and running. Due to health guidelines and social distancing requirements stemming from COVID-19, however, the traditional in-person implementation transformed into a remote go-live.

CentralSquare performed the entire training and go-live virtually, which included training officers and staff on the ins and outs of using the software, answering questions about the software and launching the software live for use in real time.

**City Challenge:** COVID-19 has flipped the way business is done on its head. The pandemic has limited our ability to engage in in-person interactions for software implementations. Undergoing a remote go-live is a challenge, especially for a business critical, time-intensive task like training employees on new, mission-critical public safety technology systems. Remote go-lives introduce the possibility of technical issues and key details getting lost in translation. If employees do not feel properly trained on their new system or if the system is not implemented correctly, the agency is likely to struggle with meeting goals while the community could question the value and benefits of the new system.

For public safety, a poorly executed software implementation has long-term impacts. For example, during COVID-19, rapid access to information is vital, like whether a location of a service call has had recent COVID-19 exposure. Prior knowledge allows officers to don the appropriate PPE, protecting responders and helping further limit the spread. Committed to a successful implementation, CentralSquare overcame these challenges by adapting to changing needs and prioritizing communication with the agency.

**Impact**: The immediate impact of the remote go-live is particularly relevant for first responders and public safety personnel who are on the front lines of the pandemic. By following expert-recommended social distancing guidelines, Littleton police officers and administrative staff mitigated the risk of spreading the virus among their staff and constituents.

Further, the Littleton Police Department benefits from a modernized records management system that will cut reporting time, allowing officers to spend more time in the community rather than on filling out reports. The department further benefits from a system that is both easily customizable and adaptable to their unique needs.

For the Littleton community, the benefits of this implementation are long lasting. Driven by a strategic decision to join a unified system, Littleton chose CentralSquare to facilitate collaboration with neighboring Arapahoe County and other surrounding agencies who also use CentralSquare software. With their new CentralSquare RMS, Littleton is now on one unified database, which makes data-sharing easier across jurisdictions and neighboring communities, enhancing safety for the citizens they serve. **How-To:** As long as the COVID-19 crisis continues, public safety agencies will need to consider how to best handle implementing new technology systems. Partnering with a trusted vendor with experience in remote go-lives is critical. Here is what proved particularly valuable to Littleton during the remote experience:

Flexibility: Flexibility to adapt to changes as they arose proved instrumental. CentralSquare was flexible and adjusted to the city's needs and scheduling conflicts. The virtual nature of the training and go-live allowed Littleton officers to get their questions answered and join when convenient for them.

CentralSquare also provided refresher training courses later in the process to ensure that the staff felt more comfortable using the new system. As a result, officer feedback was very positive. The agency had greater support and clarity into what was transpiring during the remote go-live.

Communication: Departments planning for remote go-lives should be prepared for the change that accompanies a technology transition. The path to successful preparation is through communication. The best advice for any municipality or department is to overcommunicate in all avenues, especially during a remote implementation. Leaders should clearly communicate expectations of what the implementation will entail, including which personnel should be involved and obtaining employee buy-in. Partnering with a solution provider that understands pain points and excels at communication will go a long way to ensure the department feels as though their vendor partner is truly invested in helping to drive success.

Preparation: Laying strong, foundational groundwork will help make any remote go-live seamless. Ahead of a remote go-live, it's important to make sure department staff have gathered all of the requirements necessary for a remote go-live – that means having all the permissions set up and personnel logins ready to go.

**General Tips:** Remote go-lives are gaining traction due to COVID-19, proving that public safety agencies can swiftly adapt to the changes as they come. Littleton's remote go-live on CentralSquare Records Enterprise gave the officers and staff additional assurance that they were well-trained on new systems in order to provide critical services to the city of Littleton. In these unique circumstances stemming from the pandemic, Littleton recommends remote go-lives for cities considering a technology transformation for their community.

Tags: Service Delivery Improvement, Business Benefits, Public Safety

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### CGI Communications: The Community Showcase Video Program

**Project Description:** Idaho Falls is an affordable city with a strong agricultural economy, and is home to a unique culture of music, art, and sports. Located in Bonneville County, Idaho Falls is the largest city in the Eastern Idaho region and is the third-largest metropolitan area in the state.

Over the past 30 years, CGI has carried out their mission of helping communities, like Idaho Falls, effectively tell their story. Through its partnership with the United States Conference of Mayors and over 5,000 communities nationwide, CGI has found the power in public-private partnerships in order to effectively market municipalities.

**City Challenge:** Dana Briggs, Economic Development Director, stated, "Idaho Falls is a member of a regional economic development organization that markets Eastern Idaho as a whole, but we lacked an ability to market our specific community in one centralized location. Different organizations such as the Chamber of Commerce, Downtown Development Organization, and individual businesses marketed Idaho Falls in various ways, but having a 'one-stop shop' area for marketing was a challenge."

She continued, "The Video Tour helped tell Idaho Falls' story in a comprehensive and aesthetic way. We were able to choose what industries and areas to highlight, and by doing so, the message we are now able to share is truly what our community is known for, becoming, and working towards."

**Impact:** Briggs elaborated, "The Video Tour also allowed businesses from all industries and of all sizes to participate in an engaging way. The style of our videos in particular allowed for increased community pride because the videos are formatted in an interview style. Over 40 people are featured in our main Idaho Falls videos alone, allowing many different community members and business representatives to share in the experience of telling the Idaho Falls story."

Dana continues, "The Video Tour is featured prominently on the City of Idaho Falls website, and is one of the main traffic areas our website receives. Current community members and local organizations, as well as people and businesses from all over the country and world have gone to the City's website and viewed the Video Tour. This increases the SEO metrics for the City's website overall, and drives traffic to other community organizations and businesses along the way. It has been a great resource and addition to what might otherwise be a standard municipal website that offers a lot of practical information, but little inspiration or excitement."



Video Tour Interface

**How-To:** CGI knows staff time and resources are limited, which is why they dedicate over 40 experienced staff members to write the video scripts, film, edit, and provide professional voice-overs.

Here are the steps to get started:

- 1. Have a meeting with the video production team
- 2. Select video topics that best highlight your community
- 3. Choose your filming dates
- 4. Let CGI take care of the rest!

"CGI Communications is a wonderful company to work with. Idaho Falls has had nothing but a positive experience working with the CGI team, and our Video Tour creation process from pre-production to publication was a pleasure. I recommend the Video Tour product to any municipality that is seeking increased marketing and economic development resources." - Dana Briggs, Economic Development Director

Budget: NO-COST to municipalities

Funding: Business sponsorships

Tags: Innovation, Cost Savings, Increased Tourism, Business Benefits

# Video Tour of Idaho Falls



Custom Video Tour link for your city's official website

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### CGI Technologies and Solutions, Incorporated: Transparency Portal

**Project Description:** After Hurricane Maria in September of 2017, money was allocated to Puerto Rico from the federal government to aid in the recovery effort. The Transparency Portal was created in association with COR3, which is the office of the government specifically focused on recovery and reconstruction efforts post-disaster. While this portal was created for the territory, its technology can be use by cities, states or territories alike. CGI designed, developed and maintains COR3's transparency portal to provide public visibility into the progress of the recovery efforts and disbursement of funds. It allows citizens to easily digest which projects are underway, what dollars are coming to their territory, and understand the disaster process. It also gives localities like cities a powerful tool to communicate easily and effective with its residents, business communities and public.

**City Challenge:** CGI was able to help the territory of Puerto Rico avoid a perception that the funding process was not transparent and accountable. By giving their citizens visibility into where government funding is allocated and understanding the big picture of disaster recovery they were able to alleviate anxiety and mistrust from the public. The site functions as an integrated transparency and tracking system, using data from FEMA and other sources to deliver accurate, up-to-date and critical information to local and federal stakeholders involved in the recovery effort. It serves as a single point of information regarding the federal recovery funding, consolidating the big picture. It also provides clarity into which Agencies are providing what funding and where and how this money will be utilized, and has been utilized. When Puerto Rico needed to show roadblocks to federal officials or local stakeholders, they could immediately provide the data to support their needs. This allowed all to respond in an effective manner and overcome any obstacle related to reporting and tracking.

**Impact:** Effective communication is key to achieve successful outcomes. For that reason, building a public portal that includes all important information and data related to the recovery efforts helps citizens to understand the assistance available, how to request it, and to stay informed on the progress.

The biggest impact of the project is the tracking mechanism. The site can track the time taken for projects to move through the Obligation workflow. Presenting this data over time shows the impact of the site as projects begin to move more quickly through each stage.

Other example indicators of success:

- The volume of User traffic
- · Number of documents downloaded by the public
- The public financial and content searches
- CGI User Surveys can measure effectiveness, including public trust and education
  before and after viewing the site

# <complex-block><image>

How-To: What did the government do?

The site functions as an integrated transparency and tracking system, using data from FEMA and other sources to deliver accurate, up-to-date and critical information to local and federal stakeholders involved in the recovery effort. It serves as a single point of information regarding the federal recovery funding, consolidating the big picture. It will provide clarity for the City (and public) into which Agencies are providing what funding and where and how this money will be utilized, and has been utilized. As part of our scope, CGI will encourages cooperation between agencies in order to realize the highest levels of transparency. City Governments would need to facilitate information between the federal government and CGI to allow the portal to be built. City Governments can also update the information in real time.

What was CGI's role?

CGI designed, developed and (currently) maintains COR3's transparency portal to provide public visibility into the progress of the recovery efforts and disbursement of funds.

CGI provides a platform from a comprehensive disaster recovery portal that includes educational content about the programs, as well as data, visual aids, and interactive maps showing the progress in recovery for any current disaster, and any future events that may occur.

CGI approach to development is based on global corporate methodology. We customize delivery engagement to fit the needs of clients. We leveraged and utilized a form of agile development called SAFE which was applied at a large scale SCRUM. From requirement gathering with clients to demonstrations and agile development, we build a close knit partnership with our clients.

Budget: It depends on what already exists and what is needed.

**Funding:** Federal Grants, Federal Funds were used but State and City Funds can also be used.

Tags: Service Delivery Improvement

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# **Charter Communications:** Smart Intersections: The Collision of Data and Intended Design

**Project Description:** Spectrum Enterprise (a part of Charter Communications) and the City of St. Petersburg, the University of South Florida St. Petersburg partnered to create a Smart City Proof of Concept that integrates city requirements and innovative technology. Leading the partnership, Spectrum deployed multiple smart streetlights and added many different Internet of Things (IoT) sensors to enable the University to collect and analyze data allowing for real-time decision making that influences operational efficiencies. One example of this partnership is a Smart Intersection. St. Petersburg influenced this initiative with goals to mitigate intersection collisions, respond to Vision Zero pillars, drive creative deployment of multiple IoT sensor technologies and support the City Connected Streets program.

Spectrum Enterprise developed a method to identify, capture and analyze every action that occurs within the intersection and provide real-time data on pedestrian, bike, scooter and vehicular traffic. The project's sensors and data analytics platforms have also been used to inform social distancing guidelines.

**City Challenge:** The Smart City Pilot location is on the University campus at a unique T-intersection with stop signs for all and three crosswalks bisecting each roadway. One crosswalk is offset from the intersection itself, creating the potential for numerous pedestrian/vehicle accidents and near-misses. There were so many incidents at this intersection that both the City and University were desperate for innovation. With the Pilot, Spectrum had the opportunity to transform data collection and provide the city with unprecedented details from real-time information that uncovered new insights and alternatives to intersection design.

The challenge was to count, differentiate and assign up to 15 different data points each time a pedestrian or vehicle utilized the intersection. Similar manual attempts by the City to process videos were arduous. Reviewing footage for simple counts was basically a one-to-one ratio; creating a low value return for the human capital invested. Additionally, the existing technology was limited by power and storage constraints, eliminating the possibility of a comprehensive 24/7 collection of data.

**Impact**: Video analytics, edge computing and machine learning enables the processing, identifying, validating and analyzing of thousands of pieces of data to determine direction and mode of travel (walking, bike, car, truck) every time a vehicle or person enters a designated geo-fenced (virtual perimeter) area within the intersection.

The live data allows traffic engineers to understand 'when, how, and what' occurs. The data also includes vehicular traffic across the same parameters with different definitions (car/commercial vehicle/motorcycle vs. pedestrian/bicyclist). The output created is hyper-detailed of all activities at the intersection. The data collected illustrates an influx of vehicular traffic as students drive to classes and how that correlates to pedestrian traffic. Using this comprehensive data collection and analysis, engineers are redesigning the intersection with a level of data and understanding not previously realized.

Recently the sensors have collected data on pedestrian travel patterns and measurements around social distancing, helping the University to develop a comprehensive emergency response and a safer intersection.

**How-To:** Define problem – Why address a particular problem? A detailed definition will help re-frame and target the rest of the project.

Plan data – What are you doing? After defining key data elements, dig deeper. Strive for five layers deep, as data is your primary asset. I.e.: 1) person in crosswalk, 2) travel direction, 3) transportation mode, 4) duration to cross street, and 5) assistance with disability (walker, service dog, or stroller).

Plan data collection – How are you doing it? Data collection tools need to work independently and collaboratively. I.e., if some data can be collected through edge computing, is there an opportunity to expand the initial analysis through machine learning? The edge compute identifies a pedestrian in the cross walk; Can Al/ML identify whether a pedestrian is pushing a stroller or bicycling? The additional metadata about a particular piece of data expands potential insights significantly.

Analyze data – What does the data infer? Plan infrastructure and analysis after you identify what will be collected. Do you have disparate data sets within a system to identify correlations?

Implement solutions – What are the best solutions to deploy? After data collection and analysis, move forward with implementation.

Expand data analysis – What else can you learn? What could be learned with more or different data? Can you collect different data to identify trends like social distancing or mask wearing? Can you correlate data from one source to another? I.e., is there a nearby weather sensor and does it relate to or affect what happens at the intersection? Furthermore, you could expand the data collected across different categories. Continue to evolve data collection and analysis.

**General Tips:** Understand the problem you want to solve. Define a solution around the problem, rather than force fitting an existing solution. Continue to gather and analyze data to test your assumptions.

Make sure you frequently review your focus area to see both the "forest and the trees." If you are analyzing an intersection during the summer, you won't have the same perspective and understanding you would while school is in session in the fall.

Leverage partners when available. In addition to the city's data analysis, the University will share data sets with classes in the business and engineering programs. These groups may look at the data in a totally different way and bring a fresh, insightful perspective.

Can you re-purpose the same technology to respond to real world events like common area management, social distancing and mask wearing?

**Budget:** This project is incorporated into a larger Smart City initiative with the City of St. Petersburg, the St. Petersburg Innovation District, and the University of South Florida St. Petersburg and is funded by Spectrum Ent

Funding: Private Financing

**Tags:** Service Delivery Improvement, Innovation, Environmental Impact, Public Safety and Emergency (Pandemic) Response

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# Citi: South Florida Anchor Alliance

**Project Description:** South Florida Anchor Alliance (SFAA) is a collaborative of 20 regional institutions— municipalities, hospitals and healthcare systems and education enterprises-coming together to harness their collective dollar spending power and vast human and intellectual capital in order to create a more just and inclusive local economy. It is founded by Health Foundation of South Florida, with support from Citi. In South Florida, anchors have the power to provide tremendous opportunity for economic growth for local residents and small business owners. Across Miami-Dade and Broward counties, these institutions spend billions a year in procuring goods and services. Only a small percentage of that goes to small, locally and minority-owned businesses. By shifting procurement, hiring and investment practices in ways that benefit the local economy, anchor institutions can improve the economic well-being and security of the communities they serve. The City of Miami has a history of investing in workforce development opportunity to collaborate. In July 2020, the City of Miami officially passed a resolution to join the SFAA.

**City Challenge:** The COVID-19 crisis has brought the South Florida region to an economic standstill. Most troubling, the economic crisis has disproportionately hurt businesses owned by people of color and women. Between February and April, the pandemic shuttered nearly half of Black-owned small businesses nationwide. It also found that in that same time period, the number of Latinx businesses decreased by 32%, and women-owned businesses were down by 25%. Before the Coronavirus crisis, last year a study by Florida International University (FIU) named the City of Miami the second most unequal city in the United States. In light of these trends, the crisis is likely to deepen this inequity. Businesses owned by people of color and women are pivotal to the vibrancy of South Florida. More than one in three Miami-Dade business owners are Black, Hispanic or a woman, according to FIU. In order to ensure that the South Florida economy can recover from the current COVID-19 crisis, we must preserve these businesses and jobs.

**Impact**: The City of Miami and SFAA partners have leveraged existing relationships, platforms, infrastructure and best practices to create responsive solutions. The City is working on a platform to track the pipeline of workers, monitor wage growth and create pathways to match job skills with open roles. Through Buy Miami, local businesses were showcased on the website, accessed deals and benefits and went through new certification in alignment with CDC guidelines related to COVID. The City also connects local small purchasers seeking products to support operations. Local partners, supported by Citi, created AxisHelps.Org, an online, self-service platform that provides simple information to help local residents, small businesses and nonprofits secure the economic support they need to withstand the COVID-19 crisis. Since its launch, it has reached 25,000 users and provided direct engagement with ~500 small businesses. AxisHelps.org and SFAA teamed up to help jump-start new business relationships between local small businesses and anchor institutions, including an Anchor toolkit available on the AxisHelps portal. In September, the SFAA began offering webinars for small business owners.





Citi's Ines Hernandez speaking before the Anchor Alliance Leadership convening in December 2019

Pilar Guzman Zavala, owner of Half Moon Empanadas, who has successfully gained multiple contracts through SFAA

How-To: Below are highlights from the SFAA Blueprint for Action:

- Harness national, local and anchor best practices to increase vendor engagement, develop information for vendors on policies & processes, and adopt standardized principles.
- Remove barriers to certification and registration such as increasing reciprocity agreements and streamline online processes.
- Drive collaborative targeted outreach, engagement, informational & educational activities. Host shared matchmaking/ networking events & calendars.
- Increase anchor staff awareness of the needs & strategies to engage MWBEs, develop industry-specific incubators and courses, and connect MWBEs with existing capacity building.
- Administer a survey to identify needs and gaps in pipelines; identify educational and nonprofit partners to build and/or support the expansion of pipeline.
- Create workforce development resources for MWBEs, identify training programs for priority industries and develop a cooperative purchasing program for businesses to buy into group benefits.
- Implement strategies to increase anchor hiring of populations by zip code.
- Inventory, develop & implement training/education programs and hiring incentives to strengthen anchor workforce pipelines in identified zip codes.

**General Tips:** #1: Convene. The SFAA officially launched in 2020, 3 years after the initial convening. Anchors and community partners showed interest in taking collective action towards building community wealth and the group identified 2 key areas of opportunity: supplier diversity & workforce development. These areas have informed the growth and evolution of the SFAA. Participants have since convened many times to generate the shared vision, goals and strategy that are core to SFAA's collective action.

#2: Select a lead organization. To execute at this scale, it is essential to have a backbone organization that will convene anchors and create a shared strategy. This organization is responsible for making the case to participating organizations, facilitating collaboration between partners that may have never worked together before, helping them establish benchmarks and goals, managing communication between participants, etc.

**Budget:** Approx. \$750K since 2017. Average annual investment is roughly \$150K for staffing infrastructure, marketing/ communications, events.

Funding: Private Financing, Foundations and Philanthropy

Tags: Impact on City Economy, Jobs Created

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### Commonwealth Edison (ComEd): Bronzeville Community Microgrid (BCM)

**Project Description:** The Bronzeville Community Microgrid is the first utility-operated microgrid cluster, designed to support critical city facilities like Chicago's public safety headquarters, Police and Fire department headquarters, and senior care facilities within Bronzeville, a neighborhood just south of Chicago's central business district. The BCM has capability to operate independently of the rest of the grid and once complete, it is expected to directly serve more than 1,000 local businesses, residences, and institutions, using more than 7 MW of distributed energy resources that include solar panels, battery storage, and controllable generation. The microgrid is the foundational core for inclusive carbon solutions that strengthen the surrounding community. The BCM operates within ComEd's larger Community of the Future (CoF) initiative, a collaborative collection of clean energy projects and programs within Bronzeville. CoF is an active model for the social and technological achievements that can be realized by leveraging cutting-edge technology to improve quality of life, livability, and community education, while working to mitigate the effects of the climate crisis.

**City Challenge:** The BCM works to improve the overall resiliency, sustainability, and disaster preparedness of the community of Bronzeville and its surrounding area. The Bronzeville neighborhood is home to many vulnerable groups who benefit from increased connectivity and resilience, including a large senior population and low-income households. Bronzeville's neighborhood and community leaders identified smart technology and sustainable energy investments as important factors for the community and its economic development strategy, and the BCM's supporting technologies and projects support these elements.

One example of the BCM's supporting technologies that work to overcome a challenge presented in the community is The Multi-Unit Dwelling (MUD) and Curbside Residential Charging Toolkit. This project was developed to evaluate and implement innovative, cost-effective, and flexible charging solutions that can be expanded to enhance residential MUD and curbside plug-in electric vehicle (PEV) charging systems.

**Impact**: The main impact of the BCM is a more resilient and sustainable surrounding community. Benefitting the community is ComEd's main focus with the BCM project and the larger Community of the Future initiative surrounding it. To fully leverage these benefits, it is not just necessary to adopt the newest technology; it is necessary to develop, demonstrate and deploy it so that the communities the utility serves can fulfil their potential. The Bronzeville Community Microgrid is a key component in a broader strategy to enable a higher penetration of renewable distributed energy resources like solar PV, as well as enhance the resilience of both the grid and communities in the face of emerging disruptions like major weather events and cyber-attacks. Beyond the benefits that this technology will provide to those directly served by it, the innovations made here will support a higher level of service across the region. We intend to use the Bronzeville Community Microgrid as a living lab to move ComEd and the industry towards a more sustainable future.



Diagram of Bronzeville Community Microgrid



Bronzeville Community Microgrid



Solar Panels Installed at Dearborn Homes

**How-To:** Through the development of BCM, ComEd was seeking to push the performance frontier of grid reliability, resiliency and safety to enable renewable energy and electrification.

1) ComEd's identification of microgrids as a crucial technology for increasing the resilience and sustainability of the electric grid was the genesis of BCM. 2) With the overall goal of realizing the electric utility's full potential when it comes to enabling clean energy, ComEd developed a resiliency metric to identify the geographic section within its service territory that would both benefit most from microgrid technology and demonstrate smart grid applications for multiple types of infrastructure. 3) From detailed composite scoring, Bronzeville emerged as the ideal location for the nation's first utility-operated microgrid, Bronzeville Community Microgrid (BCM).

The BCM acts as a model to make advancing community decarbonization a reality, representing an important first step in promoting wide scale decarbonization. To fully leverage the benefits of a project like BCM a smart community of the future should surround it, enabling an advanced energy economy, encouraging local entrepreneurship and accelerating the social impact of STEM education through innovative programming, driving collaboration with strategic partners, and enhancing local economic and workforce development.

**General Tips:** An initiative of this magnitude requires deep-rooted partnerships and collaborations within the community. Opening channels for communication and keeping them open throughout the life of the project is crucial to any long-lasting success. Identifying and developing these partnerships could mean holding town hall meetings, advertising, or holding a formal proposal session for community non-profits, social services institutions, churches, anchor educational and health institutions, and social enterprises—and from coalitions of such organizations—to submit their ideas of how to best leverage resources to achieve common goals.

Budget: Approximately \$29 Million

Funding: Private Financing, Federal Grants

**Tags:** Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact, Impact on City Economy, Jobs Created, Business Benefits

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# **Cruise:** COVID-19 Crisis Response: Using Zero Emission Autonomous Vehicles to Provide Contactless Meal Deliveries to Vulnerable Households

**Project Description:** Founded in San Francisco, California in 2013, Cruise is an allelectric, autonomous vehicle technology company with a mission to build the world's most advanced autonomous vehicles to safely connect people to the places, things, and experiences they care about. Prior to the COVID-19 pandemic, Cruise was testing our fleet of zero-emission, self-driving vehicles throughout San Francisco, with the goal of developing a shared self-driving service that Cruise believes will bring new safety, accessibility, and environmental benefits to all.

As in other cities across the United States, the impact of the COVID-19 outbreak on San Francisco has been profound. To help address the increased need for contactless meal deliveries, since April 2020, Cruise has been working with two Bay Area nonprofits--SF-Marin Food Bank and SF New Deal--to deliver meals and groceries using our all-electric, autonomous vehicles to San Franciscans in need.

**City Challenge:** Food insecurity was already one of the top challenges communities in San Francisco faced prior to the outbreak, and the increase in demand during the COVID-19 pandemic has been unprecedented. As of December 2018, over 125,000 residents - nearly 15% of San Francisco's population - were food insecure. Since the onset of the pandemic, local Bay Area food banks saw a 50% increase in the number of households seeking support.

In response to the crisis, Cruise partnered with two local nonprofits--SF-Marin Food Bank and SF New Deal--that were trying to scale up operations to reach thousands of new households. Both partners were relying on volunteer drivers and struggling with reliability and consistency issues. As a San Francisco-based company, Cruise wanted to put our zero-emission self-driving testing fleet to good use and help support this essential function in our hometown. Out of conversations with these two partners, Cruise's contactless meal delivery program was born in April 2020, with the aim of delivering groceries and meals to vulnerable residents of San Francisco.

**Impact:** Since April 2020, the Cruise COVID-19 response program has completed more than 85,000 contactless deliveries of groceries and meals using Cruise's fleet of zero-emission, self-driving vehicles. To ensure we are supporting our nonprofit partners while keeping our Cruise AV test drivers and the public safe, all pickups and drop offs are contactless. Cruise also developed comprehensive safety protocols for the program that follow CDC guidelines.

The Cruise COVID-19 response program provides grocery and meal deliveries to San Franciscans who need it most. Specifically, since the program's launch in late April:

- 85% of deliveries occurred in census zip codes below the city poverty line; and
- 82% of deliveries occurred in the 10 zip codes worst hit by COVID-19.

Cruise's all-electric autonomous vehicle fleet is also powered with 100% renewable solar power produced across California. As a result, Cruise was able to deliver critical resources to local communities, all while improving air quality. Cruise estimates that the program has offset roughly 55,000 pounds of transportation-related CO2 emissions - the same annual carbon capture of 32 acres of forest land.

**How-To:** As a San Francisco-based company, Cruise saw firsthand the enormous toll the pandemic was having on the city. We asked ourselves — what can we do to help, and how can we do so safely?

Cruise heard from neighborhood food banks about their struggle to meet the skyrocketing demand for meals and groceries. SF-Marin Food Bank was looking to scale from serving hundreds of households to more than 10,000 — virtually overnight. And new local organizations, like SF New Deal, which distributes meals to sites across the city in collaboration with the City of San Francisco's Human Rights Commission and other partners, were also forming to meet the soaring demand.

Through collaborative conversations with SF-Marin Food Bank and SF New Deal, Cruise's COVID-19 response program was created to meet the increased need for groceries and necessities among San Francisco's most vulnerable residents. Launched in late April 2020, Cruise partnered with both SF-Marin Food Bank and SF New Deal to provide contactless grocery and meal deliveries across the city. From the outset, Cruise and our nonprofit partners stayed in close contact, discussing our successes and challenges.

That close collaboration with our partners, as well as the larger San Francisco community, has directly contributed to the success of the Cruise contactless meal and grocery delivery program. As one Cruise AV test driver participating in the program noted: "We were not just delivering food, we had managed to integrate into the fabric of our city with organizations now interacting with us and helping us identify opportunities to put Cruise AVs to even greater benefit to our community."

**General Tips:** Cruise believes that by working closely in the communities we aim to serve, we can learn new ways to be an effective partner and steward. This pandemic has shown how vital self-driving technology is and how it can be used to support crisis relief, and we will continue to look to the community for guidance on how our zero emission, autonomous vehicle fleet can serve them best.

**Budget:** Cruise's activities were funded using preexisting budget, resources, and personnel at no cost to our nonprofit partners.

Funding: Private Financing

Tags: Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact, Impact on City Economy

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# **Dollar General:** Addressing Food Access through Public Private Partnerships

**Project Description:** DG is proud to invest in communities with new stores and jobs. Each new store offers convenient access to affordable products to support well-being, including components of a healthy diet, over-the-counter medicines, vitamins/minerals and fresh produce in select stores.

When Baton Rouge's Mayor-President Sharon Weston Broome sought to increase fresh produce access, she and her team contacted DG to understand how a public-private partnership could benefit residents.

DG teamed with Mayor Broome and her Healthy City Initiative, HealthyBR, to add fresh produce in two Baton Rouge stores to support her Geaux Get Healthy program.

The collaboration not only found a mutually-beneficial solution to address food insecurity challenges, but DG partnered with the American Heart Association and local hospital to provide "Simple Cooking with Heart" classes, which show residents how to make affordable, heart-healthy meals with fresh food available at DG. It also increased customers' access and education on how to purchase fresh and affordable produce.

This is a great example of how working together, companies and local officials can address food deserts in communities across our country.

**City Challenge:** Baton Rouge struggles with more than 70,000 residents living in a "food desert" (as federally defined) — where access to fresh, affordable produce may be out of reach. Mayor-President Broome's Healthy City Initiative launched a program focused on addressing challenges around food insecurity, calling on businesses, community leaders, and others to help expand access to healthier foods. Dollar General answered the call and collaborated with the Mayor-President's office to determine avenues that not only provide access to fresh fruits and vegetables, but also highlight healthier food options and provide resources that are available in Dollar General stores across Baton Rouge.

**Impact:** As a result of constructive conversations that allowed for a mutuallybeneficial solution, two Baton Rouge Dollar General stores now offer a curated assortment of fresh fruits and vegetables — including lettuce, tomatoes, onions, apples, strawberries, potatoes, sweet potatoes, lemons, limes, salad mixes, and more. Dollar General's produce in these stores provide the top 20 items typically sold in traditional grocery stores and cover 80 percent of the overall categories grocers carry. The Baton Rouge stores are just two of the more than 1,050 Dollar General stores that are slated to carry fresh produce by January 2021.

These additions also supplement the nutritious foods that every Dollar General store currently carries, which include dairy products, frozen and canned vegetables, canned fruits, lean proteins, grains and more.

With more than 17,000 stores in 46 states across the country, Dollar General has a strong presence in communities coast to coast. Beyond Baton Rouge, Dollar General is continuing to make significant investments in communities across the country to increase affordable, healthier food options for customers in many communities.



**How-To:** This study is rooted in simplicity and partnership, born from the ability for local government and private business to work collaboratively. In this instance, Mayor-President Broome's leadership allowed for constructive dialogue between her administration and DG, which ultimately provided increased options and accessibility to healthier foods while simultaneously making good DG business sense.

As part of the Healthy City Initiative, Baton Rouge analyzed and understood the value that DG stores could provide residents. When Assistant Chief Administrative Officer Veneeth Iyengar reached out to DG, he was met with a receptive retailer seeking to understand how they could also better serve the community. He then brought in the Healthy City Initiative Director (Jared Hymowitz) to talk about more partnership opportunities with coalition partners.

Conversations ensued between the City and DG, both foundationally aligned to a win-win mentality, analyzing several avenues to provide additional accessibility to affordable and healthier food options in Baton Rouge.

After ~2 years, Dollar General and Mayor-President Broome's office jointly and proudly announced plans to remodel two stores (located at 6315 Scenic Highway and 5455 Airline Highway) in March 2020. By April, the two updated stores offered a selection of fresh fruits and vegetables, as well as a new layout with the addition of coolers to provide expanded food resources to residents.

To put that into perspective, Dollar General plans to add produce to approximately 400 stores during its 2020 fiscal year—and two of those were now in Baton Rouge.

The partnership between Mayor-President Broome and the Baton Rouge team with DG provides a center of excellence for other cities as they look at the positive ways that DG stores can impact communities and the lives of their residents. It demonstrates many possibilities that exist when cities and companies work together to find solutions to better serve their communities.

**Budget:** The main costs associated with this project are those related to the stores' remodeling.

Funding: Private Financing

Tags: Innovation, Business Benefits, Community Health

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Baton Rouge residents now have two new places to shop

for fresh fruit and vegetables

thanks to Dollar General and its

public-private partnership with

Baton Rouge Mayor-President Sharon Weston Broome.

# **Jacobs:** Jacobs uses Wastewater Based testing to detect Covid-19 at Wastewater Plant and in the collection system

**Project Description:** Government entities frequently test wastewater to detect various pathogens and substances that are circulating in communities. When research suggested that SARS-CoV-2 was detectable in wastewater, Jacobs realized that through a simple addition to wastewater treatment plan operations, we could easily collect samples for analysis and leverage predictive analysis to help quantify the extent of the population impacted by the virus. Jacobs consistently ranks as #1 in sewer/waste water treatment, and we operate almost 100 wastewater systems across North America. We partnered with academia and local communities to develop diagnostic testing protocol for sampling wastewater for SARS-CoV-2 spread. In our pilot stage, we advanced our testing protocol and partnered with a commertial laboratory to further improve our sample taking and analysis procedures. We are now moving the sampling process into the wastewater collection system and to suspected "hotspots".

The wastewater-based epidemiology (WBE) for COVID-19 has many advantages for decision-makers. Advantages of deploying WBE are the following:

- The spread of SARS-CoV-2 in communities can be predicted 10-14 days in advnace by detecting the virus into the wastewater
- Trends of viral load in wastewater helps to quantify the extent of the population impacted by the virus and therefore, providing decision makers with a more encompassing data set to inform public health decisions
- This methodology can help with monitoring the development of a herd immunity in communities
- Through a combination of in-house wastewater transport modeling tools and globally refreshed insights, we can deploy rapid modelling of the wastewater system and help decision makers consider different public health plans and strategies
- We can identify geographical areas and hotspots that are under greatest risk of the infection spread

**City Challenge:** COVID-19 pandemic has had a large impact around the world in the way people live and work. In the current environment where we are trying to find ways to operate in a "new normal" environment, decision-makers are pressed to make evidence-based decisions that impact the public, business continuity and overall operations. It is extremely challenging to find reliable methods to monitor virus spread and make relevant health and safety decisions in a timely manner.

**Impact**: We believe that WBE, if done correctly, provides priceless information on virus spread to government officials. The data can be generated in adnvance, thus providing lead time for decision makers to allocate resources accordingly. With the winter/flu season fast approaching, it is paramount to indetify communities that need more support with personal protective equipment, additional diagnostic testing, surge capacity for in-patient treatment and etc. High-quality information on SARS-CoV-2 infection rate will help city and public health officials to provide correct guidance on public safety measures and allow business continuity for greater economic prosperity.



Trending of the virus in wastewater over time

**How-To:** Phase 1 of this methodology focuses on the wastewater facilities; this phase will develop a correlation model to help quantify the extent of the population impacted by the virus. Using hydraulic models and GIS data from a community, a sampling approach will be defined. Samples will be taken at the wastewater plant and at upstream key locations and suspected "hotspots". We will be partnering with a commercial laboratory to analyze the samples and compile data. Jacobs' Water and Health Resiliency teams will work on developing trends over time to show viral load and spread.

**General Tips:** Lessons Learned: This approach could be used across different communities and with different configurations of the wastewater system.

**Budget:** \$150,000 based upon a scheme of one wastewater plant, two upstream locations, and two suspected hotspots over a six week period of sampling one time per week.

**Funding:** Self-funded and utilized minimum viable product (MVP) to deliver best practice; also received access to data and staff of client agency.

Tags: Innovation, Health, Wastewater Based Epidemiology



Considerations for when to sample wastewater for maximum virus shedding time frame during a daily wastewater cycle



COVID Tracking Upstream into the collection System

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## Lacuna Technologies: Dynamic Commercial Fleet Management System

**Project Description:** Prior to the pandemic, the City of Los Angeles Department of Transportation (LADOT) pioneered a new technology that powers a dynamic commercial fleet management system. The technology leverages notifications from commercial fleets and enables city officials to build a more sustainable, liveable, productive, and equitable city.

Built as an open source software solution, the system enables cities to regulate commercial roadway activities that disproportionately cause congestion and pollution, and impact safety and access. The new technology was widely tested with dockless mobility in 2019 and proved to be an invaluable resiliency tool the City of LA is now using to address the short and long-term challenges COVID-19 created.

**City Challenge:** In the past decade, transportation technology companies created a digital version of the physical public right-of-way, revolving around the smartphone and evidenced in the pervasive usage of navigation apps. This created the need for cities to be present in and steward the digital public right-of-way just as they are obligated to in the physical right-of-way.

Before this dynamic commercial fleet management system, there was no open source technology for cities to manage the digital right-of-way, express policy digitally, and assure commercial fleet permit compliance.

By May of 2018 when tens of thousands of unpermitted dockless vehicles were operating in unconventional locations in Los Angeles, the city's 311 system was swamped with complaints. The quality of life and public safety concerns led Los Angeles City Council to direct LADOT to create a one-year program to pilot the pioneering technology that would dynamically manage a commercial fleet system.

Today, with the COVID-19 pandemic, cities face entirely new challenges to managing, operating and regulating the public right-of-way. Pioneering technologies like those behind LADOT's commercial fleet management system can help.

**Impact**: The pandemic has exposed structural inequities and caused an economic downturn. LADOT is now leveraging the technology behind this commercial fleet management system to address both.

First, it is helping ensure equal transportation access. It enables the city to know and react when commercial fleet operators are excluding access to vehicles in certain neighborhoods. It is also helping the city identify inequities in the overall transportation system which is now guiding future upgrades.

Second, the system is helping maximize efficiency for access to commerce. During the pandemic, LADOT has leveraged the technology to initiate a curb management pilot that will offer scheduled access for freight & delivery vehicles. This will serve as the foundation for a new traffic management program to drive efficiency throughout LA.

Third, the system enables LADOT to scale environmentally-friendly mobility options that can reduce pollution. In the initial pilot, the city replaced 1,802 metric tons of CO2, the equivalent of 202,768 gallons of gasoline. As LADOT continues to pilot this technology, it will have more confidence to allow environmentally-friendly commercial fleets to enter the city.

**How-To:** Following the rapid influx of unpermitted dockless vehicles in Los Angeles, the Los Angeles City Council unanimously approved a temporary ban of dockless vehicles until officials could approve rules governing their use.

During this time, LADOT worked to develop new rules and regulations governing the operation of dockless and adaptive vehicles in Los Angeles.

The City Council unanimously approved the Dockless On-Demand Personal Mobility Rules & Guidelines, which provided a regulatory framework for dockless modes like shared electric bikes and scooters and established requirements for a One-Year Pilot Program of the dynamic commercial fleet management system.

LADOT initially administered a 120-day conditional permit followed by a 45-day extension to allow operators time to respond to the new guidelines and submit One-Year Permit Program applications.

A total of 11 operators responded, eight of which received permits to operate electric scooters and bikes after the conditional permit period.

Today, LADOT is in the process of updating permit rules and regulations for the next iteration of the permit program.

**Funding:** Self-funded through LADOT permitting fees

**Tags:** Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact, Impact on City Economy

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# Rubicon: RUBICONSmartCity™

**Project Description:** The smartest run cities are those that can anticipate the needs of citizens before they call. This is especially true in the age of COVID-19. With cities today being required to do more with less, proactive cities are relying on public-private partnerships and new technology solutions to help demonstrate the power of more efficient, effective, and equitable public services.

The City of Montgomery, Alabama was searching for such a partnership when they were connected to Rubicon, a private software company born in the waste and recycling industry with a mission to end waste. RUBICONSmartCity™ provides comprehensive waste and recycling data to cities, enabling them to reduce operating expenses, divert waste from landfills, improve recycling programs, track key metrics, and work toward long-term sustainability goals.

In March 2018, RUBICONSmartCity was installed in the City's fleet of waste service vehicles. After participating in Rubicon's co-innovation pilot program, a cost-free offering made available to all U.S. cities, the City signed a three-year paid contract

**City Challenge:** The City of Montgomery tasked Rubicon with tackling a myriad of challenges related to waste and recycling collection, including:

- Customer service improvements
- Service verifications
- Quality of life issues
- · Route efficiency improvements
- Vehicle maintenance

**Impact**: RUBICONSmartCity<sup>™</sup> was installed in the City of Montgomery's fleet of 80 sanitation vehicles servicing 67,500 residential and commercial customers. After the conclusion of the pilot, the following results were identified:

- IMPROVED CUSTOMER SERVICE: Drivers documented over 57,000 issues along their routes. This equipped city employees with the data they needed when investigating citizen complaints.
- CITY INSIGHTS COLLECTED: The City's fleet of sanitation vehicles were configured to collect data about various quality of life issues, including potholes, cracks in the road, and illegal dumping.
- COMMUNITY SAFETY GAINS: Pilot data showed that speeding instances peaked on Mondays and Thursdays. The City can use this information to balance customer pickups to make routes easier to complete on time.
- IMPROVED ROUTE EFFICIENCY: Rubicon's data showed that while the City's routes were well organized, the City might be able to reduce the number of routes that it runs overall, saving up to \$375,000 per year.
- FLEET MAINTENANCE: Rubicon's data showed that just 10 trucks were responsible for 75% of critical fault codes. These insights can be used to improve the City's truck maintenance program.

**How-To:** RUBICONSmartCity<sup>™</sup> technology helps keep essential front-line solid waste employees working efficiently and safely during the COVID-19 disruption, and beyond. Beyond simply using the technology, cities need to make operational changes to realize the opportunities identified by the technology.

Recycling is a complex and costly issue. One way that a city can improve its recycling efficiency is by having a cleaner recycling stream and by educating its residents about what can and can't be recycled, so an entire load of recycling doesn't become contaminated by non-recyclable materials. To achieve this, cities may need to make a change in the way they handle recyclable materials.

With a commitment to improvement and the right technology to enable it, cities can make significant gains in improving solid waste and recycling collection. For example, through its partnership with Rubicon and its RUBICONSmartCity technology, the City of Montgomery earned a coveted Smart 50 Award, a program which annually recognizes the 50 most transformative smart city projects across the world.

All cities should look at technology companies—such as Rubicon and ask about piloting solutions first, rather than simply surveying the market and making a best guess at what works. Once ROI is demonstrated for a project, the conversation about procurement and a longer-term strategy makes much more sense.

**General Tips:** The smart cities movement is at a watershed moment. Cities have a once-in-a-generation opportunity to use technology that is low cost, leverages existing city assets, and drives significant process improvement for city systems.

**Budget:** For the City of Montgomery, there was no cost incurred for this pilot program. Rubicon offers this cost-free pilot program to all cities across the United States. If a city is interested in how it can leverage technology across its fleets and fleet manage

Funding: Cost-Free Pilot Program

Tags: Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact, Impact on City Economy



City of Montgomery Sanitation Department truck

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RUBICONSmartCity<sup>™</sup> dashboard



RUBICONSmartCity<sup>™</sup> mobile app

# **Siemens:** Addressing urgent healthcare needs: 18-month projects completed in just three weeks

**Project Description:** The Covid-19 pandemic has placed cities and states on the frontlines of an unprecedented healthcare, economic and societal crisis. In response, technology companies such as Siemens USA have partnered with state and local governments in new ways to rapidly address urgent healthcare needs. Siemens's support for New York, at one point the epicenter of the global pandemic, and other communities indeed exemplifies Siemens USA's role as a trusted partner to the public and private sectors for more than 160 years.

When the Covid-19 infection rate was peaking and hospitals in New York were close to running out of beds, Siemens USA worked with the Governor's office, in conjunction with the Army Corps. of Engineers, to assess where two types of temporary bed facilities could be developed. The first was for non-Covid-19 patients so hospitals could make room for those who were infected. The second was for Covid-19 patients as hospital ICU beds were in short supply. Siemens was engaged by the Army Corps of Engineers to work on a team to design, build and commission a 110-bed Covid-19 patient facility in Westchester County, and to build what would normally take 18 months in just three weeks.

**City Challenge:** Building a new hospital or transforming existing healthcare environments at any given time is incredibly complex. To do it in the midst of a healthcare crisis in less than one month is remarkable. In many cases, communities like Westchester County have needed to either turn existing facilities into Covid-19-ready treatment areas or build temporary field hospitals to accommodate non-critical patients. Additionally, local governments face tighter budgets and increased needs, creating significant funding obstacles and requiring innovation in the form of new public-private-partnerships.

**Impact:** As of September 2020, Siemens has worked with local governments and delivered power distribution and building technologies to 17 healthcare facilities, of which 9 hospitals were retrofitted and the other 8 temporarily constructed, to expand bed capacity by 4,000 in 11 states. We utilized our manufacturing network across the U.S. to surge vital support – from Massachusetts to Texas to South Carolina – where many of these technologies are built, and across 16 facilities where we are developing a workforce of 5,000 employees to rapidly supply parts and equipment that were in high demand.





**How-To:** In order to effectively treat Covid-19 patients, existing hospitals have had to install additional systems like HVAC infrastructure that enables "negative pressure" to limit transmission of pathogens. Field hospitals were also built in arenas and stadiums to address overflow issues so both Covid-19 and non-critical patients could be treated.

In White Plains, New York, in an effort led by the Army Corps of Engineers, Siemens partnered with Haugland Energy, to build a 110-bed temporary facility housed inside the Westchester County Center and inside four tents in the center's parking lot. The timeline for the construction and commissioning was 21 days, and the solutions that Siemens provided, included power distribution (panelboards and switchboards, circuit breakers, load centers and automatic transfer switches) and building automation, were delivered in a matter of days. To get products on-site as quickly as possible, lead times were cut from weeks to days by using plug-and-play designs and standard components. Russelectric, a Siemens company, delivered the automatic transfer switches that connect the utility mains to the hospital beds in less than five days. And, to expedite the installation of the complicated building automation, it was all restaged at a Siemens factory so it could be unboxed on site and "plugged in".

The Westchester project is a part of Siemens efforts to combat COVID-19 by supporting critical infrastructure and by helping state and local governments address urgent healthcare needs. Siemens USA employees are maintaining essential operations to support hospitals, power plants, government facilities, military sites, manufacturing locations and data centers. They're also supporting critical city services such as transportation, water and waste, and national security emergency response systems.

**General Tips:** The great learning from the Westchester County Center project is being able to deliver building scale projects in an amazingly short period of time using an approach which focuses on standardization. The trade-off with customization did not appear to be significant as the hospital rooms were every bit as functional as a bricks and mortar room that requires years to build. The strategy to design using readily available solutions, is a benefit to states and cities addressing each of their own challenges in a quick turn-around environment.

Tags: Service Delivery Improvement, Innovation, Impact on City Economy

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Top: Inside the Westchester County Center 110-bed temporary hospital facility

Bottom: One of the four tents constructed in the Westchester County Center parking lot

# **Signify:** Leveraging Smart Street Lighting for Social Equity, Sustainability and Safety

**Project Description:** The New York Power Authority (NYPA) partnered with Signify to support Smart Street Lighting NY, a program to replace 500,000 streetlights throughout NY state with energy-efficient technology by 2025. Through the program, NYPA provides financial, logistical, technical, and informational support. Signify acts not only as a lighting and technology provider, but as a trusted advisor and strategic partner to NYPA and cities.

With connected LED luminaires and an IoT lighting system, cities can reduce their energy consumption and carbon footprint. The technology can also play a role in making cities more livable with new services and safe for citizens. Cities including Rochester, White Plains and Albany have already implemented projects.

"We have nearly 11,000 streetlights," says Kathy Sheehan, Mayor of Albany. "If we could convert those and make them more energy efficient, that would be one of the big ways we could go about implementing the vision that we had for reducing our carbon footprint." But sustainability benefits were only the beginning. "As we looked at the technology and as we saw what was possible, it really became about a social justice and equity issue."

**City Challenge:** Cities face a host of increasingly urgent economic, environmental, safety and social issues. These issues can be especially daunting when approaches to addressing them seem to conflict with one another. How can leaders constrain or even reduce spending while also investing in critical infrastructure? How can they ensure that new initiatives benefit all citizens? How can a city address sustainability without hindering economic development?

Lighting infrastructure touches nearly every part a city. Connected LED lighting delivers significant new benefits that were never possible before. By promoting efficiency, managing complexity and delivering new services, connected infrastructure can reconcile the tradeoffs that governing often involves. However, to deploy smart lighting infrastructure successfully, cities need to integrate innovative financing models, proven technology, and collaboration among vendors and partners to tailor solutions to a city's specific needs.

"We didn't have anybody working for the city that had the skill set that we needed to be able to implement the plan," Albany's Mayor Sheehan says. "And like a lot of municipalities, we're very tight budgeted."

**Impact**: The collaborative program has been a stunning success with commitments already from more than thirty cities to replace 250,000 street lights. To date, more than 50,000 LED street lights have been installed saving more than 50 million kWh and \$8.5 million in energy costs per year.

With 70% of street lights in the city converted to LED in Albany, the city has already realized \$2 million in energy and operational savings, and is projecting annual savings of up to \$3.3 million once fully complete. Even factoring in the money that the city borrowed for the project, the city foresees a net benefit of \$1 million per year.

Managing the system in real time with Signify's Interact City also helps make Albany a safer place to live. Identifying and replacing a broken light used to take six to eight weeks. Now it takes hours. Rapid resolution of outages can have important downstream effects—for example, reducing crime. The city is fast-tracking lighting conversions in certain areas as a result. "I've had residents tell me, 'I feel safe going to my car now.' So it's really having an impact," Sheehan says.



**How-To:** The collaboration between NYPA, Signify and municipalities can serve as a cooperative model for cities and utilities across the country.

- At the outset of Albany's conversion project, NYPA, with support from Signify, helped scope the city's energy use: how much energy it was burning, how much it could reduce its energy use, as well as other upgrade benefits for the city.
- NYPA helped Albany purchase the lighting stock from the utility that provided power to the city, removing a major barrier. "We didn't own our streetlights, so our ability to do this conversion was really contingent upon our ability to negotiate with the utility to take ownership of those lights," says Mayor Sheehan. NYPA provided Albany with a manager who would oversee the conversion project in Albany. And, NYPA and Signify supported the delivery of a comprehensive, turnkey smart lighting solution.

**General Tips:** Connected street lighting can revolutionize a resident's experience of a city and deliver value beyond illumination. Here are a few examples:

- Parking availability can be identified and communicated reducing traffic, increasing retail activity & parking payments rates
- Crowd detection and people counting on streets can increase situational awareness, identify potential concerns in realtime, and enhance public safety and city planning
- Smart poles can host Wi-Fi transmitters that offer public broadband access throughout the city, closing the digital divide
- Traffic queue sizing and priority can better manage public transport, improve citizen productivity, and reduce traffic and emissions

**Funding:** NYPA Consolidated Funding

Tags: Innovation, Cost Savings, Environmental Impact, Public Safety

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### Sourcewell: Ensuring successful procurements in troubled times

**Project Description:** Even while we're in the midst of an international pandemic, cities everywhere have procurements to be made, sometimes unintended and unforeseen, and purchasing policies and rules still apply. Cooperative purchasing is the easiest way to quickly get the items you need when you need them in a compliant manner. In times like these, it's more important than ever to ensure cities have eyes on cooperative purchasing contracts and partnering with a cooperative purchasing organization that has best in class purchasing contracts at the ready, and established relationships to help you avoid a last-minute scramble and to avoid having to facilitate an individual procurement when time is of the essence. Every day, more and more cities are incorporating cooperative purchasing as a procurement best practice.

**City Challenge:** Cities and their procurement professionals focus a lot of energy on facilitating procurements, issuing requests for proposals or invitations for bid, and eventually getting their own contracts in place. But what happens next, when an emergent need exists and time is of the essence? And what happens when everyone is experiencing the same situation? At the same time.

**Impact**: Cities across the nation faced this challenge and most ran into difficulties making procurements and acquiring goods and services necessary to protect the public health of their cities and residents. Undoubtedly, cities will continue to grapple with these unfortunate situations and the issues that accompany them. Luckily, thanks to the use of cooperative procurements, many were able to engage with cooperative purchasing organizations like Sourcewell, and use existing procurement contracts, already solicited and awarded purchasing contracts, to expedite the procurement process and to ensure more efficient delivery of goods and services, at a significant cost savings to the cities in a time of great need.



How-To: Sourcewell executes cooperative purchasing contracts of behalf of cities across the country. This is accomplished through cooperative purchasing and joint exercise of powers statutes, which allow for the cities to utilize the competitive solicitation process and purchasing contracts Sourcewell has solicited and awarded. The foundation of efficient public procurement is rooted in a process that is both public and open, and fair and competitive, and cooperative purchasing is no different. These principles ensure efficient stewardship of taxpayer dollars when cities and government agencies procure goods and services. Cooperative purchasing fosters effective, broad-based competition within the free enterprise system. It affords other cities and governments the benefits from time and administrative savings and allows for cost efficiencies generated from economies of scale. Sourcewell follows a procurement process as prescribed by law. This fair and open competitive solicitation process ensures maximum competition among goods and services vendors, and ensures it meets the procurement requirements that cities must comply. Cities and other governments in every state benefit from the procurement advantages Sourcewell provides. To date, more than 50,000 cities and other units of governments successfully utilize Sourcewell cooperative purchasing contracts. In this past year alone, \$3.6 billion in government procurements were made through nearly 400 cooperative purchasing contracts with over 250 goods and services providers, a true testament to the success of cities using cooperative purchasing.

**General Tips:** Cooperative purchasing is an established and accepted method of government procurement that increases efficiency and transparency in government purchasing. Solicitations are conducted on behalf of all eligible governments, resulting in increased competition. Discounted pricing is achieved through aggregated national volume, and these contracts may then be utilized by governments. When used as a procurement tool by city purchasing officials, cooperative purchasing results in significant time savings, reduced administrative costs, and access to the best value of products and services needed, at cost savings-which maximizes taxpayer resources.

**Budget:** There is no cost for cities and other units of government to utilize Sourcewell cooperative purchasing contracts. Sourcewell's procurement process and purchasing contracts help cities maximize their procurement portfolio and save time and money, at no cos

Tags: Innovation, Cost Savings, Impact on City Economy, Business Benefits

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### SUEZ: SUEZ and Bayonne's Perfect PPP Solution

**Project Description:** The public-private partnership between the City of Bayonne, NJ and Bayonne Water Joint Venture, an entity that includes SUEZ and private investors managed by Argo Infrastructure Partners LLC, has allowed SUEZ to take the initiative in discovering and resolving critical infrastructure issues that, left unaddressed, could harm the financial health of this city and the physical health of its residents.

The PPP assures that capital will continually be made available to modernize and improve the system in Bayonne. Such investment allows Bayonne to address the challenges of a 21st century city with ease. The commitment to guaranteeing reliable, safe and clean drinking water has become imperative to attract new business and build a smart city for future generations. As SUEZ continues to improve infrastructure, the city continues to grow its customer base and expand its economic development program without developing additional sources of supply.

**City Challenge:** In 2020, Bayonne Water—operated by SUEZ under a public-private partnership—faced two critical challenges. The first, the removal of a 30-year-old, 4,000-gallon diesel fuel underground storage tank at the city's largest pump station, demanded immediate action. The second, replacement of an enormous storm water bar screen system, required longer-term planning. Both would have severe environmental and financial repercussions if not remedied.

The projects came in the throes of the COVID-19 pandemic. But action could not be delayed. Those who were required to be on-site for the tank removal and aboveground replacement donned PPE and employed enhanced pandemic tactics (e.g., social distancing); those who could work remotely did so.

In the first instance, SUEZ discovered in early 2020 as part of its oversight of Bayonne Water's wastewater system, that the insurance policy covering the underground storage tank was set to expire. If the tank was not removed by May 6, the insurance deductible would soar from \$10,000 to \$250,000.

In the second instance, a large metal bar screen system that removes solids and debris from combined sewer overflows, had not been operating efficiently for years. The mechanism, as well as the electronics control panel, was severely corroded. While Bayonne Water technically has remained in environmental compliance because of secondary screening devices, only replacement of the screening system and the attendant electronics offers a viable long-term solution. However, the project is forecast to cost at least \$2.5 million, nearly the entirety of the \$2.7 million 2020 capital budget.

**Impact**: SUEZ and Bayonne Water were able to save the City of Bayonne nearly a quarter-million dollars in insurance costs, while protecting the health and safety of its residents. Just as important, SUEZ' responsiveness amid the pandemic illustrates the strength of PPPs in the water and wastewater sectors: Bayonne Water was able to leverage SUEZ' technical expertise and its supply-chain prowess to successfully complete the emergency project on time and within budget. A key advantage of the PPP, executed under SUEZ' SOLUTIONSM business model, is that it provides mechanisms for one-off capital needs (termed "Agreed Modifications") should circumstances demand additional amounts that exceed the annual capital budget. In this case, failure to replace the decrepit bar screen system—already about 30 years old—could result in costly environmental fines and represent a health and safety hazard to residents and plant workers.

As of this writing, the 4,000-gallon diesel fuel underground storage tank had been replaced with an above-ground, double-hulled unit, and the bar-screen project had been put out to bid. It is expected to be completed in 2021.

### How-To:

- 1. In late February 2020, as part of its ongoing asset management and operations and management of Bayonne Water's wastewater system, SUEZ discovered that the insurance policy covering the underground diesel fuel storage tank was set to expire. SUEZ knew that the city's insurance premium would skyrocket and was persistent through telephone calls and emails in encouraging the city to take action.
- 2. At first, the city considered completing the project itself, but eventually understood that SUEZ had the expertise to take on the project and the supply-chain contacts to acquire the right equipment at a good price.
- 3. SUEZ was able to do this on short notice because of a contractmodification instrument built into SUEZ' SOLUTION business model. That instrument allowed sufficient capital to be spent without raising consumer rates inordinately.
- 4. Using enhanced COVID-19 protocols, SUEZ completed the removal of the fiberglass tank and installation of its above-ground replacement.
- 5. Separately, in September 2019, SUEZ brought to the city's attention the need to replace and upgrade a mechanical bar screen mechanism used to capture and divert solid debris from entering the stormwater outflow. The device and the electronic controls had corroded, causing an environmental and worker safety hazard.
- 6. SUEZ began working with a mechanical engineer to design an upgrade, while working to budget for the project. Unlike the tank removal project, this was a larger, more capitalintensive project that alone would meet or exceed the annual \$2.5 million allotted CAPEX budget.
- 7. After an extended dialogue with the City of Bayonne, city officials acknowledge the urgency and importance of the project and included it in the capital budget. The project has now been put out to bid to subcontractors.

**General Tips:** Despite the extensive capital improvements made by Bayonne Water Joint Venture since inception of the PPP, customer tariffs have remained within norms and have increased at about the same pace as national averages (as surveyed by the AWWA).

**Budget:** Removal of the underground storage tank and replacement with an above-the-ground tank: \$100,000. Replacement of the stormwater overflow bar screen and electronic controls: \$2.7 million (estimated).

**Tags:** Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact, Impact on City Economy, Increased Tourism, Business Benefits

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# The Recycling Partnership: Recycling Automation for a Safer, **Cleaner, Greener Sheboygan**

Project Description: On the shores of Lake Michigan, Sheboygan was one of the last communities in Wisconsin to collect recycling in plastic bags. Bagged recyclables can lead to increased processing costs, recycling not being fully processed, and potential impacts on worker health, safety and service continuity, especially during COVID-19. To increase the resilience of recycling services, as well as the capture of high-quality recyclables in Sheboygan, The Recycling Partnership awarded the City of Sheboygan a grant of \$277,500 to help purchase large, wheeled recycling carts for its residential recycling program to facilitate the move to automated collection and provide outreach and education to all 18,181 single-family households. Through the City of Sheboygan's Safer, Cleaner, and Greener campaign, the City also purchased seven new, fully automated, side load collection vehicles and trash and recycling carts for their entire community, creating a more efficient, safer, contactless operation while diverting more material from the landfill.

City Challenge: As COVID-19 hit, the City of Sheboygan knew the importance of maintaining its recycling program as a valuable public service and an essential service for the U.S. manufacturing supply chain. But the City felt the full impact of the pandemic on their front-line essential workers, especially as those workers hand-collected bags of trash and recycling from every home, every week. The community clearly depended on City staff to keep waste and recycling moving, especially as residents were generating more waste and recycling at home. After much collaboration with The Recycling Partnership regarding the safety of residents and staff and the immediate need for automation, carts for automated recycling collection were delivered on schedule in the middle of the COVID-19 crisis.

With residents at home more, the City and Partnership staff quickly pivoted away from the usual out-of-home education campaign tactics that go alongside a cart rollout, including banners in public buildings and signs on trucks, to include more social media posts and videos, as well as standard mailed educational pieces, all customized by The Recycling Partnership to ensure that residents saw the information.

Impact: According to the Institute of Scrap Recycling Industries, recycling in Wisconsin generates more than \$4.5 billion in economic impact, including \$1.2 billion in wages, \$471 million in tax revenue, and more than 20,200 jobs. The materials collected by programs like Sheboygan's become feedstock for manufacturing, including cardboard boxes, toilet paper, and packaging for food and medical supplies, all critical during the COVID-19 crisis.

Automated collection in Sheboygan eased the burden on front-line workers and increased recycling tonnage by 12% in 3 months. Cart-based collection also reduced worker contact with bagged material and decreased risk of injury from bending and lifting. These upgrades reduced the sanitation and recycling workforce by two employees through attrition, with no current employees losing jobs. The switch will also eliminate additional processing fees from bagging material, increase recycling by a projected 550 tons per year, and set the program up for more efficient and effective operations for the future.

This project's success was a catalyst to nearby Kenosha, WI, which also rolled out 32,000 recycling carts through a The Recycling Partnership grant.

New automated, cart-based recycling collection in Sheboygan eased the burden on front-line workers and increased recycling tonnage by 12% in 3 months.

How-To: The City of Sheboygan, much like cities all over the country, needed to update their collection service in order to be more efficient. But unlocking capital for a project like this can be a challenge. Through The Recycling Partnership's competitive grant program, Sheboygan received financial assistance to purchase large, wheeled recycling carts and to fund and design education materials to all households through printed and digital media. Partnership staff coordinated with the city and cart delivery contractor to ensure additional safety measures were taken during COVID-19 for the home delivery of carts, including educating residents about the delivery and precautions being taken to safeguard residents.

The Partnership estimates \$125,000 in equivalent technical assistance value was also granted to the City through this work. As a result of COVID, this technical assistance proved even more critical, with The Partnership providing expertise and advising City staff on the safest and most effective rollout, especially as City staff time was pulled in other directions with COVID-related park closures and labor shortages.

General Tips: The Recycling Partnership's Residential Curbside Recycling Cart Grant Program advances recycling through financial and technical assistance and best management practices, helping offset capital needs to catalyze recycling in cities. Cart-based recycling programs result in program cost savings, stability, better public service, and increased worker safety and recovery of recyclables. Over the past 5 years, The Recycling Partnership has supported 1,500 communities, helped place 712,000 carts, and reached 77 million households.

Sheboygan's new cart-based recycling system also allowed for an audit to improve curbside waste and recycling routes. Department of Public Works (DPW) staff worked closely with the building inspectors, the City Assessor's Office, geographic information systems (GIS) professionals, and the Water Utility to get updated household counts, verify households serviced by DPW, and update more than 400 listed addresses, including improper assessments and charges.

Budget: \$296,000 cash grant from The Recycling Partnership and \$3,098,998 in City match

Funding: General Purpose City Funds, Nonprofit grant

Additional Investment: The Recycling Partnership also provided in-kind services and technical assistance valued at \$125,000. The city has praised and valued not only the technical assistance that The Partnership has provided throughout the project, but the sincere and genuine support offered in such a trying and troublesome time.

Tags: Service Delivery Improvement, Innovation, Cost Savings, **Environmental Impact** 

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### Tyler Technologies: Data-Driven Government

**Project Description:** Chattanooga's Office of Performance Management and Open Data (OPMOD) partnered with Tyler Technologies to improve the efficiency and effectiveness of the city's service delivery by restructuring its performance program. This improved outcomes across a range of city programs.

Team members — including OPMOD's director, the city's open data specialist, and a city performance analyst — partnered with a Tyler Technologies Socrata program manager to develop the program. The resulting open data and performance sites, ChattaData.org and internal.ChattaData.org, include 423 datasets with 349 measures, 345 visual charts, and 156 stories that provide narrative and context around the city's data sharing projects.

These sites provide information on a range of topics, including fire department response times, how often city code violations are cited to court, and permit timelines from the Land Development Office.

The overarching goal was to craft real solutions backed by data. Not only is the data important for creating actionable insight for city staff, the public can access the performance dashboards along with public datasets and visualizations to generate their own community insight.

**City Challenge:** The city sought to uncover the key to encouraging departments to continually improve. To do that, leaders needed to figure out how to change the overall performance management approach in order to create accountability for program outcomes. The value of data is in its ability to generate real results for Chattanooga families.

To become data-driven in performance management and remain relentlessly focused on outcomes for people, the city had the added challenge of driving culture change. In order to get access to the data in the first place, traditional silos of information ownership had to be broken down, something that required purposeful relationship building for increased trust.

The city needed to create a scalable approach to get people at all levels of the organization on board with the new program.

**Impact**: The project improved performance, increased operational efficiencies, and strengthened community trust. The Chattanooga Fire Department (CFD), for example, used incident data to analyze calls from senior citizens and individuals with disabilities. Using the new data platform, CFD leadership partnered with the University of Tennessee at Chattanooga to receive support from interns to help frequent callers

get better services — while freeing up CFD to focus on emergency calls. In the first semester of the partnership, calls were reduced by 63%.

Having high quality data, all in one place, helped staff develop a new data science program, Chattalytics. Projects include a predictive model for late invoice payments, a data model to assess crash rates at every intersection and roadway link, a risk terrain model to identify locations closely linked to crime, and a fire risk model to prioritize inspections.

ChattaData.org also gives power to the public by delivering detailed information on how the city's work impacts them. Intuitive visuals connect residents with city leaders to better understand the community, improve systems, and measure improvements in a forthright and transparent way.



Tyler Tech - Chattanooga's Open Data Portal (ChattaData)



Tyler Tech - Chattanooga's Economic Performance Dashboard

**How-To:** Transparency in performance measurement plays a major role in the successful delivery of services. The new ChattaData.org site plays a critical role by generating new insights daily through near real-time data connections to multiple city systems. The nightly updates of these datasets support the city to be proactive — versus reactive — in programming efforts.

To facilitate departments using data to continually improve, Chattanooga followed these steps:

- 1. Get your data house in order first
- 2. Focus on the user and their needs
- 3. Build with your users, not for them
- 4. Prototype in quick iterations
- 5. Use momentum from wins to build support
- 6. Make it safe to fail

To change culture in order to enable data sharing, Chattanooga employed the "sandwich method," which is a top-down and bottom-up approach. Sometimes leadership messages from the top don't make it all the way down, and sometimes the best solutions come from the bottom.

The top-down approach starts with the city's budgeting process, in which leaders align the budget to outcomes and measure them throughout the year. This work sets a strategic framework for the whole city. The work involves department heads from across the organization who meet monthly for a city stat meeting called the Mayor's ChattaData. The city also hosts one-on-one performance management meetings with each department's leadership and the Chief Operating Officer.

Coming the other direction, the focus is on training and supporting front-line staff through Peak Academy, a program inspired from the City of Denver. The city also launched a data academy this year to upskill the staff and ensure they have the skills to do the data work they need. It also implemented a departmental jam session — a Chattanooga original.

**General Tips:** It's useful to note that establishing this culture of data sharing and data use enabled Chattanooga to provide a quick, data-driven response to the COVID-19 crisis. Using Chattanooga's smart city infrastructure the city tracked traffic volume downtown and in commercial centers after various executive orders to determine their effectiveness.

Budget: \$135,000 annually

Funding: General Purpose City Funds

**Tags:** Service Delivery Improvement, Innovation, Performance Management, Transparency, Community Engagement

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## **Verizon:** Verizon and the City of Chicago Board of Election Commissioners Help Deliver Safe and Secure Elections During COVID-19 and Beyond

**Project Description:** The Board of Election Commissioners for the City of Chicago ("Board") partnered with Verizon to help plan a complete overhaul of their election security network, slated to debut at their presidential primary elections on March 17, 2020.

Six days before the Illinois presidential primary, the World Health Organization declared COVID-19 a global pandemic. All of a sudden, the bar for success of the new election security system became much higher.

Adhering to new shelter-in-place protocols, Verizon shifted from an onsite support model to a remote support model as election day neared, while the Board quickly pivoted by outfitting their 2,000+ voter precincts with proper PPE while providing remote training sessions for new workers and volunteers. COVID-19 was an unexpected crisis with many challenges, but through close communication and a solid partnership, Verizon helped the Board succeed in their goal to provide a safe and secured election.

**City Challenge:** In addition to having to suddenly plan for the pandemic-related health and safety of its voters and workers, the Board had to outfit more than 2,000 precincts across 230 square miles with new voting equipment and a secured and robust network to run them on.

In the wake of the 2020 lowa primaries, where a new technology platform was not properly tested, causing massive delays in voter results, the Board wanted to ensure that the voting platform they implemented would not fail when it—literally—counted. The new touchscreens and scanners vastly increased the file sizes transmitted across the network, forcing the need to significantly boost network bandwidth since the existing dual-carrier model could not handle the drastic increase in bandwidth.

Additionally, the Board's security requirements meant ensuring that the data from the new equipment needed to be transmitted on a completely private network. They also needed to keep their electronic poll books on a separate, VPN-protected network.

**Impact**: The Board migrated to an all-Verizon, redundant solution, segmenting their polling site traffic into three distinct data groups:

- Touchscreens and scanners—where the actual votes are processed
- Electronic poll books-where voter registration data is stored and validated
- Employee communication—where poll workers can access their internal networks

These networks remain separate from each other in order to help prevent cybersecurity threats such as DDoS and unauthorized users attempting access. Verizon's end-toend private network helps ensure that the voting equipment and data are not accessible to or from the public internet.

The Board's preparation and a strong partnership with Verizon proved successful:

- · Scanned ballots and results took only 5-10 minutes to transmit after polls closed
- By 11:00 pm on election night, already 90% of polling places had reported results
- Voter turnout in Chicago was 9% higher than the state average.\*

\*Sources: https://bit.ly/3hLm7pD, https://bit.ly/2OlvsbN



To learn more about election security, visit www.verizon.com/electionsecurity



Social distancing

**How-To:** In 2018, when the Board decided to upgrade the system to improve network security and efficiency, they were dealing with an infrastructure that hadn't been updated since 2006—and was insufficient to handle the new touchscreens, and scanners.

The new system generates a paper ballot for each voter, who then completes the ballot and feeds it into a scanner. This process improves the accuracy of determining voter intent, by enabling review of the scanned images to detect unintentional stray marks or other anomolies (e.g., circling or underlining candidates' names rather than filling in the ovals next to the names).

The new system required significantly more bandwidth to transmit the scanned images in a timely fashion.

The Board decided to migrate its network structure to a highbandwidth all-Verizon redundant circuit model redesigned to segment traffic into three distinct data groups: touchscreens and scanners, electronic poll books, and employee communication.

Verizon's end-to-end private network solution included:

- 2,200 activations of 4G LTE modems
- 1 private wireless gateway
- 2 geo-diverse 1-Gig burstable IP circuits
  - 1 dedicated VPN circuit
- Partner-based secured routers and firewalls
- Ongoing professional services and Managed Network Services

For added security, during days when the touchscreens and scanners are in use, the system's connectivity to the network is physically turned off. Only when the polls close are the modems that transmit the scanned images of ballots and results turned on.

### **General Tips:**

- 1. Be prepared with appropriate health and safety resources. Follow state and local guidelines for proper health protocols.
- 2. Keep data and devices off the public internet. One way to do this is to use private wireless networks, which keep data and traffic separate from the public internet.
- 3. Minimize data transmission for voting equipment on Election Day. Turning off connectivity until after the polls close—and only for the amount of time necessary to transmit results—can significantly reduce the threat of attacks.
- 4. Sanitize decommissioned elections equipment. Remove all information stored in all decommissioned election equipment.
- 5. Partner with a proven leader in cybersecurity mitigation as well as deep experience in crisis management.

Funding: Municipal Grant

Tags: Innovation, Election Security

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### Wells Fargo: More Representation Minneapolis

**Project Description:** Minneapolis Mayor Jacob Frey launched More Representation Minneapolis in 2018 as a way to mobilize attorneys who work in the many law firms in the city to assist legal aid organizations in reaching a broader population of people at risk of eviction and in need of legal assistance. Mayor Frey, who has been focused on ways the City can address housing affordability since his time on the City Council, recognized an opportunity to leverage city funds and relationships with the business community to drive an increase in the capacity of the organizations providing direct legal aid, and to increase capacity of trained volunteers.

Members of Wells Fargo's Minneapolis law department engaged in volunteering as part of the pro-bono effort. However, in early 2020, as financial impacts of COVID-19 became apparent, the Mayor's office and members of Wells Fargo's pro-bono council had conversations that led to an expansion of the effort. This included a specific focus on preparing legal aid organizations – and additional volunteer attorneys – in anticipation of a wave of eviction filings that are likely to follow the expiration of federal and state eviction moratoria.

**City Challenge:** Approximately 3,000 tenant evictions are filed every year in the City of Minneapolis, disproportionately affecting low-income renters and people of color. An eviction on a tenant's record significantly increases the likelihood they will face challenges securing stable housing in the future. Less than 10% of tenants facing eviction have legal representation in the proceedings, and yet those who have representation are significantly more likely to secure a settlement or avoid eviction.

"The difference representation makes can be staggering: while nearly 80% of tenants who have a lawyer and end up moving leave court without an eviction record, just 6% of those without a lawyer can say the same thing." - Mayor Jacob Frey

**Impact**: Training: working with Mid Minnesota Legal Aid, Wells Fargo hosted and recorded two continuing legal education (CLE) classes to cover eviction-related pro-bono work in anticipation of the wave of evictions coming as COVID-19 related eviction moratoria expire. The CLE was promoted to and shared with lawyers aligned with private sector corporations with a large Minneapolis presence. Nearly 50 attorneys from a cross section of industries attended each session. Following the CLEs, 20 Wells Fargo attorneys joined the ranks of the More Representation Minneapolis pro-bono team of volunteers. Wells Fargo attorneys have set a goal for the remainder of 2020 to complete 200 hours of pro-bono service. This project is designed to help tenants mediate with landlords and avoid eviction filings altogether. We expect to help landlords and tenants reach equitable resolutions while protecting tenants' rights and rental records.

Rolling impact: As of this writing the state-wide eviction moratorium has been extended, so the pro-bono volunteers from Wells Fargo, the staff from Mid-Minnesota Legal Aid, and the other volunteers with the More Representation Minneapolis initiative continue to address other legal issues that arise and are preparing for the wave of eviction-related work to come. This training applies to general housing law matters, so this group of attorneys will be able to continue their service long after the Coronavirus pandemic.

"We were initially very focused on bringing law firms along in this work, because that's where we saw the concentration in the legal profession, but when Wells Fargo's team came to us and said they wanted to ramp up their involvement in this initiative, we found we suddenly had a much wider pool to draw from in the business community." - Peter Ebnet, Senior Strategic Policy Advisor to Mayor Frey

Funding: the Wells Fargo law department's volunteer initiative helped secure a twoyear grant from the Wells Fargo Foundation to Mid-Minnesota Legal Aid to support technology upgrades and hiring additional staff attorneys to manage client cases and counsel additional pro-bono volunteers

### How-To:

- 1. Define the problem Mayor Frey directed city researchers to evaluate and quantify housing-related legal issues facing resident rental tenants.
- 2. Map the landscape The city does not control the housing court, but it does have relationships with many of the legal aid providers and many law firms that could connect their attorneys to the pro-bono volunteer opportunities.
- 3. Prepare partners for additional capacity Recognizing that any increase in pro-bono volunteers would also put additional demands on legal aid providers, the Mayor earmarked \$150,000 in the City budget to support the non-profits in training and organizing the influx in volunteers.
- Promote the initiative Mayor Frey made the rounds to likely sources of pro-bono attorneys to pitch the program and build a supporting coalition to play active roles in the initiative.
- 5. Scale as appropriate, retool as necessary When the breadth of economic fallout from COVID-19 began to come into scope, it was clear that there would be an increased need for probono support in housing courts. The Mayor and legal aid non-profits had built a working model already, now it was time to scale and retool to enable volunteers to engage remotely with clients and legal aid staff, and to increase the capacity of both the non-profit providers, and their skills-based volunteers. Additionally, Wells Fargo has modeled this best practice initiated from conversations with Mayor Frey in Minneapolis to support additional legal assistance organizations in other communities around the U.S. to provide renters at risk for eviction including Black and Hispanic people disproportionately affected as a result of the economic fallout caused by COVID-19.

Tags: Renter protections and COVID-19 relief

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## Working Scholars powered by Study.com: Working Scholars

**Project Description:** Working Scholars powered by Study.com is an innovative education program, working with cities and large corporations to offer guided pathways to bachelor's degrees for the working adult, at a fraction of the cost as traditional 4-year programs. By combining mobile, micro-learning courses, with strategic, regionally accredited graduating university partners, working adults can earn their bachelor's degree in a convenient way that fits in between life's everyday responsibilities.

Working Scholars works with cities to utilize current funds for tuition assistance and reimbursement to eliminate educational barriers for working adults – time, lack of support, and high-cost. Employees earn a college degree for little to no cost, with the added convenience of studying and taking courses on their own time, from their computer or mobile device and with the support of a coach. By providing this enhanced education benefit, cities can attract, retain, and develop staff, helping build a robust pool of talent, while creating or enhancing a succession program.

**Impact**: Working Scholars addresses a critical need in today's world as the earnings gap between college graduates and those with less education continues to widen. Today, Millennials with a high school diploma earn 62% of what the typical college graduate earns, and college-level skills-based learning is becoming paramount to economic success.

Participants in the Working Scholars program have reported increased confidence and optimism about their academic future, and two-thirds received wage or promotion opportunities while still in the program.

- 87% Working Scholars report greater skills and competency in their current job
- 97% Working Scholars Report greater confidence in their job
- 100% Working Scholars report a greater feeling of hope for the future

How-To: Having launched many Working Scholars programs in cities across multiple states, the Working Scholars team has a proven Awareness and Communication Plan that encompasses best practices for employee responsiveness and motivation. Working Scholars is ready and willing to work with internal stakeholders to launch a multifaceted awareness campaign. Flyers, posters, handouts, templated email communications, intranet banner ads and in-person onsite information sessions are all available to inform City employees of the upcoming Working Scholars program opportunity. The institution approves, prints and distributes all provided (virtual and paper) collateral, as well as establishes the in-person events schedule. Employees are called to attend/participate in In-Person or Virtual Recorded Information Session to get in-depth knowledge of what it means to be a Working Scholar. From there, hopeful Scholars are guided to a standard application and qualification process. These resources are provided and managed by Study.com. The institution receives updated progress reporting at an agreed-upon frequency. Hopeful Scholars receive on-on-one communication and support from their Working Scholars Coach through each step of this process. Working Scholars manages the student's onboarding process and will present a welcome experience to celebrate and kick-off the new Working Scholars Cohort. Coaches build a personalized degree map for each Scholar and provide support and motivation through their courseware. Throughout the life of the cohort, Working Scholars will provide the institution with quarterly progress reports on all Scholars. The Working Scholars team also provided transitional support when Scholars transfer their Study.com credits to their graduating university for final credit completion and degree attainment

Tags: Equity and Advancement

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# **Zencity:** Spokane used AI software to help the City reopen its economy safely and with confidence

**Project Description:** In times of crisis and throughout the year, the City of Spokane, WA's communications team uses Zencity to understand and contextualize resident concerns, and craft the City's messaging and policy-making.

City officials use Zencity for four main purposes:

- 1. Monitor a wide range of local conversations both from official and unofficial channels in one single platform.
- 2. Prioritize issues and concerns emerging in local conversations;
- 3. Identify the most influential local channels for information sharing
- 4. Produce regular communications reports and updates for senior leadership.

By aggregating and automatically analyzing data with AI, Zencity helps the City's communications staff save valuable time that would have been spent monitoring hundreds of separate data feeds. Zencity allows the team to quickly understand and report on what's going on in the city, as well as spend more time on the creative and proactive aspects of their job.

**City Challenge:** Like most of the State of Washington in May 2020, the City of Spokane was under 'Phase 1' -the highest level of Covid-19 restrictions - to encourage social distancing. As city officials saw that local infection rates were low and residents were complying with health guidance, they wanted to work with the Governor to ease restrictions and allow parts of the economy to reopen. Concerned with a resurgence in COVID-19 cases, State officials were not sure if they should allow the City to move into 'Phase 2," and allow more businesses and facilities to open.

Mayor Nadine Woodward asked her staff to show the State that local residents were not only complying with health guidelines, but were also comfortable and prepared to visit local businesses and restaurants again. She hoped to open up more businesses for Memorial Day weekend and the kick-off of the summer season.

City communications officials needed to quickly gather data to better understand what Spokane residents were thinking.

**Impact**: The city's communications team used Zencity to aggregate and analyze data from a wide range of digital sources including news sites, resident organizations, the city's social media channels, and the city's 311 service. The team explored how resident conversations shifted since the beginning of the pandemic, and were able to compare and contrast local and regional sentiment. Armed with the data from resident conversations, Spokane was able to make its case that the community was ready to move to Phase 2 safely and with confidence.



Today first responders from @SpokaneFire, @SpokanePD and AMR hosted appreciation parades to thank health care workers at @providence\_phc, @MultiCareINW, and @SpokaneVA! #InlandStrong #HealthcareHeroes #SuperheroDay



City of Spokane Health Care Worker Appreciation Tweet

### How-To:

- 1. Aggregate resident feedback from hundreds of data sources in real-time
- 2. Narrow-in on discourse relevant to the topic of concern (Covid-19, public health guidelines, reopening businesses, etc.)
- 3. Identify and understand the trends emerging in the discourse
- 4. Report on conversation trends to senior leadership
- 5. Adjust and adapt communications strategies and messaging

### **General Tips:**

- 1. In a fast-paced, digital communications landscape, monitor feedback and the effectiveness of communications strategies in real-time
- 2. Understand the context and relative volume of resident concerns on particular topics in order to determine whether the City needs to respond or change messaging
- 3. Save precious staff time by aggregating resident feedback data from multiple sources into one platform that allows for automatic analysis and quick report generation

**Budget:** Measuring and understanding wide-scale resident feedback is part of the general cost of the Zencity platform, which measures data from multiple channels (including social media, city hotlines, and more).

Funding: General Purpose City Funds

Tags: Impact on City Economy, Business Benefits, Public Health



City of Spokane "#InlandStrong" Campaign to Spread Positivity

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