United States Conference of Mayors
Business Council 2017 Best Practices Report:

Mayors and Businesses Driving Economic Growth

2017
THE UNITED STATES CONFERENCE OF MAYORS

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The U.S. Conference of Mayors is the official nonpartisan organization of cities with populations of 30,000 or more. There are 1,393 such cities in the country today, each represented in the Conference by its chief elected official, the Mayor.
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.

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 15 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.

In an era of diminishing federal funds and increasing unfunded federal mandates, the Conference must continue to strengthen its relationship with the business community by nurturing and celebrating the new and creative partnerships between cities and businesses.

**Tom Cochran**  
CEO and Executive Director  
The United States Conference of Mayors
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AARP: Lifelong Housing Certification Project

Challenge: With one in three Americans now 50 or older, being prepared as a nation to create great communities for ALL is becoming more and more important. In Oregon, the 65+ population is expected to increase 105% by 2050 and the 85+ population by 214%. This is especially true in the two most populous counties that make up southern Oregon's Rogue Valley, where 40 percent of the residents in Jackson County and 46 percent of those in Josephine County are already 50 or older. AARP has been working with local partners, including the Rogue Valley Council of Governments (RVCOG) to make the valley a great place for people of all ages. RVCOG includes the cities of Ashland, Jacksonville, Butte Falls, Medford, Cave Junction, Phoenix, Central Point, Rogue River, Eagle Point, Shady Cove, Gold Hill, Talent and Grants Pass. A 2012 survey by AARP revealed that affordable housing and the availability of age- and accessibility-friendly housing are the two biggest weaknesses for the area's overall livability. For RVCOG, which serves as the region's Metropolitan Planning Organization, the availability of accessible homes has been an emerging issue.

Description: The Lifelong Housing Certification Project provides a way to assess the accessibility of newly constructed and existing homes. Developed by RVCOG in collaboration with AARP Oregon, the program includes a comprehensive checklist of features and defines levels of certification. The certification is appropriate for all—apartments, new or existing houses — and is intended to help consumers and industry professionals choose the desired level of accessibility in selling or modifying homes. The program helps the marketplace respond to a growing demand for accessible and adaptable homes that promote aging in place safely and independently. The certification makes it easier for individuals of all ages to find homes that are suitable for lifelong living and promote the social and economic value of lifelong livability. The program's local and statewide committees include participation from AARP, RVCOG, aging and disability agencies; housing industry professionals, builders, Realtors, home inspectors, architects, Certified Aging-in-Place Specialists; real estate associations, independent living centers, and local nonprofits; aging advocates and consumers with disabilities. The project is coordinated across 22 separate jurisdictions. For additional information visit: www.rvco.org/mn.asp?pg=SDS_Lifelong_Housing.

Impact: The program has had impact that includes the following:

1. Architects, builders, remodelers and appraisers with a trusted, standardized tool to use when working with consumers who are considering buying, building or modifying a home for lifelong livability.
2. A local nonprofit has been championing the program and has worked with builder W.L. Moore Construction on the construction of five LLH certified homes in Twin Creeks, a new transit-oriented development (TOD) located in the Jackson County city of Central Point. The five homes were sold in record time.
3. The program has also had a great response from the general public. Consumers are using the certification checklist as a guide when considering home modifications. Remodeled homes have started to be certified.
4. Working groups to replicate the program have been launched in Washington County and the Portland metro area.
5. RVCOG received an Innovations Fund Award from the Oregon Department of Human Services to further develop the program and reach more industry leaders.

How-To: To replicate this program an interested community can visit the Rogue Valley Council of Governments' website which contains a toolkit to develop the program. The toolkit includes these steps:

1. Find a capable entity willing to host the Lifelong Housing program.
2. Set up a work group to develop and implement the project. Participants on the work group should represent diverse interests.
3. Review Standards Checklist and Accessibly Levels for appropriateness to your community. The Jackson/Josephine Lifelong Housing Certification Checklist is available to any community for modification and/or adoption, with no copyright considerations.
4. Design how the program will work. You will need to answer questions such as: Where will it be housed? How will homeowners contact inspectors? How will the paperwork flow? Will you have a website and who will maintain it? How will you work with local Realtors and the Multiple Listing Service?
5. Decide on fees for inspection and the certification process.
6. Decide on the inspection process and how to recruit and train inspectors.
7. Work group members take the concept and the list to their constituent groups for feedback and acceptance.
8. Design administration, database and website maintenance procedures.
9. Plan for promotion of the program and public education about the importance and practicality of lifelong housing. The Southern Oregon group, with the help of AARP professionals, designed and printed outreach materials.
10. Convert the work group into an ongoing Lifelong Housing Advisory Committee. The advisory committee meets quarterly, unless an upcoming event requires additional planning.

Budget: Because the program was developed in partnership with non-profits there at very low cost. The program is mostly administered through inspection fees. The inspection fee for the certification is arranged between the Lifelong Housing Certification inspector and the homeowner since there will be variables that affect the cost, such as the location of the home and whether it is newly constructed or a remodel. The standard recommended inspection fee is $150. An additional fee of $35 per certificate is paid to RVCOG for program administration.

Funding: Private Financing, State Grants, Council of Government Funds

For more information, contact:
Nancy LeaMond
Chief Advocacy and Engagement Officer
AARP
nleamond@aar.org

Tags: Innovation, Impact on City Economy, Business Benefits, Housing Accessibility
Denver Boosts Short Term Rental Registration Compliance Rate with Accela

**Challenge:** Cities across the U.S. are looking to manage the explosive growth in popularity of Short Term Rentals. While many cities have implemented ordinances requiring some form of registration, whether by license or permit, many cities are struggling with low compliance rates. Without an effective way to bring Short Term Rental hosts into the regulatory framework, cities are struggling to ensure the safety of rentals, control nuisance complaints from concerned neighbors, or collect transient occupancy taxes.

In 2016, Denver, Colorado enacted a Short Term Rental ordinance. Denver leaders, seeking to reach high compliance rates, began working on solutions to onboard Short Term Rental operators into their regulatory system as easily as possible.

**Description:** Denver worked with Accela to launch a purpose-built registration portal for their Short Term Rental licenses. The portal facilitates an entirely online regulatory process for Short Term Rentals, the first of its kind in the U.S.

Acting in accordance with Mayor Michael Hancock’s vision to “meet citizens where they are” Denver and Accela set out to make Denver’s Short Term Rental licensing process as customer friendly as possible. For a regulatory process that focused on citizens known to be digitally savvy, this meant giving them a process that could be done entirely online. “We’re trying to leverage 21st-century technology to meet operators where they are” said Nathan Batchelder, Legislative Analyst for the City and County of Denver.

The new web portal, which features a modern user interface designed to appeal to these “digital natives,” integrates seamlessly with Denver’s back office Accela Licensing and Case Management system – used across their organization to efficiently manage Denver’s regulatory processes.

Along with these technology enhancements, Denver launched a proactive PR campaign called “Stay Legit Denver” encouraging its short term rental hosts to get licensed.

**Impact:** Denver went live with online STR licensing in July 2016 and gave hosts a deadline of January 1, 2017 to register before they would be in violation of the City’s ordinance and subject to fines. As of March 1, 2017 Denver had achieved an estimated 50% compliance rate. Batchelder noted that he was “unaware of any other large city in the nation that has anywhere near the same level of compliance.”

**How-To**
- When designing a short term rental ordinance, include consideration of the process and technology that will enable compliance.
- “Meet citizens where they are” with modern online and mobile regulatory processes that reduce barriers to customer service.
- Consider a proactive PR campaign to promote compliance to citizens involved in emerging business models – they may not be aware that they are required to register.

**For more information, contact:**
Tim Woodbury
Director of Government Relations
twoodbury@accela.com
415-298-6976

Nathan Batchelder
Legislative Analyst, Denver Dept. of Excise & Licenses
nathan.batchelder@denvergov.org

**Tags:** Service Delivery Improvement, Innovation, Impact on City Economy, Regulatory Compliance
Airbnb and City of Seattle: An Emergency Preparedness Partnership

**Challenge:** The partnership between Airbnb and the Seattle Office of Emergency Management helps the community prepare for, respond to and recover from natural and manmade disasters. This is particularly important for a city like Seattle, which is at risk for a major Cascadia Subduction Zone earthquake, and vulnerable to other disasters.

**Description:** Airbnb embarked on a partnership with the Seattle Office of Emergency Management to help the City and Airbnb hosts and guests prepare for natural disasters and emergencies. Airbnb hosts will provide free accommodations for people displaced during a disaster or other emergency, as well as emergency responders and other relief workers. Through a partnership with an organization like the Seattle Office of Emergency Management, Airbnb is able to help mobilize the community to support disaster response efforts when needed and contribute to preparing the broader Seattle community for future disasters. An official Memorandum of Understanding signed by Seattle OEM and Airbnb allows the City to work directly with Airbnb’s Global Disaster Response and Relief team during disasters or emergencies.

**Impact:** Airbnb will activate its disaster response tool to mobilize the Airbnb host community in the affected area, asking them if they are able to provide accommodations for free, waive fees for these listings, provide Airbnb’s 24/7 customer support, Trust & Safety tools, Host Guarantee and other services regularly available to Airbnb hosts, and provide general disaster response information to guests and hosts. The agreement also calls for OEM to work with Airbnb to increase awareness of local hazards and emergency procedures for guests and hosts to connect Airbnb with OEM’s Alert Seattle System, to disseminate public safety alerts to hosts and people visiting Seattle. Airbnb has coordinated with OEM and the Red Cross to donate two weeks of lodging to two families who lost their homes in an apartment fire. OEM has hosted two emergency preparedness training for Airbnb hosts, one prior to the signing of the MOU and one this winter. Hosts left the trainings with emergency preparedness materials and a better understanding of steps they can take to be more resilient. The training inspired at least one Airbnb host to seismically retrofit her home.

**How-To:** The City of Seattle Office of Emergency Management and Airbnb began conversations about developing an MOU in early 2016. The City’s Law, Risk Management and Contracts experts reviewed the MOU paperwork. Airbnb and Seattle OEM staff signed the paperwork.

**General Tips:** It was useful for city staff to look at a similar MOU developed with the City of San Francisco as a model.

**Budget:** No cost to city other than staff time.

**For more information, contact:**
Kellie Bentz
Global Disaster Response & Relief
kellie.bentz@airbnb.com
Erika Lund
Recovery and Mitigation Coordinator
Office of Emergency Management
erika.lund@seattle.gov

**Tags:** Disaster Preparedness and Response
American Heart Association: Fresh for Less

**Challenge:** American Heart Association advocated for Healthy Food Financing. The 2015 and 2016 public and private investments in healthy food access initiatives improve access to healthy foods, reduce diet-related disease, and reduce long-term healthcare costs.

According to the Austin/Travis County Community Health Assessment, African American and Hispanic/Latino adult populations experience high rates of obesity, higher than the Caucasian population. The 2014 Texas Behavioral Risk Surveillance Survey indicates 21% of Travis county adult residents were considered obese.

Austin/Travis County also faces a variety of food access issues with a tangible, negative impact on public health. According to the 2015 State of the Food System Report, 18% of county adults and 25% of county children are food insecure. Only 30% of the Austin Metropolitan Statistical Area meets the recommended daily allowance of fruit and vegetables.

In 2016 the Austin/Travis County Food Policy Board’s Food Access Working Group set the goal to develop solutions to: 1) remove barriers to increasing the amount of food retail and farming available in low-income communities, and 2) provide food insecure communities with additional purchasing power, so that nutritious food can be affordable.

**Description:** The public-private partnership was the result of a two-year advocacy effort to improve access by incentivizing healthy food retailers to service traditionally underserved communities.

In 2015, Austin City Council allocated $400,000 for healthy food retail initiatives in the 2015-2016 budget, $250,000 for the development of a Healthy Corner Store Initiative. Through this funding, the department assisted local corner stores with selling healthy food increasing the availability of affordable produce. The remaining funding led to creation of Mobile Markets and Farm Stands.

By 2016, the Austin Food Policy Board’s Healthy Food Access Working Group developed and shared 6 recommendations with the Council, including Healthy Food Financing Initiative. A local Community Development Financial Institution, PeopleFund, agreed to provide a 10:1 match if a public investment was made by the city. The council allocated over $700,000 in the 2016-2017 budget: $300,000 for SNAP outreach, $300,000 for farm stands, healthy corner stores, and mobile markets, and $100,000 for a Food Access Incubator Fund which will allow loans and grants to support development, renovation, and expansion of food retailers.

**Impact:** Austin Public Health launched the Fresh for Less campaign to encompass all of the city’s healthy food retail initiatives. Currently, there are 9 farm stands and mobile markets in operation, with 2 more scheduled to open in 2017. There are 8 corner stores in the healthy corner store initiative with 2 more scheduled for 2017.

**How-To:** General steps to creating a healthy food retail initiative funded with public and private dollars and resources:

1. Identify strategic partners invested in improving health and access to healthy foods. Discuss need for initiative with them.
2. Identify areas of need, and gain support of individuals who will be most impacted.
3. Gain support for initiative from city department leadership and staff.
4. Create coalition to support initiative leading up-to, during, and after policy passage.
5. Discuss need for initiative with Mayor and city council.
6. Gain support for initiative from private investors working in community development, for example a local CDFI or bank.
7. Gain support for initiative from Mayor and city council.

**Funding:** Private Financing, city health and human services funds

**For more information, contact:**
Terri Broussard Williams
Terri.Williams@heart.org
512-338-2405
Sarah Stein-Lobovits
MPaff
Sarah.SteinLobovits@austintexas.gov
512-972-5425

**Tags:** Community health via access to healthy foods
ARUP: Denver Municipal Public Private Partnership
Program Strategic Advisory

Challenge: The City and County of Denver (the “City”) is making a strategic investment to development of a PPP policy and program to leverage private investment in public infrastructure and accelerate large projects important to economic development in the metro area. The City recognizes that the federal funding situation is not likely to change in the near term, that many of the projects cannot or should not be delivered by the private sector alone and, as a result, that public-private partnerships will continue to grow as a means to get projects done.

Description: The PPP policy and program is based on domestic and international best practices in PPP and project finance, tailored to the specific demands and requirements of a large municipality. It will provide guidance for government solicited and private unsolicited proposals, from determining project eligibility to developing the business case to approvals and procurement best practices. The PPP policy and program will be managed by a PPP office within the city government structure that will be a center of excellence in project delivery and alternative procurement.

Impact: By creating a policy framework, the PPP program will create transparency and consistency in major project procurement processes, thereby creating certainty for stakeholders, lowering investment risks and therefore the cost of capital for investors, and lowering transaction costs to the taxpayers over time.

How-To: Arup conducted a comprehensive review of PPP programs and best practices around the world. Arup reviewed the context within Denver and the State of Colorado and developed guidelines based on our research, the local context and our experience advising on PPP projects globally. Arup broke down the PPP procurement process into the following four key stages, and produced guideline documentation for each:

- Eligibility and Screening
- Business Case Development
- Procurement
- Implementation

Arup also provided guidelines on management of unsolicited proposals.

Funding: General Purpose City Funds

For more information, contact:
Orion Fulton
Associate Principal, Transaction Advice, Arup
415 946 0599 office
Orion.Fulton@arup.com
Emily Hauber
Deputy Legislative Director
Office of Mayor Michael B. Hancock
City and County of Denver
720 865 9018 office
emily.hauber@denvergov.org

Tags: Procurement Options
**Challenge:** Like many municipalities, Miami-Dade County was struggling with disparate data sets, stored in different locations, and no easy way to access that data at the same time. AT&T saw the need to help cities synthesize that data into a single dashboard that can be used by the Mayor's office and other city officials to understand the current state of affairs of the city across a number of different variables. The Smart Cities Operations Center is a visualization tool that includes themed tiles and corresponding key performance indicators updated regularly to provide a clear picture of city operations. For Miami Dade County, the Mayor, his staff and other city officials can view information related to several key priority areas, including, Public Safety, 311, Seaport, Airport, Water, Transportation, and Budget.

**Description:** AT&T’s spotlight city program is a program designed to pilot Internet of Things solutions in cities around the U.S. AT&T’s Smart Cities team is using its Smart Cities framework to develop best practices for working with cities and municipalities, and providing them innovative new solutions to improve the lives of citizens where they live, work and play. This framework leverages AT&T’s core competencies – multi-platform, secure connectivity, established working relationships, and powerful solutions with industry-leading platforms – to deliver to cities an integrated solution that addresses their unique needs. Miami-Dade County features five solutions across different solutions domains powered by AT&T, and is the first Spotlight City to have a fully operational Smart Cities Operations Center.

**Impact:** This project has served to boost data transparency and drive efficiency of operations by visualizing important data all in one place. The Smart Cities Operations Center is currently on display in the Mayor’s office, however this fully scalable solution can now be deployed across a variety of locations based on the needs and preferences of the county.

**How-To:** Successful implementation of the Smart Cities Operations Center started at the top, with clear executive sponsorship from the Mayor, Carlos A. Giménez. Many cities struggle to work across agency lines, but Mayor Giménez's vision inspired cross departmental coordination that was fundamental to securing access to the data and adherence to swift timelines. As the solution developed, stakeholders very quickly began to see the utility of the tool, and began advocating for the project. By the end of the development period, all stakeholders were deeply engaged, making the success a win for the entire team.

**General Tips:** This project was the result of close collaboration between AT&T and Miami-Dade County. AT&T’s experience working with cities led project leaders to participate in the project initially, but ongoing discussions with county officials uncovered several additional needs that could be addressed. For example, the city wanted a way to track spending, and so a tile dedicated to budget measures was created.

**Funding:** This project was a pilot project delivered to Miami-Dade County by AT&T.

For more information, contact:
Kyle Royal
Senior Project Program Manager
AT&T
Kr5479@att.com
Mariaelena Salazar
Shared Services Director, Information Technology Department
Miami-Dade County,
Mariaelena.Salazar@miamidade.gov

**Tags:** Innovation, Environmental Impact, Impact on City Economy, Data Visualization, Citizen Engagement

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**Screenshot of the Smart Cities Operation Center**

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Best Buy Bridges the Digital Divide with ConnectHome in Austin

**Challenge:** 77% of jobs over the next decade will require tech skills. Yet, 1 in 4 U.S. households are without internet access. This digital divide is greatest among low-income and minority communities, meaning underserved youth are not prepared for the jobs of the future.

The U.S. Department of Housing and Urban Development launched the ConnectHome initiative to expand high speed broadband among low-income families through public-private partnerships by providing them with broadband access, technology training, and digital literacy.

Best Buy is committed to giving underserved youth hands-on access to the tech education and tools they need to be successful in school and in their future careers.

**Description:** As part of Best Buy’s commitment to bridge the digital divide, Best Buy partnered with ConnectHome. Austin was the official “mentor city” for the ConnectHome pilot. To support the pilot, Best Buy leveraged existing programs and partnerships, as well as the participation of more than 50 of our local employees.

Best Buy contributed financially to organizations in the Austin community through our Community Grants program. For example, Best Buy grant funding helped outfit a music studio and media lab at the Henry Flores Education and Training Center. Youth from the Housing Authority of Central Austin participated in two of Best Buy’s signature community programs, Geek Squad Academy and the Best Buy Teen Tech Center in San Antonio, as well as a GRAMMY music camp held there. (See General Tips for more information.)

We also leveraged our relationship with several of our national partners to bring additional programming and opportunities directly to Austin area youth, including the Hispanic Heritage Foundation’s 8-week Coding as a Second Language workshop, the Young Adult Library Services Association’s Teen Tech Week, and a Teens and Tech volunteer event at the Boys & Girls Club.

**Impact:** Over the past year more than a thousand local Austin youth have benefited from events that provide hands-on access to tech education and tools they need to be successful in school and their future careers. In the years to come, through ongoing partnership, community grant funding resources, and spaces like the Henry Flores Education and Training Center, thousands more will be able to unlock the possibilities of tech.

**How-To:** Best Buy seeks to bridge the digital divide by leveraging our employees, nationwide presence, and the Best Buy Foundation through initiatives like:

- Providing innovative tech training and education
- Focusing employee volunteering on teen tech education and career skills training
- Creating career programs that offer teens a bridge to success
- Leading a coalition of Best Buy partners for greater collective impact

**General Tips:**

**Geek Squad Academy** are free tech education camps that encourage youth to explore technology through immersive training in coding, digital music and film production, photography, 3D design and more. Over 30,000 youth have gone through the program since its inception in 2007. Learn more or apply for one in your area at www.academy.geeksquad.com.

Best Buy Teen Tech Centers are free interactive learning spaces that allow teens to explore technology, discover new interests, collaborate with one another, and prepare for their future. There will be over 20 Best Buy Teen Tech Centers in operation by 2018. See where Best Buy Teen Tech Center are located and learn more at https://corporate.bestbuy.com/teen-tech-centers.

**Funding:** Foundations and Philanthropy

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For more information, contact:

Andrea Wood  
Director, Community Relations  
Best Buy  
andrea.woodt@bestbuy.com

Sylvia Blanco  
Executive Vice President  
Housing Authority of the City of Austin & Austin Pathways  
sylviab@hacmanet.org

**Tags:** Technology and Education
Black & Veatch: Phosphorus Problem Turned Into Opportunity in Chicago

**Challenge:** The Metropolitan Water Reclamation District of Greater Chicago (MWRD) needed a phosphorus management strategy that would meet stringent effluent discharge limits and alleviate operational issues, and desired an approach incorporating resource recovery. Traditionally, when wastewater treatment plants remove phosphorus biologically from their discharge stream, a significant portion of the nutrients are recycled back into the treatment system, limiting the effectiveness of nutrient removal in the wastewater process. In addition, the presence of phosphorus in the recycle streams can also result in a scale, called struvite, forming in pipes and equipment. The struvite not only clogs pipes and valves, reducing flow, but also requires a significant amount of maintenance.

Designed to treat up to 1.44 billion gallons of water each day and serving a population equivalent to 4.5 million residents, including the central part of Chicago and 43 suburban communities, the Stickney Water Reclamation Plant (WRP) is the largest reclamation plant in the world. Following start-up of the facility, the Stickney WRP has been able to consistently reduce effluent phosphorus levels.

**Description:** The MWRD partnered with Ostara Nutrient Recovery Technologies to implement a nutrient recovery system, and with Black & Veatch to design and construct the facility at the Stickney Water Reclamation Plant. MWRD contracted with Ostara to purchase the recovered nutrients, which it markets to commercial fertilizer blenders and distributors in the agriculture, turf and ornamental sectors.

**Impact:** The Stickney facility is reducing nutrient loads downstream in the Mississippi River and into the Gulf of Mexico. Excess phosphorus in waterways can cause algae to grow and bloom, eating up oxygen and creating toxic conditions that threaten aquatic life in lakes, rivers and in the Gulf. The facility has allowed the Stickney WRP to reduce levels of phosphorus in its effluent. The facility also enables the recovery of phosphorus and nitrogen waste streams, which are converted into a new generation of slow-release fertilizers. Selling the finished product as a commercial fertilizer helps close the nutrient loop in another way. When it’s placed on agricultural fields, excess phosphorus not taken up by plants does not immediately run off into adjacent waterways when it rains, as is the case with many commercial fertilizers.

- Helps exceed environmental regulations;
- Cost-effectively recovers phosphorus for sustainable reuse;
- Improves plant efficiencies; and,
- Addresses struvite control in plant piping and equipment.

**How-To:** MWRD had been transitioning the liquid treatment process at its Stickney WRP to biological phosphorus removal, and while achieving promising results in the implementation of the process, found it difficult to consistently achieve effluent concentrations below 1 mg/L. The MWRD facilitated a solicitation and selection process focused on finding a team and approach that delivered innovative technology through a collaborative process. This team provides the technology and its implementation through a design-build process, operational and maintenance assistance for a specified time frame after start-up, and a long-term agreement for purchase of the recovered phosphorus product. Black & Veatch teamed with Ostara to meet the MWRD goals. Black & Veatch provided engineering, procurement, construction, and start-up as the prime contract holder for the implementation of the facility. A separate agreement between MWRD and Ostara provides for the long-term purchase of the produced fertilizer product.

**Budget:** $34.9 million design-build contract cost

**Funding:** The project was funded by a low-interest loan from the Illinois Water Pollution Control Loan Program.

For more information, contact:
David Koch
Project Director
Black & Veatch
KochDS@bv.com
(312)683-7829

Glenn Rohloff
Managing Civil Engineer
Glenn.Rohloff@mwrd.org
(312)751-3080

**Tags:** Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact
San Diego partners with CGI to deploy innovative technology for improved citizen engagement, helping local government Get It Done

Challenge: City of San Diego in partnership with CGI. Today, government agencies are looking for new ways to provide open, transparent communication to those they serve. In an effort to do so, in 2015, the City of San Diego engaged over 5,000 residents, visitors, and businesses for feedback on ways they could incorporate greater functionality to their online presence making public interaction more convenient, specifically in reporting problems and maintenance issues to City departments.

The goal was to develop a new website which would incorporate smart design and components making resources easy to find for residents, providing 24/7 access to City services, and supporting mobile application services and more convenient communication. If implemented correctly, the new application would not only help the City better serve its residents, businesses and visitors, but would free up personnel from the traditional call center assistance model to more a rapid and efficient process for receiving, tracking and completing citizen service requests using new technology tools and processes.

As a result, the City of San Diego engaged CGI to integrate new technology tools and solutions leading to the City’s 311 Customer Experience - Get It Done.

Description: San Diego partnered with CGI to develop a roadmap to modernize the City’s application portfolio. The roadmap was prioritized on a risk-based model that included technical elements for support and cyber security risk. Over the course of five years, CGI worked with staff from each City department to allow them to plan and budget for the modernization of their applications while providing opportunities to develop innovation reflective of that department’s services.

Using the core technology of the Salesforce Service Cloud, CGI developed a customized platform used by the City’s Transportation and Storm Water Department to allow them to receive, manage and route citizen requests. Through responsive website design integrating mapping services, mobile applications, GIS datasets and SAP Enterprise Asset Management utilization, the City of San Diego launched an online portal that allowed for citizens to conveniently report issues in their neighborhoods 24/7 and in turn, provided the City with more accurate data and capabilities to effectively manage these requests.

The Get It Done portal serves as a pilot for a unified citywide customer response system commonly known as a 311 system.

Impact: By pairing innovative techniques with data-informed solutions, Get It Done makes it easy for City customers to submit non-emergency problems, such as graffiti, potholes, and streetlight outages, using a centralized digital contact point.

Since launching the program in May of 2016, over 80% of problem reports are now received via web or mobile app. As of April 2017, Get It Done has over 20,000 mobile app downloads and has received over 92,000 reports, averaging 8,000/month with spikes up to 14,000/month during storm season. These alternative reporting methods reduce waste of paper forms and increases staff productivity as less time is spent on phones. Interdepartmental communication is streamlined and process efficiencies have increased through integration with work-order systems. Moreover, customers save time by not having to report problems only during business hours.

The 311 Customer Experience division supports 1.3 million San Diego residents and 11,000 City employees with data-informed initiatives. The City staffs 16 service representatives who triage and process online reports and phone calls and dispatch workers to respond to reported issues throughout the City.

How-To: The implementation and success of Get It Done takes a great deal of collaboration, innovative technology and constant evolution to ensure the program is meeting the needs of the customer.

The robust sense of “team” and intricate coordination of stakeholders across numerous City departments and external partner agencies makes the Get It Done program thrive. While this initiative is being led out of the 311 Customer Experience division within the Performance & Analytics Department in the City of San Diego, the organized approach to collecting and responding to reported issues engages workers in up to nine City departments or up to 21 external partner agencies for efficient, rapid resolution.

Additionally, the City of San Diego uses data analytics and predictive modeling to realize program efficiencies and ensure the technology being deployed can meet both the current and projected needs of the customer. Already, the team has used predictive modeling to find efficiencies in tackling the City’s most-reported problem, graffiti removal. Additionally, daily reports on issues like potholes and other problems allow supervisors to strategically deploy maintenance crews to areas most in need.

The City of San Diego is dedicated to a high quality of public service. Civic applications like Get It Done help the City deliver services by improving productivity for City employees, addressing the needs of the community, and connecting and engaging with residents.

These innovative technologies help residents, visitors and business by making interactions with government services more accessible, convenient and flexible – this is good government practice, helping San Diego Get It Done.

Funding: General Purpose City Funds

For more information, contact:
Shawna L. Patton
Vice President
Shawna.patron@cgi.com
858-210-1544

Alex Hempton
Program Manager
311 Customer Experience - Get it Done
ahempton@sandiego.gov
619-236-6898

Tags: Service Delivery Improvement, Innovation, Cost Savings, Business Benefits
Challenge: Sanford, one of Central Florida’s oldest incorporated cities, has a population of just over 56,000 people. Like many municipalities nationwide, Sanford was looking for opportunities to boost their marketing and community promotion. As Economic Development Director Bob Turk says, that can be tricky. “The challenge we faced was one of time, and the selection process to implement a project of this size,” said Turk. “Limited staff time is always difficult for a small department in a small community. We would never have been able to create something of this magnitude in-house.”

Description: CGI’s partnership with the U.S. Conference of Mayors allows our company to provide cost-free marketing solutions to municipalities across the country. Every municipality is unique, and it is CGI’s mission to showcase that in an affordable way. Now, when we say affordable, we mean free for your city! We produced a series of six custom videos highlighting the downtown area, quality of life, education, economic development, business & transportation, real estate, and non-profit community organizations without the City of Sanford ever receiving an invoice.

By creating public-private partnerships, local businesses are able to gain exposure to potential new clients by becoming a sponsor on their community’s program. Streaming video content, online reputation management, and search engine optimization are just a few examples of the services we offer to help businesses get noticed online. With an easily viewable interface on the official city website, this video program will encourage viewers to not only learn more about the area, but also the businesses supporting the program.

Impact: Mr. Turk said, “we were able to use the videos in several different ways and on several occasions. Of course, we were immediately able to use them on our city website, and had many positive comments about the production and the way they presented our community in a very positive light. We were also able to include the videos in a marketing piece to present to potential clients looking to relocate to our community. Our feedback from the local businesses that took advantage of the video program has been very positive. The city was definitely able to get a great ROI from this project.”

How-To: CGI Communications, Inc. produces tens of thousands of videos for municipalities and business partners across the country. Our Community Showcase Video Program however is about something more than just video content—it’s about pride. With our videos, communities get the opportunity to showcase their unique atmosphere, strengths, and anything that makes their area a great place to live or visit. The program is designed to drive business, tourism, and population growth to your home town.

By partnering with CGI, we will work hand in hand with your city to provide you the best possible experience with the highest quality of video to make your website a destination.

Budget: It’s FREE for municipalities!

Funding: Private Financing, Business sponsorships

For more information, contact:
Amy Curran
Executive of Marketing and Acquisitions
amyc@cgicommunications.com
800-398-3029 x589

Bob Turk
Economic Development Director
bob.turk@sanfordfl.gov
407-688-5015

Tags: Innovation, Cost Savings, Increased Tourism, Business Benefits
CH2M: Philadelphia Water Department Surveillance and Response System

Challenge: After the 9/11 attacks on New York, security was brought to the forefront. Securing critical infrastructure across the US was a top priority and the water distribution system security was at the top of the list. The Philadelphia Water Department Surveillance and Response System (SRS) Project provides the Philadelphia Water Department (PWD) with a system to not only maintain system security, but also monitor and improve water system operations and regulatory compliance. The project provides PWD with the processes and technology to optimize their system on a daily basis, monitor in real-time multiple key system characteristics in a unified spatially enabled application and determine system threat and operational issues without having to dig through mountains of data. This provides PWD with a powerful tool for their day to day operations and to utilize for emergency events — previously stove piped information is now available at their fingertips.

Description: An intensive 12-month software design and implementation effort resulted in the development of a robust web GIS based dashboard to be installed at the core of the system infrastructure. The dashboard serves as a centralized event data management, incident investigation, and issue resolution platform and provides automatic event detection, opportunity for preliminary cross-component data analysis and map display for quick response and coordination among PWD, Philadelphia Department of Public Health, and other agencies. The dashboard development process used for the project consisted of five steps: define business processes; define user requirements; define use cases; design the software; and develop a solution. To create the centralized SRS dashboard, data streams from the five surveillance components were linked via real-time integration, and the data from this real-time feed was transformed into actionable information using data analytics. The business intelligence architecture provided the framework to make this critical conversion of the raw data streams and the flexibility and scalability needed to address current and future application needs.

Impact: PWD desired to have a reliable real-time water quality monitoring system in place. All elements of water quality were reviewed and optimized, including sampling procedures/laboratory analysis, physical security of key assets, and real-time customer feedback monitoring. Each of these data sources can produce a wealth of raw data. Instead of overwhelming staff with mountains of data, PWD is able to provide them with actionable information that can provide the basis for rapid detection and response. Advanced event detection systems are being utilized to find the needle in the data haystack, allowing PWD to focus on the creation of a set of clear and defined responses, linked to a consequence management plan. PWD now has a straight forward method of determining the true operating conditions of their system in real-time, while increasing system security. The system visualizes the impacts of main breaks on water quality, provides real-time analysis of impacted customers within the distribution network, and provides staff with information to react and respond quickly, relieving staff from doing mundane tasks and freeing up time for additional focus on improving water quality.

How-To: The overall solution mapped out the business process involved with data collection, information flow requirements, system requirements, and application requirements. With these fundamentals defined, the necessary system integration was constructed to ensure that formerly isolated systems worked together, eliminating need for duplicate data entry and manual processing. The information dashboard was developed on top of the integration platform and was linked to the utility's geographic information system (GIS) to allow the underlying component data streams to be visualized in a spatial setting. Using a program management perspective in the development of the project, CH2M considered opportunities, needs, resources, and operations across the multiple ongoing projects/clients in the four pilot-project cities to share ideas and ICT solutions to increase efficiency. System engineering and data integration in the pilot project combined the surveillance components into a centralized platform that can be used to determine whether a water contamination event has occurred, and to facilitate appropriate response and consequence management actions. Data synthesis also supports optimization of everyday operations and resource allocation under normal and stressed conditions. Information from each component was integrated via an innovative event detection dashboard that compiled data and spatial information onto a GIS platform for detection of possible events in real-time. Additional ICT tools and processes were developed to facilitate response to system event alarms.

Budget: $8.3 million
Funding: Federal Grants
Additional Investment: In-kind services were provided by the water department

For more information, contact:
Raja Kadiyala
Vice President, CH2M
510-587-7676
raja.kadiyala@ch2m.com

Gary Burlingame Director
Bureau of Laboratory Services
215-685-1402
gary.burlingame@phila.gov

Tags: Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact
Citi: Earned Income Tax Credit Awareness

**Challenge:** For many low-income households, tax refunds such as the Earned Income Tax Credit (EITC) are the largest lump-sum payment they receive all year, making tax season a key opportunity to pay down debt, save money and start to build assets for a secure financial future. In fact, the average refund in New York City is around $2,500. By combining the EITC with other credits, some local families can receive up to $10,000. In 2013 alone, the EITC was credited with helping lift nearly 6.2 million people out of poverty, more than half of whom were children. But only four out of five eligible workers claim their EITC – and many who do are paying hundreds of dollars to file instead of using free tax preparation services provided through the Volunteer Income Tax Assistance (VITA) program. Only 3 percent of New York City residents eligible for EITC use VITA services to file their taxes; roughly 77% pay an average of $150 for tax prep services.

**Description:** Since 2015, Citi Community Development has supported New York City’s public awareness and education campaign to expand access to free tax preparation services and the EITC, returning close to $500 million in fee savings and tax credits to 310,000 households.

In 2015, New York City’s Department of Consumer Affairs (DCA) rolled out the largest EITC outreach and awareness effort in the City’s history. DCA’s advertising campaign was five times larger than anything that was done before, and it included ads in subway cars and bus shelters, newspaper ads, radio ads, handouts and posters for communities and a phone-a-thon in which more than 2,000 volunteers spread the word to approximately 270,000 fellow New Yorkers. The campaign was paired with support from Citi to expand the capacity of the free tax prep sites, enabling them to accommodate the increased demand.

**Impact:** To improve the effectiveness of the outreach, CCD collaborated with the City of New York and the Design for Social Innovation and Sustainability (DESIS) Lab at the Parsons School of Design on Designing for Financial Empowerment (DFE) – an initiative which used a participatory approach known as “service design” to make free tax prep services and the EITC more accessible and effective. This project identified key challenges that deterred filers from using VITA services, including issues of trust, perceived quality, lack of continuity, and low brand recognition compared to its for-profit competition. Based on these findings, the NYC tax prep and EITC campaign developed modular, unified branding to build recognition and trust among its target audience. “NYC Free Tax Prep” links several partners together as a coherent nonprofit network and improves overall recognition of VITA services.

In 2016, the unified brand enabled approximately 160,000 households to access close to $250 million in fee savings and tax credits.

**How-To**
- Create a clear, modular, unified brand that standardizes efforts across the City and can incorporate the branding of nonprofit VITA service providers.
- Harness this brand to create standard marketing materials across the City, including but not limited to: subway ads, bus shelter ads, newspaper ads, radio spots, flyers, posters, and TV commercials.

**Funding:** Private Financing

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For more information, contact:

Jamie Alderslade
Jamie.alderslade@citi.com

Abigail Lootens
press@dca.nyc.gov

**Tags:** Service Delivery Improvement, Impact on City Economy
Cities of Service: Effective Engagement Strategies

Challenge: Mayors everywhere are dealing with diminished budgets and heightened need. At Cities of Service, we work with city leaders to optimize one of the resources still in great supply — the willingness of people to help when asked. Founded in 2009 by former New York City Mayor Michael R. Bloomberg, Cities of Service was created in response to the Edward M. Kennedy Serve America Act’s historic call to action by finding new and innovative ways to harness the passion and power of a city’s residents.

A national nonprofit organization, Cities of Service helps mayors and city leaders tap the knowledge, creativity, and service of citizens to solve public problems and create vibrant cities. Whether adopting a park, tutoring a child, or providing input to design a better program, citizens want to be engaged and make the city where they live a better place for all. We help mayors tap into that civic desire. The Cities of Service coalition is now comprised of over 225 cities in the US and UK, representing nearly 55 million people in 45 states, and more than 10 million people in the UK.

Description: Cities of Service is a trusted partner for mayors who want to engage their residents more effectively. We counsel city leaders, bring them together to share learnings and capture best practices, and provide their cities with high quality resources and comprehensive consulting services. Effective engagement can drive progress on pressing city problems — but it also creates social capital and increases social cohesion. The benefits to the city and the community are tangible and powerful when connections between people — and with local government — are authentic and effective.

Impact: Cities of Service operates regional and national programs that provide funding for personnel and/or projects that drive local citizen engagement efforts. With our Bay Area Resilience Program, Cities of Service worked with local leaders to address disaster preparedness and response challenges using Impact Volunteering, a strategy that engages citizen volunteers to identify and solve public problems alongside municipal government.

The City of San José invested in building relationships and created a new volunteer infrastructure as part of their project to reclaim, restore, and revitalize the Guadalupe River. Because of this work, the city was well positioned to rebound after a devastating flood that affected tens of thousands of individuals and displaced over 4,500 residents from their homes. Within two days of the waters receding, the city mobilized more than 4,000 volunteers. These volunteers removed so much debris that displaced residents could get back into their homes more than a month earlier than initially projected. To build upon this work, San José Mayor Sam Liccardo has launched BeautifySJ, a citywide initiative to empower resident volunteers and instill community pride.

How-To
Cities of Service has developed a spirited, results-driven approach that helps cities change the way they engage citizens. We offer a range of resources to help cities achieve thriving, impactful citizen engagement, and build lasting trust between community members and city hall.

- Grants: We support a range of projects that help cities activate citizen volunteers, and we fund staff capacity to drive citizen engagement efforts.
- Technical Assistance and Coaching: We work side-by-side with our city partners as they design and implement projects that build partnerships with citizens, advance progress on a pressing public challenge, and make true engagement a permanent fixture of their work.
- Site Visits: Our team makes visits to our coalition cities to understand the local context, strengthen working relationships, and facilitate planning sessions. Expert team members meet with the chief executive and city leadership team to lend advice and support.
- Peer-to-Peer Learning: We bring cities together in myriad ways, including in-person and virtual convenings, to share best practices, network, and learn from other practitioners.
- Resources: We have developed blueprints, playbooks, and service plans to share what excellence looks like and bring our citizen engagement model to life.
- Showcasing: We have a large national megaphone and use it to highlight city successes, attract new resources, and inspire action.

Funding: Private Financing, Foundations and Philanthropy, General Purpose City Funds, Corporate Partners

For more information, contact:
Myung J. Lee
Executive Director
Myung.Lee@citiesofservice.org

Mauricio Garcia
Deputy Director
mauricio@citiesofservice.org

Tags: Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact, Impact on City Economy, Business Benefits, Citizen Engagement
Project Green Light Detroit (Comcast Business SmartOffice)

**Challenge:** The City of Detroit launched Project Green Light Detroit, a voluntary program developed to help curtail crime in the City, particularly at gas stations and convenience stores, by connecting businesses directly to the Detroit Police Department (DPD) via access to the businesses’ video surveillance feeds. Businesses purchase their own security cameras and grant access to DPD, which the police have the ability to monitor in real time as well as to view footage to identify criminals after the fact. However, to increase participation the DPD needed the right partners that could scale installations to the small businesses, as well as offer a cost-effective solution.

Comcast partnered with the City by offering our new Comcast Business SmartOffice, a cloud-based advanced video monitoring solution for businesses, and a complete package that made economic sense for the businesses to participate in Project Green Light. Comcast provided the necessary broadband connectivity to effectively run the required camera systems, allowed businesses to lease equipment instead of paying thousands of dollars upfront, and gave the businesses one point of contact for all of their needs required to participate in Project Green Light. Voluntary participation went from 30 participants before Comcast got involved to a current participant list of more than 150 businesses, half of which are Comcast customers.

**Description:** In order for Project Green Light to scale and generate the levels of participation necessary to make a difference in curtailing crime, the Mayor of Detroit, City officials and Detroit Police Department (DPD) needed true collaboration with business partners to provide the services and to ensure public awareness and participation. Comcast Business understood that Project Green Light was a top priority in the City's focus on safety, and determined that it could not only help with awareness, but could also offer three critical components that would support the program's overall success: a ubiquitous high-capacity broadband network in Detroit that could consistently deliver the speed tiers required for participation in Project Green Light; the option to lease cameras; and the right price point to make it affordable for businesses to participate.

Through early engagement and frequent communications between the City, the DPD and Comcast, all parties were able to create awareness of, and find improvements to, the program. Detroit Mayor Mike Duggan stated, “Without the complete video technology system Comcast provides, Project Green Light would not be the success it is today.” He added, “Because business owners know they can get everything they need from one provider to meet the requirements of the program, enrollment is growing at a rapid pace, and we are seeing improvement across the city.”

**Impact:** Project Green Light Detroit is a unique public-private-community partnership, blending a mix of real-time crime fighting and community policing aimed at improving neighborhood safety, promoting the revitalization and growth of local businesses, and strengthening DPD’s efforts to deter, identify, and solve crime. The impact has been a safer, smarter, and more prosperous city. More than 150 businesses now participate, and that number continues to grow. These businesses are able to stay open longer and provide critical products and services to citizens of Detroit (such as gas and food), and customers can feel better about shopping at those locations, knowing that there is an extra level of security.

A recent analysis of reported crimes shows that the original eight Green Light gas stations continue to see a nearly 40% reduction in violent crime. Newer Green Light businesses have experienced a roughly 20% average reduction in violent crime compared to the same time period the year before. Since Project Green Light has been up and running, the city has experienced a 40% reduction in carjackings as well.
HDR: Kansas City Downtown Streetcar

Challenge: Prior to 2016, Kansas Citians could use the bus system to get to and from downtown, but lacked a mode of transportation for shorter, convenient trips within the area. Furthermore, wide streets and few buffers between pedestrians and vehicles discouraged downtown pedestrian traffic. The City sought a way to better achieve the goals specified in its Greater Downtown Area Plan—including increased walkability, connectivity, and mixed use development.

The streetcar addresses this issue by providing free, accessible, efficient transportation through the heart of downtown, serving more than 65,000 employees within two blocks of the route. By linking four distinct neighborhoods that are home to many of the City's most popular attractions, it allows visitors to experience the downtown environment without driving and re-parking multiple times. The streetcar also serves as the perfect centerpiece for Kansas City's Smart City Initiative, including interactive touch screen kiosks along the route, corridor-wide Wi-Fi access, and intelligent streetlights and pedestrian signals.

Description: The streetcar is free to ride, in part, because of the Transportation Development District (TDD). The TDD is the special benefit district established around the route – operating as a separate entity and as a political subdivision of the state. It's structured to not only finance the project's construction, but also to fund its operation for the next 20 years.

Outstanding collaboration resulted in one of the fastest federally funded streetcar projects ever — moving from planning to full operation in only five years. This entailed rapid delivery of planning components before design and construction even started. A prime example: following an aggressive schedule to complete the environmental assessment, the FTA issued a Finding of No Significant Impact after just two days — an outcome that often takes months.

A streetcar technical team formed early in the project consisting of representatives of the City, area agencies, design and construction teams, and four individuals designated by the newly formed Kansas City Streetcar Authority (KCSA). The team met weekly to discuss project status, provide technical input to the City, and serve as a liaison to various agencies.

Impact: The streetcar opens the benefits of public transit to many who once found it challenging or inconvenient to use. Paired with the first operational 100 percent low-floor vehicles in the U.S., fully level platform-to-car boarding allows passengers using wheelchairs, bicycles, and strollers to ride easily.

It’s also spurred economic development. Sales tax receipts in the district increased by 14 percent in 2016 (out-pacing the citywide rate by six times), and $400 million worth of announced development cited the streetcar as a factor in the decision to build within the district.

The electrically powered streetcar also reduces fossil-fuel powered transportation along the route, lowering greenhouse gas emissions and reducing vulnerability to fossil fuel price instability without demanding additional power generation sources or facilities. Accessible boarding, short headways, and an abundance of stops transform the corridor into a pedestrian hotspot, a major part of the City's vision.

The TDD concept promotes sustainable funding, increases the streetcar's popularity, and shines a light on the benefits of public transit – serving as an example for future projects.

How-To: By the terms of a three-party agreement with the City and the TDD, the Kansas City Streetcar Authority (KCSA), a 501(c)(3) corporation, was created by an act of self-incorporation to manage and oversee the system. The KCSA is responsible for the systems day-to-day operations, marketing and public communications, and community engagement. It also participates in the process of making adjustments to the TDD’s special assessments. The KCSA is governed by thirteen directors: seven self-perpetuating private directors, four public directors, and two appointed private directors.

The project is essentially a public-private partnership in that, through the TDD, it’s largely supported by surrounding local businesses and stakeholders. The successful votes to form and fund it are perhaps the most significant evidence of community and stakeholder support.

Under the requirements of the State's TDD statute, the TDD is governed by a Board of Directors including the Mayor of Kansas City, the Chair of the Port Authority, and two appointees by the Mayor and the Port Authority. The agreement between the TDD and the City also gave the City broad authority over how most decisions regarding the development of the project were made, including design, construction, and the details of the bond financing.

General Tips: Public outreach – As with any major infrastructure change, the prospect of a streetcar raised uncertainties among area business owners and other members of the public. Extensive public outreach was necessary to ease stakeholders’ initial concerns. Feedback was used to improve the construction schedule, stop locations, and aesthetic design of the system – facilitating a project tailored to the corridor's needs.

Budget: $102 million

Funding: Municipal Bonds, Federal Grants, General Purpose City Funds

For more information, contact:
Kimberly Schulz
Deputy Program Manager
Kimberly.Schulz@hdrinc.com
(213) 239-5814
Sherri McIntyre
Assistant City Manager/Director of Public Works
Sherri.McIntyre@kcmo.org
(816) 513-2627

Tags: Service Delivery Improvement, Innovation, Environmental Impact, Impact on City Economy, Jobs Created, Increased Tourism, Business Benefits
IPS Group Successful Paid-Parking Implementation in Oxford, Miss.

Challenge: Oxford, Mississippi is often called the “Cultural Mecca of the South.” With increased tourism and a growing student population, the City of Oxford is undergoing a period of incredible growth. With only a three-person parking department, the City sought an efficient system to manage and enforce high-traffic high parking demand regions. The booming downtown area has over 300 premium parking spaces that surround restaurants, shops, businesses, and government offices. As a result, strains on infrastructure demanded a smarter parking solution.

To solve the problem, the City considered introducing a pay-to-park system in the previously free parking area. After a several year study, the City and the Downtown Parking Advisory Commission (DPAC) decided to implement a paid parking system using smart single space parking meters. After a thorough evaluation process, the City awarded the contract to IPS Group, Inc. (The leading manufacturer of intelligent parking technology and fully-integrated parking solutions)

Description: IPS Smart Parking Meters are solar powered and wirelessly networked, so no additional power or communications infrastructure is required to operate the meters. Also, as a result, roadway disruption was minimal and the historic streetscape was preserved in their installation. The city includes businesses, restaurants, and entertainment venues so the parking profile changes hourly, shifting between patrons who visit the city for business and patrons who visit for pleasure. The new meters support dynamic rate structures, which the City can use to adjust rates according to demand.

Impact: “The implementation of parking meters in our downtown square has been an overwhelming success. The revenue generated has exceeded our expectations. However, more importantly they have helped create access where it was once limited,” states Mike Harris, DPAC member.

Through IPS, the City of Oxford exceeded its goals of increasing turnover and creating a budget surplus to improve parking infrastructure. Before installing IPS meters, parking operations lost an average of $20,000 per month. Within eight short months after installing IPS smart parking meters, the new meters generated over $500,000 in additional revenue—the dollar amount originally estimated to be the upper limit of year one potential earnings. With a steady source of income, the City is now developing plans to improve parking infrastructure and accommodate future growth. With IPS Smart Parking Meters, enforcement operations have improved dramatically. “IPS meters are without a doubt the best thing that we've done for parking in the past 20 years,” states Joey East, Chief of Police of the Oxford Police Department.

How-To: The City of Oxford listened and collaborated with all of its stakeholders including the Downtown Parking Advisory Commission (DPAC) and also commissioned a parking study as a first step. The City then through an evaluation process awarded the contract to IPS to install the Smart Parking Meters. In addition, IPS worked with a local Oxford contractor to install single-space parking meters in the downtown area with minimal disruption to the public and the businesses. The new IPS Smart Parking Meters support dynamic rate structures, which the City can use to adjust rates according to demand. Motorists have the convenience of using a variety of payment options such as coins, credit/debit card, and mobile phone payments.

Budget: $500,000 in total $278,000 for IPS

Highlights:
- Meter uptime improved to 99.8%
- Meter revenue exceeded $500,000 in the first eight months
- Meters stimulated economic growth by increasing access to downtown businesses
- Joey East, Chief of Police described IPS meters as, "the best thing we've done for parking in the past 20 years"

For more information, contact:
Frank Del Monaco
CAPP, Vice President of Sales, East Coast
frank.delmonaco@ipsgroupinc.com
office (858) 668-7717
mobile (203) 515-0084

Matt Davis
Parking Director
mdavis@oxfordms.net

Tags: Impact on City Economy, Business Benefits
Motorola Solutions Inc.: Detroit Project Green Light

**Challenge:** The Detroit Police Department (DPD) partnered with eight gas stations initially that has now expanded to over 50 businesses that installed real-time camera connections with police headquarters as part of a groundbreaking crime-fighting partnership between local businesses, the City of Detroit and community groups called “Project Green Light Detroit.”

**Description:** Project Green Light is the first public-private-community partnership of its kind, blending a mix of real-time crime-fighting and community policing aimed at improving neighborhood safety, promoting the revitalization and growth of local businesses, and strengthening DPD’s efforts to deter, identify, and solve crime. Detroit’s Real Time Crime Center processes inputs from multiple data sources – such as video, sensors, alarms and records – with a real-time operational view. Their RTCC is the mechanism that enables the sharing of information with first responders so they can approach an incident or investigation armed with more operational intelligence than ever before. The RTCC provides the crime analyst with tools to identify and distribute incident relevant video and data to the responders in the field which also increases officer safety.

**Impact:** Project Greenlight results have shown a 50% drop in violent crime using Motorola’s CommandCentral Aware technology. It is clear that law enforcement and public safety personnel experienced a net benefit of receiving real-time accurate information and new crime fighting strategies. Overall, Project Greenlight exemplifies the convergence of intelligent-led public safety communications and technology leading to a more prepared and protected Detroit community.

See more resources here: www.greenlightdetroit.org/about

**How-To:** DPD worked initially with eight gas stations (see the current Partnering Businesses Page) to install real-time high-speed camera connections to link directly to police headquarters in order to keep a closer eye on crime. With the installation of high-resolution surveillance cameras, more criminals have been apprehended due to camera-based evidence and more suspicious activity has been available and constantly monitored. The value-added project has even expanded to meet demands.

Project Green Light now has well overall 50 businesses including local gas stations, liquor stores, convenience stores and restaurants as actively participating partners and they are receiving tangible results. With the installment of security camera and lighting equipment systems, each business has been able to combat crime and improve public safety in neighborhoods. Specifically, local McDonald’s establishments have reported a reduction in loitering since the program was installed.

**General Tips:** According to statistics, a quarter of Detroit’s violent crime occurred around 500 feet of gas stations after 10 p.m. This revelation presented an opportunity for Detroit’s Police Department (DPD) to take action to find an immediate solution. Detroit’s Police Department (DPD) partnered with Project Greenlight to provide a reasonable and effective solution for the Detroit community.

Detroit Mayor Mike Duggan acknowledged that “I absolutely believe Project Green Light is making criminals think twice before committing a crime at a gas station,” Duggan said today in a statement. “Soon, they’ll think twice about doing it at a McDonald’s or any other Green Light business. We are going to continue to move this program across the city and create an expectation of safety.” (source: Detroit Free Press)

**Funding:** General Purpose City Funds

For more information, contact:
Tracy Kimbo
tracykimbo@motorolasolutions.com
Assistant Chief James White
WHITEJ932@detroitmi.gov

Tags: Innovation, Impact on City Economy, Safer community, thriving businesses
MuniServices Partners with the City of Berkeley to Implement Sugar Sweetened Beverage Tax Ordinance

Challenge: A major health crisis exists for the City of Berkeley, the State of California and our nation—the rise of obesity, diabetes and tooth decay. The City of Berkeley made a giant leap forward in the fall of 2014, in an effort to address this issue by passing the nation's first tax on sugar-sweetened beverages, with hopes that the consumption of sugar-sweetened beverages would be reduced. Being the first in the nation to implement this tax, the City needed to set the standard on the use of the funds generated by this tax. As a city's budget is always under the constant pressure of the public eye, Berkeley needed to explore inexpensive options for collection, outreach, and taxpayer support. Collection for a monthly tax requires constant care in order to ensure compliance, timely filing and tax payment processing. Adding additional staffing in Finance would be very expensive and seemed wasteful just to collect this single tax. How would the City develop a fiscally responsible solution to meet these needs, yet conserve resources for the valuable programs that needed to be created for the public's benefit?

Description: In an effort to devote the maximum amount of revenue generated from the sugar-sweetened beverage tax to healthy living and educational programs, Berkeley chose to partner with MuniServices to educate and support taxpayers, implement the collection procedures and to also process payments of this tax. MuniServices administers, collects and distributes over 23 different types of taxes and fees across 5 states for over 1,000 government jurisdictions, so the implementation and collection costs would be a fraction of resources needed to create an internal city department to focus solely on this tax.

Impact: Since the implementation of this tax, over $3M in revenue has been collected for the valuable health programs and services (over the past 2 years) for Berkeley. MuniServices efforts have saved the City an estimated $200K in fees that can be devoted to more beneficial expenditures. Part of the ordinance called for the creation of a panel of experts that would decide which programs would receive funding from this tax. The beneficiaries of the funding have been doing an amazing job in their efforts to reduce consumption of sugary-sweetened beverages, and several articles are already crediting their success. As a result of these efforts, some studies are showing that the consumption of sugary drinks is down as much as 21 percent, while comparable cities' increase has been 4 percent. The studies also show a 63 percent increase in the consumption of water in Berkeley while comparable cities' increase is only 19 percent. Overall the hope is that this trend will continue, and slow the rates of childhood obesity and Type 2 diabetes.

How-To: Various data sources were used to identify businesses that were possibly subject to the charge. Because the intent and outcome are both significant, an massive outreach campaign was launched to educate distributors and businesses about the implementation of this tax. Registration forms were mailed along with informational material about how the tax is applied. The City held taxpayer education days for those distributors who were concerned about the implementation of the tax. Numerous flyers, forms and instructional mailings were sent to those identified that might owe the tax. The City of Berkeley also dedicated space on their web site to upload all information, forms, and frequently asked questions. A toll-free number and email address were also created for dedicated taxpayer support. Next steps are to begin conducting audits of the taxpayers to ensure compliance with the tax so that the maximum amount of revenue is generated for these valuable health programs.

General Tips: The project approach is holistic and although limited City staff time and resources are needed the Berkeley's Treasurer, Finance Director, City Manager and City Attorney have been part of early and ongoing discussions with MuniServices to ensure success as well as care for the City's business community and residents. With over 35 years working with nearly 1,000 local jurisdictions in the Country, the high-quality data management system and proprietary tax investigation techniques are contributors to MuniServices excelling in the area of revenue enhancement. MuniServices is professional, educational and taxpayer friendly. Beginning each program with an established work plan and open communication contribute to the success of projects.

Funding: Self-Funding

For more information, contact:
Brenda Narayan
Brenda.Narayan@MuniServices.com
Rosario Riche
Revenue Collection Manager
RRiche@cityofberkeley.info

Tags: Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact, Impact on City Economy, Business Benefits, First in the Nation Program
**Challenge:** In late 2016 Mayor Mike Duggan and the Detroit City Council voted to increase access and equity in City services to all Detroit residents by standing up a Municipal Identification program. This program was put in place to make it easier for Detroit residents who struggle to get a traditional State ID to possess valid identification, specifically marginalized populations, including immigrants, minors that are at least 14 years old and homeless citizens. Officials said “municipal ID holders will facilitate better interaction with police, the Health Department and the Detroit Land Bank Authority and private entities like DTE Energy, One Detroit Credit Union and the Detroit Medical Center.”

**Description:** Outfront Media worked with the City of Detroit to post billboards in the city to inform residents about the existence and availability of the new municipal identification cards.

The billboards went up at 30 locations in Detroit including some of the heaviest traveled thoroughfares in the area; near I-96 and Grand River, Greenfield and Davison, Gratiot and Bessemore, Harper and Eastlawn and other locations. Outfront Media donated the signs at no cost to the City.

**Impact:** This partnership represented tens of thousands of dollars in value and yielded nearly 8 million adult impressions, effectively spreading the word about the program throughout the city of Detroit.

For more information, contact:
Kam Buckner
Vice President, Government Affairs
kam.buckner@outfrontmedia.com
Ald. Raquel Castaneda-Lopez, NA

**Tags:** Cost Savings, Impact on City Economy, Business Benefits
Pacific Gas & Electric Company: Cultivating Local Energy Workforce Talent Pipelines

**Challenge:** This program is addressing the need for more skilled workers in California by cultivating an early talent pipeline for energy sector jobs. The outcome will result in local diverse hires and generate economic and community vitality in the Sacramento region, as well as the state.

**Description:** In 2014, PG&E recognized a need to engage the next generation of energy workers and developed a high school internship program in Sacramento and three other cities throughout the Central Valley to begin building career awareness and provide skills training. Today, PG&E is building upon this foundation by creating a complete energy career path along a trades and engineering pipeline – linking students to other opportunities like PG&E engineering scholarships, PowerPathway® trainings and other direct hire programs. PG&E is working closely with Sacramento Mayor Steinberg’s office on this initiative, and has signed on to his “Thousand Strong” program – a paid internship matching program.

**Impact:** The high school program averages about 150 interns per year. Each year, students gain industry valued certificates such as OSHA-10, CPR and Flagging for construction sites, in addition to soft-skills and hands-on experience working side-by-side with PG&E’s gas and electric work crews.

**How-To:** Partnerships, planning and buy-in are key. The Foundation for California Community College (FCCC) is a critical partner, serving as the fiscal agent and employer of record for the internship program. The program took about two months to design and recruit employee volunteers.

**General Tips:**
1. Enlist community partners to help facilitate relationships with local schools and workforce investment boards.
2. Secure a dedicated internal program manager to recruit and prepare employee supervisors, and ensure program runs smoothly.
3. Partner with community colleges and workforce investment groups to provide soft skills training, valued industry certificates and if possible college credit.
4. For added value, develop a strategy for continuous engagement with students toward an industry career path.

**Budget:** About $26,000 for 25 Sacramento interns, $750 for soft skills training partnership at American River College, $247,987 – all-in for program across six locations (Arroyo Grande, Bakersfield, Fresno, Sacramento, Stockton, Oakland).

**Funding:** PG&E Foundation, local workforce investment board
Philips Lighting: Beginning With the End in Mind: A Makeover for Macon Bibb

Challenge: Macon-Bibb City/County Government and Philips Lighting. Mayor Reichert of Macon Bibb had several goals in mind as he considered a comprehensive lighting plan for the city. He set out to improve public safety and upgrade the existing infrastructure while maintaining the region's strong commitment to sustainability. However, the need to deliver standard and equal services to city and county residents was of paramount importance. When the city and county governments merged in January of 2014, a strong commitment was made to ensure that city and county residents were being served in an equitable manner. This would pose an additional challenge as 235 local government employees retired at the time of the merger.

Description: Mayor Reichert knew that standardization of the infrastructure would make it easier to maintain their lighting assets and would result in cost savings. By automating the maintenance and management of the street lighting through a control system the government could manage MORE maintenance requests with fewer resources. Citizen satisfaction with the lighting would also be improved. Mayor Reichert also worked strategically with Georgia Power to standardize the utility owned lights with the same Philips Lighting products that the city was procuring to ensure consistency and maintain continuity. In an effort to simplify their procurement processes, Macon Bibb developed a contracting vehicle known as a “master agreement.” This allowed for lighting upgrades for street lighting, decorative lighting, dynamic color changing lights (also known as Color Kinetics), indoor lighting, site and area lighting along with state of the art lighting controls technology that would monitor and manage lighting assets. Additionally the contract vehicle can be used by public entities OUTSIDE of Macon Bibb. The master agreement government contract was created and resoundingly approved by the city council.

Impact: As the new lighting was installed, the local media covered the project and the public's reaction resulting in positive news stories across the region. Neighborhoods reported loving the color of the new lights. Along the interstate, the city transportation department has been receiving calls from drivers that the light is much improved and they can see the road conditions more clearly.

Through the course of installing the new lighting systems, the public housing communities were inspired to be part of the planning and new lighting will be installed around these communities.

The pedestrian bridge lighting project near Mercer University is truly the lighting plan's centerpiece project as it has augmented a master plan to move people closer to the university in spite of the major transportation thoroughfares near there. The bridge lighting has played a major role in the desirability of the location for people to move and use the amenities surrounding the university. A hotel has been built nearby along with new retail shops and the area is very much considered the Welcome Gateway to Macon Bibb.

How-To: Macon Bibb developed a lighting implementation plan.

Project #1 Decorative Lighting on the Pedestrian Bridge: This high visibility project generated additional support and enthusiasm for the lighting plan.

Project #2 Streetlight Upgrades/Standardization: Georgia Power in coordination with Macon Bibb standardized on Philips Lighting fixtures so that they would match up with the city's investment for their city owned lighting inventory creating a standard look and feel across the county.

Project #3 Lighting Asset Management Control System (City Touch): Over 800 city-owned light points are now remotely monitored and maintained, offering the perfect light levels for the streetlight's location along with allowing the city to schedule maintenance and be highly responsive to citizen needs.

Project #4 Decorative Fixtures: For the historic downtown district

Project #5 Interior Lighting Upgrades in City/County Buildings: Good light is a proven strategy to improve worker productivity and morale. These new smart, connected lighting systems create bright, positive work environments and save the city money.

Project #6 Architectural Lighting: Buildings are being identified to install exterior color changing, dynamic lighting as well.

General Tips: The successful features to the Macon Bibb plan are:

- Commitment to standardization that improves uniformity and streamlines the procurement process
- Lighting control systems for maintenance and management (interior and exterior lighting) that further reduce operating costs
- Master Agreement procurement vehicle with “piggyback language” allowing any public entity in GA to use the contract pricing.

Budget: This is a phased project with current expenditures at $2 million

Funding: Municipal Bonds, General Purpose City Funds, Special Purpose Local Option Sales Tax (SPLOST)

For more information, contact:

Kirk Whittington
SE Regional Manager – Public Sector Solutions
kirk.whittington@philips.com
615-347-8992

The Honorable Robert Reichert
Mayor, Macon-Bibb
reichert@maconbibb.us
478-751-7170

Tags: Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact, Impact on City Economy, Jobs Created, Increased Tourism, Business Benefits, Public Safety
RapidSOS: PSAP Integration: Getting Citizens Help Faster Through Improved 9-1-1 Location Accuracy

Challenge: Today's wireless 9-1-1 location technology is not always accurate, leading to over 10,000 deaths annually according to the FCC. With over 180 million 9-1-1 calls being made from wireless devices each year, even indoors, it is imperative that this challenge is solved quickly. Through this project, RapidSOS, GeoComm, and the North Central Texas Council of Governments (NCTCOG) conducted a pilot to showcase technology developed by RapidSOS to solve the wireless location challenge.

Description: RapidSOS and GeoComm conducted a pilot project in Frisco, TX for integrating mobile phone data received via RapidSOS into the NCTCOG 9-1-1 PSAP mapping applications provided by GeoComm. The project team tested and compared the location accuracy of calls using device-based hybrid handset location captured via Advanced Mobile Location (AML) mechanisms and transmitted to the RapidSOS Data Clearinghouse versus calls using traditional 9-1-1 location. This was done through live 9-1-1 calls at the Frisco Communications Center in North Central Texas.

Impact: Use of the technology in a PSAP setting results in a more efficient, effective, and accurate emergency response.

Finding: Device-based hybrid location was highly accurate for more than 90% of calls, while traditional 9-1-1 location was highly inconsistent (especially indoors).

Finding: Wireless Carrier Phase 2 location incurs an average delay of 18 seconds after the initial ALI (Automatic Location Information) response, while the device-based hybrid location from RapidSOS was updated every 5 seconds with no delay after the initial ALI response.

Finding: With accurate device-based hybrid location from RapidSOS and indoor maps from the City of Frisco displayed inside the GeoComm 9-1-1 mapping product, the call-taker was able to determine the location of the caller inside a building, including the room name and position inside the room. For 90% of locations where indoor mapping was available, the location was plotted inside the correct room.

For more information, contact:
Michael Martín
CEO of RapidSOS
mmartin@rapidsos.com
Rodger Mann
North Central Texas Council of Governments
rmann@nctcog.org

Tags: Innovation, Public Safety
Severn Trent: Wastewater System Design-Build-Operate - Islamorada, Florida

**Challenge:** The key objective of this project was to eliminate the potential for unpermitted and noncompliant wastewater effluent entering the pristine coastal waters off the Village of Islamorada in the Florida Keys.

**Description:** Severn Trent and Layne Heavy Civil (now Reynolds Construction) partnered with the Village of Islamorada, FL for their $130M DBO wastewater collection and treatment project. In addition to sourcing a cost effective utility service, the Village wanted to restore the pristine nearshore waters of the Florida Keys and they also had to meet a State of Florida mandate to have all wastewater collected and treated to required standards prior to disposal.

In opting for the Design-Build-Operate (DBO) method, the Village of Islamorada was able to find a cost effective, sustainable solution through an integrated project delivery process. The project provided a combination of vacuum and low pressure sewers to collect a projected 1.4 million gallons per day of wastewater from the four islands of the Village. It also included a transmission system to transport the flow to Key Largo Wastewater Treatment District’s regional treatment facility, where it is treated by the district under an intergovernmental agreement with the Village.

**Impact:** This project produced the following outcomes:
- Transmission System consisting of approximately 100,000 LF of 8” to 18” PVC and HDPE
- 500,000+ LF of Low Pressure and Vacuum Sewer Collection System
- Service to approximately 5,000 customers
- Installation of approximately 400 residential grinder pumps
- Complete maintenance and customer response responsibility for the 30 mile collection system for 20 years
- Wastewater treated at the expanded Key Largo WWT Facility

**How-To:** The partnership included the Village, national and local design partners, local subcontractors and suppliers, a national operations partner and local stakeholders. Public interaction and cooperation were key in delivering customized wastewater solutions to thousands of private properties.

**General Tips:** Key lessons learned in the successful delivery of this project included:
- Effective communication/public relations: The project had a wide variety of community stakeholders. A range of communication methods were utilized to gain buy-in and keep those stakeholders informed, including public meetings, social media sites, a project website, and regular attendance/updates at council meetings
- Property acquisition: The DB partner was responsible for property acquisition, based on a strategy/protocol agreed with the Village.
- Prioritization of local/regional subcontractors and vendors: With input from the Village, the project achieved 80% local/regional subcontractor and vendor participation.
- Efficient procurement: Utilize industry standard contracts and solicitations to the greatest extent possible, and utilize outside (non-voting) consultants to guide the process.

**Budget:** $130M (total project cost) vs. $160M original estimate

**Funding:** State Grants

For more information, contact:
Bill Malarkey
Senior Vice President, Strategy & Market Development
William.Malarkey@STServices.com

Mike Forster
Former Mayor and Current Councilman
Mike.Forster@islamorada.fl.us

**Tags:** Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact
Siemens: Hill Canyon Wastewater Treatment Plant: On Site Power Generation from Renewable Resources Lowers Costs, Reduces Emissions and Increases Department Value to the Community

**Challenge:** Nestled deep in the hills of Thousand Oaks, California is Hill Canyon Wastewater Treatment Plant (HCTP) providing wastewater treatment for the residents of the City of Thousand Oaks. Hill Canyon by the numbers:

- A 14 million gallon per day capacity wastewater treatment plant
- 8.5 million gallons of wastewater are treated each day

The City Council challenged the HCTP staff to transition the plant from its reliance on utility-provided power to generating 100% renewable energy on site. This ambitious challenge motivated the HCTP team to implement a program rarely seen at wastewater treatment facilities in the United States.

Through exemplary public-private partnerships and substantial assistance from the California Self-Generation Incentive Program (SGIP), the facility now provides 100% of operations needs from renewable energy created by a large on-site solar farm and a co-generation system that turns biogas into electricity. This best practice is focused on the co-generation system implemented through a partnership between Siemens and BioSpark Clean Energy.

**Description:** According to the EPA, for many municipal governments, drinking water and wastewater plants typically are the largest energy consumers, often accounting for 30-40% of total energy consumed and accounting for approximately 2% of energy use in the US, adding over 45 million tons of greenhouse gases annually.

The HCTP project allows the city to provide sustainable on-site renewable energy capable of providing 100% of the plant’s needs while saving over $300,000 per year in energy costs and providing additional revenue of $500,000 in tipping fees from their third-party waste receiving facilities.

These revenue enhancements have allowed the Public Works department to keep sewer fees low and created a disposal resource for waste haulers, food processing facilities and local agriculture. This biogas-to-energy system annually reduces carbon by 1,600 metric tons; which is the equivalent of planting 1,659 acres of forest or taking 1,037 cars off the road every year.

**Impact:** The co-generation facility creates energy from digested waste in the form of methane gas, which is used to produce electricity at a less expensive rate than grid supplied energy. The City staff estimates that these renewable energy projects save ratepayers approximately $300,000 annually. HCTP now also has the capability to export renewable energy to other City facilities generating approximately $600k per year in annual revenue from this stream.

The projects also serve as an exemplary private/public partnership, as each project is privately owned and operated. The co-generation facility is owned by CHP Clean Energy LLC, who provides electrical energy from methane gas to Hill County Treatment Plant via a Power Purchase Agreement. Both the solar and co-generation projects received substantial grant funding from the California Self-Generation Incentive Program (SGIP).

**How-To:** In order to carry out the vision of the City Council, the plant and partners implemented the following steps:

- Executed an end-to-end energy plan for plant
  - Assessment of current energy use
  - Development of energy reduction plan focused on conservation and optimization
  - Reduced energy use at plant by 20%
  - Engaged plant staff to actively participate in energy goals
  - Ongoing reduction goal of 2% annually
  - Optimized plant digester biogas production
  - Implemented power purchase agreements for renewables
  - 500 kW Solar farm – generates 15% of electric load
  - 1,050 kW Biogas-fired Cogeneration System - generates 85% of electric load
- Built a third party waste receiving facility to increase biogas production
  - Receive wastes and tipping fees from industrial waste haulers
  - Waste storage and blending system "dispatches" gas production during energy peaks
- Collaborated with generation providers to optimize system run hours and output to match plant load
  - Minimize generation downtime and energy production losses via pro-active maintenance
  - Dispatch generation production to match plant load via control integration
  - Actively engaged public and private partners to achieve goals

**General Tips:** Rationale for implementing a Power Purchase Agreement (PPA) for biogas combined heat and power at wastewater treatment plants:

- Municipalities typically have limited expertise, resources and/or funds to execute an ongoing plan
- Facility Discharge Permit compliance is a challenging priority for power generation
- Challenges with access to capital or competing infrastructure priorities within the plant
- Municipalities cannot benefit from tax-based incentives
- Many wastewater treatment plants that have implemented Biogas CHP see performance drop off significantly due to limited expertise in operations and maintenance; PPA’s incentivize the private partner to produce energy reliably and consistently

**For more information, contact:**

Chris Nagle
Regional Manager North America
508-595-1727 or christopher.nagle@siemens.com

Jay T. Spurgin, PE, MPA
805-449-2444 or jspurgin@toaks.org

**Tags:** Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact, Impact on City Economy, Business Benefits
Sodexo Provides 4,000 Meals to Support Veterans at Arizona StandDown Event

Challenge: According to the National Coalition for Homeless Veterans, about 11% of the adult homeless population is veterans. About 1.4 million other veterans are considered at risk of homelessness, due to a range of factors including extreme shortage of affordable housing, livable income and access to health care. Under the leadership of Mayor Greg Stanton, the city of Phoenix has been committed to providing services, resources, and quality jobs for the community’s veterans and in 2013 Phoenix became the first U.S. city to end chronic veteran homelessness.

The City of Phoenix is a key partner in the annual Arizona StandDown event, one of the nation’s largest outreach events for homeless and at-risk veterans. In one place, veterans can access medical, dental, employment opportunities, social services and housing assistance. More than 1,400 veterans received services at the event last year. Sodexo’s contributions to Arizona StandDown over the last few years have ensured that the needs of our veterans are met.

Description: Sodexo, a leader in delivering sustainable, integrated facilities management and food service operations, partnered with Arizona StandDown on February 9 and 10, to provide 4,000 meals and employment services to more than 2,000 veterans attending the annual outreach event at the Veterans Memorial Coliseum in Phoenix, Arizona.

Over 40 volunteers representing five Sodexo segments including government services, healthcare, schools, universities, and corporate services, hosted breakfast and lunch for the veterans and provided an employment resources table to help the veterans find job opportunities.

Impact: Over 4,000 meals were provided to nearly 2,000 homeless veterans over the course of two days at the Arizona StandDown. In addition, Sodexo provided employment assistance services to veterans that included job search training, resume reviews and tutorials on using digital technology to apply for positions.

For more information, contact:
Enrico Dinges
Director Stakeholder Engagement
enrico.dinges@sodexo.com 301-987-4393
Brad Bridwell
bbridwell@cantwell-anderson.com
Tags: Cost Savings
SUEZ: Reducing Non-Revenue Water-Smart Approaches to Building More Efficient Cities

Challenge: Following a recent survey that indicated that 90% of customers expressed interest in receiving consumption information/alerts and detailed account information online, SUEZ in North America realized that reading water meters by driving routes every month or every quarter was insufficient to meet customer needs. In addition, business operations could benefit by automating a very labor- and fuel-intensive process: driving around cities to read water meters. Putting water meters on a wireless network would reduce risk to colleagues, decrease labor costs and also would be a better way to find leaks, tampering and anomalies to increase revenues and decrease non-revenue and wasted water

Description: SUEZ in North America evaluated equipment from all the leading AMI (Advanced Metering Infrastructure) vendors on the American market, piloted the top 4 to test their technologies in real-world settings, and performed extensive financial modelling on the solutions. After sufficient time and quantity of pilot installs, SUEZ in North America was confident that one partner, Xylem/Sensus, best met the business and technical requirements, and then designed and built the multi-state network using their hardware and software. The network covers nearly 1000 square miles and over 150 towns and cities. By the conclusion of 2016, SUEZ had installed 127,000 water meters, LED street lights, leak detectors and pH sensors on its network and seeks to add 100,000 more water meters and additional sensors to enhance network management in 2017. By 2020, SUEZ seeks to have over a million IoT (Internet of Things) points reporting in over the network.

Impact: Acting on the never-ending streams of data coming from the Smart Water Network enables SUEZ to be a Smart Utility by reducing non-revenue water, combating theft, increasing revenues, improving operational efficiencies and, most importantly, providing a better experience for customers. Specific impact points include:

a. Significant process improvements in the meter-to-cash worksteam
b. Average DBO (days billing outstanding) decreased from >40 days to under 21 days
c. $3M-4M of additional revenue backbilled
d. The apparent loss reduction was a significant component in decreasing NRW (non-revenue water) from 24% to 17.8%
e. Total revenue increase well in excess of plan

How-To: Most water utilities do not invest enough in managing their meters (they wear out becoming less accurate as the gallons flow through) or have appropriate Revenue Management processes in place. City management should support their utility managers in efforts to:

a. Practice Revenue Management - Develop a deep understanding of how your customers are using water, take action as necessary, and be sure to have a special focus on strategic customers
b. Define a Metering Strategy - This will usually include a replacement project or program to ‘catch up’ on the large numbers of aging and underperforming water meters in the system
c. Implement Smart Metering. Meter replacement projects or programs are the best time to implement a Smart Metering strategy, which can be coordinated with a larger Smart Utility or Smart City strategy to reduce costs, increase functionality and improve project delivery

General Tips

a. Citizens have increased expectations – they expect digital services, even from water utilities, so begin planning now
b. Include ongoing data analytics in any project to maximize the return
c. Long-range AMI systems need an order of magnitude fewer “towers” or rooftop data collectors
d. Select an AMI vendor that has strong digital security to minimize risk
e. Evaluate running multiple city services over the same network to share in operational costs
f. Partner with someone who has done it before

Budget: Every project has a different scope and size, but one metric appears again and again: there is only a 5% (large cities) to 10% (small cities) premium in deploying Smart Metering over traditional metering. The ‘break-even analysis’ usually shows that by year 2 or 3, the additional cost of infrastructure is more than compensated by improvements in revenue and decreased labor and manual data handling costs.

Funding: Private Financing

For more information, contact:
Eugene Anderson
Sr. Director Industry Relations & External Affairs
eugene.anderson@suez-na.com

Tags: Service Delivery Improvement, Innovation, Cost Savings, Environmental Impact
Veolia North America: Washington Aqueduct – Benchmarking and Improving Workforce Efficiency Through Formal Maintenance Planning and Scheduling

**Challenge:** Washington Aqueduct, a division of the US Army Corps of Engineers and the only federally owned and operated public water utility in the nation, produces an average of 155 million gallons of water per day to approximately one million residents in the District of Columbia and parts of northern Virginia. About 80 percent of its overall work was not processed through its computerized management system, causing a host of workflow inefficiencies.

With an annual budget of $48 million, the utility's team engaged Veolia North America to improve upon an operation that was regularly suffering labor productivity losses, delays in work order completion and no transparency in critical customer feedback. Veolia was able to implement a hugely beneficial system for planning and scheduling maintenance projects based on five stringent principles. These principles set new benchmarks that ultimately addressed work imbalances across team members, lack of coordination between traveling staff and repetitive efforts across miscommunicated projects.

**Description:** Washington Aqueduct's public-private partnership with Veolia embraced a best practice for how maintenance staff should collaborate and communicate with one another. This workflow was rooted in five core principles:

1. dedicated planning and scheduling staff that are organized into a separate group from craft maintenance to specialize in planning future work to maintain at least one week of work backlog that is ready to execute;
2. the planning group maintains the asset inventory and maintenance history database, and requires feedback from craft supervisors to keep it current;
3. access to the computerized maintenance management system (CMMS) is granted to all Washington Aqueduct staff, including the ability to create WOs and track their progress;
4. no work is done without a WO and all WOs are prioritized using a specific coding system defined by relative urgency with regular review by management; and
5. key performance metrics are developed from CMMS data to be tracked and reported on a weekly basis and used to hold maintenance staff accountable for performance.

**Impact:** All individual teams and shops within Washington Aqueduct exhibited improvement in overall workforce productivity as a result of Veolia's new planning and scheduling practices. Having observed a total of 187 staff-hours, it was found that for the maintenance department as a whole, non-productive time decreased by 23 percent and productive time increased by 43 percent. Electrical shop operations saw an absolute transformation, literally doubling its productivity rates from 21 percent to 42 percent.

Above all, by investing in formal planning and scheduling, Washington Aqueduct realized a significant gain in the workforce's impact on the work it does for such a broad customer base. Putting this into context, its 43-percent increase in 'wrench time' is equivalent to having 59 people effectively performing the work of 85.

**How-To:** First, an initial development took place prior to the implementation of formal planning and scheduling. This included a wrench-time analysis (WTA) to measure workforce productivity in an effort to benchmark initial conditions. It also included two enablers: one to overhaul the existing asset database using a clearer naming convention, and another to develop a dedicated staff whose sole function is to provide work planning and scheduling.

Second, formal planning and scheduling kicked off with a new prioritization system that clearly defined true emergencies versus non-emergencies, and then bucketed each operation into relative levels of priority.

Third, a new process workflow detailed how all work was handled and by whom. The goal was to drive as much work as possible through the process so it can be accurately planned for and appropriately scheduled to minimize the inefficiencies described earlier. This workflow specifically helped to clarify work order operations for non-emergencies, a 10-step process; and emergencies, a five-step process.

Last, a performance management system was established to provide a data-driven approach to track performance and hold staff accountable. This system consists of a series of key performance indicators (KPIs) assigned to a specific staff member to track and report on a regular interval.

After implementing this planning and scheduling initiative, Veolia helped conduct a follow-up WTA to evaluate the impact of this new best practice.

**Funding:** General Purpose City Funds

For more information, contact:

Kent Nelson
Principal and Director, Central Region
Veolia North America
kent.nelson@veolia.com
317-361-0912

Tom Jacobus
General Manager, Washington Aqueduct Division, Baltimore District
thomas.p.jacobus@usace.army.mil
(202) 764-0031

**Tags:** Service Delivery Improvement, Cost Savings, Impact on City Economy, Business Benefits
Challenge: Even with improved automobile safety features and expensive public service campaigns aimed at driver safety issues, traffic fatalities claimed some 40,000 lives in the United States in 2016—the second year in a row that fatalities increased 7% over the previous year. Most municipalities have outdated roadway and intersection designs that were not built to handle the often deadly confluence of today's continual and often distracted pedestrian mobility, more bicycle traffic, and increasing vehicle congestion.

The City of Boston's Vision Zero project calls for focusing the city's resources on proven strategies to eliminate fatal and serious traffic crashes in the city by 2030. Achieving that goal starts with gathering data analytics on some of the city's problem intersections and corridors, then using that data to guide the implementation of roadway solutions that have a positive impact on motorist, cyclist, and pedestrian safety.

Description: In a pilot program for the City of Boston Vision Zero initiative, Verizon installed road sensors, video cameras and connected lighting at the busy intersection of Massachusetts Ave. and Beacon St. in downtown Boston.

Verizon's solutions for Smart Communities provides tools and cloud-based analytics that include:

- Sensor-based intelligent traffic management tools: performance metrics; adaptive signal control; travel time/road speed and origin/destination data; smart parking
- Intelligent video solution: relevant actionable video; advanced edge-based analytics; proactive notifications; edge storage and compression; video management system
- Intelligent lighting solutions with remote monitoring control: LED lighting; digital signage and audio; embedded sensors; energy analytics
- Cellular connectivity
- Cross-functional analytics and integration capabilities

In phase 1 of the program, video cameras and lighting running on a Verizon Light Sensory Network were placed on light poles, traffic lights, and building rooftops on Massachusetts Ave. and Beacon St. so that they provided complete views of, and shed excellent light on, the intersection, crosswalks, and up and down each street.

Impact: For the first time, the City of Boston can look at specific “events” alongside actionable data—classified as dangerous activities that could potentially lead to crashes, injuries, or death—taking place at the Massachusetts Ave. and Beacon St. intersection.

Using data and analytics from Verizon, city managers can now know, in near real-time or historically, things including:

- The percentage of cars and bikes making illegal moves
- The speed of automobiles and buses
- How many pedestrians jaywalk near the intersection
- How many vehicles encroach on crosswalks
- The number of vehicles double-parked, and how long they are double parked
- Any illegal moves by motorists, bicyclists, or pedestrians

They can also determine how best to illuminate streets and sidewalks for optimal safety.

By creating this “hyper-instrumented intersection,” Verizon is enabling the City of Boston take the first data-powered step in understanding how to make its streets safer and more efficient—and how best to proceed toward its ambitious Vision Zero goals of zero traffic fatalities in Boston by 2030.

How-To

- Using a data-driven approach to help improve traffic safety is best undertaken as part of a broader Smart Cities effort.
- In choosing an IoT technology partner, cities should look for not only IoT, networking, lighting, and related technology expertise, but also a trusted advisor and technology partner with deep and proven understanding of infrastructure, security, performance, reliability, and scaling issues.
- An essential part of this project was the City of Boston's decision to upgrade its streetlights to LED technology, and to capitalize on the LED upgrade to also install a high-speed Verizon Light Sensory Network. The Light Sensory Network uses LED processing and power as the network backbone to support lighting control features and to host a wide range of IoT services and tools.
- Cities such as Boston can offset the costs of the Light Sensory Network by piggybacking on the LED conversion costs, as well as through the energy savings realized by LED lighting and intelligent lighting control features.
- Beginning with a pilot project allows the important evaluation and testing of different placement options for videocameras and streetlighting.

For more information, contact:
Amy Lee, PR
alee@sensity.com

Tags: Innovation, Cost Savings, Environmental Impact, Enhanced Safety
Walmart: U.S. Manufacturing Innovation Fund

**Challenge:** Many barriers prevent companies from manufacturing their products in the U.S., including high costs and a lack of technology to support sustainable manufacturing. Addressing these challenges has the potential to make U.S. manufacturing more attractive to investors in the U.S. Walmart, the Walmart Foundation and the U.S. Conference of Mayors joined together to address these issues. By investing in American ingenuity from the research lab to the assembly line, there is an opportunity to make manufacturing more cost-effective and efficient.

**Description:** In 2014, Walmart, Walmart Foundation, and the U.S. Conference of Mayors launched the U.S. Manufacturing Innovation Fund to provide grants in support of applied research projects advancing innovative solutions to challenges that have the potential to lower the cost of making consumer products in the U.S. The Fund was established to provide a total of $10 million in grants over five years, and the 2017 funding cycle marks the completion of the commitment. Projects advance the fundamental research, development, and commercialization of science and technology solutions to challenges faced by companies interested in manufacturing their products in the United States. The Fund aims to jumpstart a strong revitalization of U.S. manufacturing, with the ultimate goal of driving job creation and a stronger U.S. economy.

**Impact:** The U.S. Manufacturing Innovation Fund provides grants in support of projects advancing innovative solutions to challenges that have the potential to:

- Lower the cost of making consumer products in the U.S.
- Lead to broader innovation for overall manufacturing processes, with an emphasis on sustainability.
- Jumpstart innovation leading to commercialization of new manufacturing technologies in selected focus area industries.
- Ultimately drive job creation within the U.S.

**How-To:** In 2017, the Walmart Foundation provided $3 million in grants to six leading universities working to advance sustainability and innovations in textile manufacturing, which has proven to be one of the most challenging industries to reshore to the U.S. These grants have been awarded every year since 2014 to achieve these goals. This year, one of the recipients was Texas Tech University's Fiber and Biopolymer Research Institute in the College of Agricultural Sciences & Natural Resources, which received nearly $275,000.

Under the leadership of Dr. Dean Ethridge, the university has been actively researching key solutions that would bring greater efficiency and sustainability to today’s manufacturers. The grant from the Innovation Fund supports Dr. Ethridge and his team's efforts in addressing the need for cost-reducing, sustainable dyeing with indigo, which is one of the largest single types of dyes used throughout the world today and is of paramount importance for textiles made from cotton. The indigo dye product is itself sustainable, but the physical indigo dyeing process is not and utilizes unsustainable, antiquated technology for production.

**Funding:** Foundations and Philanthropy

For more information, contact:
Javier C. Angulo
Director, Public Affairs & Government Relations Walmart
(213) 705-3135
javier.angulo@walmart.com

Dr. Dean Ethridge
Research Professor
Texas Tech University
dean.ethridge@ttu.edu

Tags: Innovation, Cost Savings, Environmental Impact, Jobs Created

Dr. Dean Ethridge, Research Professor, Texas Tech University's Fiber and Biopolymer Research Institute
Waste Management and the City of Elgin, IL
Reduce Recycling Contamination

Challenge: The City of Elgin, a historic and diverse river town 35 miles northwest of Chicago, is one of the fastest growing communities in Kane County. Known as the ‘City in the Suburbs’, Elgin takes pride in engaging residents in initiatives that make Elgin a great and more sustainable place to live.

Under the auspices of its Sustainability Commission, Elgin began noticing an increase in its curbside recycling contamination in 2015. Working with Waste Management, analyzing national and local consumer data, they learned that while Elgin residents wanted to do the right thing and recycle, they were sometimes confused about which materials were acceptable in the curbside program. This reinforced national trends, given how much material streams have changed, coupled with significant changes in consumer packaging. In late 2015, to help Elgin residents recycle right, Mayor David Kaptain endorsed Waste Management’s new community-based social marketing campaign, Recycle Often. Recycle Right. (RORR). With that, Elgin became the first major city to implement RORR, a targeted and customizable education program designed to help residents “get back to the basics of recycling.”

Description: Working with Elgin city leaders, we developed a targeted contamination reduction plan to decrease the major contaminants at the curb – plastic bags and food. A cross-functional team of City staff and 311 Citizen Advocates, plus Waste Management drivers, operations, dispatch and sales members, developed an integrated marketing and operational plan, leveraging the RORR educational materials in English and Spanish. Areas of the city with higher recycling contamination rates were chosen to pilot the program, and residents were mailed a letter introducing RORR, inviting them to “help Elgin recycle right.” All City communication channels were leveraged to spread the word – Mayor Kaptain kicked off the program with a video message at the Transfer station; a revitalized recycling page and RORR widget were created for the City's website; two robust social media campaigns launched on Facebook and Twitter; 311 voicemail messages were recorded to amplify proper recycling; and cart hangers were developed to leave on residents’ carts when contaminated. Finally, tracking systems and metrics were developed to measure the impact of the RORR recycling education on reducing contamination.

Impact: The official RORR campaign and contamination reduction efforts kicked off in Elgin in early 2016. Four pilot areas, covering nearly half of the City’s 33,000 households, were identified for testing the effectiveness of RORR. Teams of drivers were trained to identify contamination, tag carts and track results.

The pilot contamination reduction results have exceeded the City’s expectations. Between the four pilot areas in Elgin, recycling contamination rates have decreased between 15 – 35%. We confirmed research that communication delivered where the behavior occurs is the most effective – in this case, placing tags on contaminated carts, informing residents what materials are unacceptable, and reminding them what they can recycle. Just as important as reducing recycling contamination, Elgin residents were engaged throughout the campaign, asking questions and sharing recycling tips on social media!

The RORR contamination reduction message will continue in Elgin throughout 2017, touching the balance of all 33,000 households, inviting the entire City to get “back to the basics of recycling.”

For more information, contact:
Susan Moulton
Senior Corporate Director Public Sector Solutions
smoulton@wm.com or 562-305-0042

Molly Center
Communication Specialist, CMO
center_m@cityofelgin.org or 847-931-5613

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

How-To:
• 2015: Recycle Often. Recycle Right. (RORR) education and outreach campaign developed by Waste Management to address national increases in residential curbside recycling contamination.
• Fall 2015: City of Elgin and Waste Management determine that residential recycling contamination is increasing. Discussions begin for how best to address curbside contamination.
• Oct. 2015: RORR research and community-based social marketing concepts presented to the Elgin Sustainability Commission.
• Nov. 2015: Cross-functional team of Elgin staff and Waste Management members develop an integrated strategy to decrease recycling contamination. Brainstorming meetings take place to synthesize mutual goals and maximize existing communication channels.
• Jan. 2016: First RORR pilot launched. A letter in English and Spanish and a poster of acceptable recyclable materials were mailed to residents in the initial pilot area to kick-off RORR. Contaminated carts were ‘tagged and collected’ for several weeks – drivers identified what materials in residents’ carts were not acceptable. After that time, carts that were contaminated were ‘tagged and not collected.’
• Feb. 2016: Facebook ad campaign launched with high community engagement. City launched successful ‘Waste Wednesday’ social media campaign.
• March 2016 – initial pilot area results indicated an approximate 15-20% decrease in recycling contamination.
• April 2016 – May 2017 – Three remaining pilot areas were implemented and tracked from April 2016 – May 2017. Results for two of the three completed pilot areas indicated decreased recycling contamination rates between 20-35%. The third pilot area will be completed and evaluated in mid-2017.
• Mid-2017: Plan is to rollout the RORR campaign to the balance of Elgin households and continue to reinforce the RORR messaging in all pertinent communication channels, social media and marketing collateral.

General Tips:
• When developing and implementing residential programs that involve consumer education and behavior change, it cannot be overstated how important it is to have an engaged municipal partner with strategic, committed leadership.
• Alignment between the City of Elgin and Waste Management around the shared goal of reducing recycling contamination was critical to the success of this initiative. This was not a City or a service provider program – this was a program and idea owned by both the City of Elgin and Waste Management.
• Piloting smaller areas of the City first rather than rolling out the program to the whole City helped all stakeholders. We modified the communication and tagging as we learned what worked in each pilot area.
• Finally, social media is a highly effective means of engaging residents to change behavior!

Budget: Piloting the Recycle Often. Recycle Right. contamination reduction campaign cost approximately $40,000.

Funding: Waste Management funded
**USCM and Wells Fargo CommunityWINS Grant Program**

**Challenge:** In the wake of the housing and economic downturn that impacted communities across the country, USCM and Wells Fargo engaged in a multi-year effort to forge national alliance focused on foreclosure prevention, property disposition, homeownership promotion and economic development. This effort included in-person forums with local mayors to identify best practices and opportunities where Wells Fargo can be of service, and complemented Wells Fargo’s efforts to assist mortgage customers struggling with making payments through participating in 8,195 outreach activities across the country; more than 1,665 home preservation events hosted by Wells Fargo and others since 2009 which included 118 large-scale Home Preservation Workshops where specialists met with 46,000 customers to identify options to avoid foreclosure.

As the housing market stabilized and economy improved, in 2015 USCM and Wells Fargo shaped a commitment to foster neighborhood revitalization, economic development and job creation through the CommunityWINS grant program.

**Description:** A public-private collaboration led by the United States Conference of Mayors and the Wells Fargo Foundation, CommunityWINS grant program was introduced in 2015 with the purpose to support neighborhood revitalization, economic development and job creation.

CommunityWINS program includes a $3 million investment by the Wells Fargo Foundation over three years. Through a competitive application process administered by USCM, the CommunityWINS grant program will award six grants annually focused on bringing solutions to accelerate neighborhood revitalization, economic development, and job creation initiatives in local municipalities across the county.

**Impact:** Through the first two years of the CommunityWINS grant program, a dozen grants have been awarded through the annual competitive application process, including:

2016: $300,000 grant was awarded to Blanchet House of Portland, Ore. for its “Build a Home” effort for homeless veterans; $150,000 grant awarded to Newton Innovation Center of Newton, Mass.; $150,000 for Coalfield Development Corp.’s West Edge Solar Training Institute of Huntington, W. Va.; $75,000 awarded for Family Foundations of Jacksonville, Fla., $50,000 awarded to TechTown Foundation of Chattanooga, Tenn., $50,000 awarded to Kinston Teens, Inc. of Kinston, N.C.

2015: $300,000 awarded to Civic Works, Inc. for its work with Growing Green Tracks Team of Baltimore; $150,000 awarded to Arkansas Lighthouse for the Blind of Little Rock, Ark. for its Employment for Individuals Who Are Blind – Inclement Weather Outer Layer (IWOL) project; $150,000 awarded for West Sacramento Foundation for its FutureReady program; $75,000 awarded to Newark Community Economic Development Corporation; $50,000 awarded to NeighborWorks Green Bay of Wisc.; and $50,000 awarded to Lima-Allen County Neighborhoods in Partnership of Lima, Ohio.

**How-To:** USCM and Wells Fargo teamed-up to shape the CommunityWINS grant program that included a competitive application process that awarded six grants each in 2015 and 2016 based on consensus by a panel of judges. To maximize reach and impact, grants were awarded in the amount of $300,000 for Winner of the large city category with population of more than 250,000; $75,000 for Outstanding Achievement of large city with population of more than 250,000; $150,000 for Winner of medium sized city with population ranging from 49,000 to 249,000; $50,000 for Outstanding Achievement of medium sized city with population ranging from 49,000 to 249,000; $150,000 awarded to Winner of small sized city with population less than 75,000; and $50,000 awarded for Outstanding Achievement for small size city with population less than 75,000.

Learn more about the CommunityWINS grant program at https://www.usmayors.org/communitywins/

**General Tips:** To implement the CommunityWINS grant program, USCM officials periodically met with Wells Fargo grant team members to assess logistics, build awareness of grant program, and review status of application process. On average, more than 250 grant applications have been received as part of the competitive applications. To ensure engagement with USCM members, grant recipients were required to include a letter of endorsement from their mayor as part of the application process. Also, to build awareness of the grant program, calls for applications were officially made at USCM Winter meetings and with joint news releases published by USCM and Wells Fargo.

**Budget:** $3 million over three years funded by the Wells Fargo Foundation and administered by USCM.

**Funding:** Private Financing, Foundations and Philanthropy

For more information, contact:
Kim Martin
Community Outreach Manager and CommunityWINS program manager
Wells Fargo Home Lending
515-398-8807

Gene Lowe
Assistant Director
United States Conference of Mayors
glowe@usmayors.org
202-861-6730

**Tags:** Innovation, Environmental Impact, Impact on City Economy, Jobs Created