Creating a Safe, Sustainable Community in a Challenging Economy

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5 Ways a Well-Planned Technology Implementation Adds Value

Everywhere we look, technology-powered public infrastructure is enabling government to execute jobs faster, better, and more efficiently than ever before. Government executives and elected officials are aligning rapid advances in technology to their public policy goals, and can now take advantage of economic stimulus dollars set aside for technology to achieve great things for their constituents:

- **Smart network solutions** are helping first responders manage emergencies more swiftly and efficiently.
- **Smart security solutions** are enhancing the security of citizens and businesses and helping stimulate economic development.
- **Smart technology planning and implementation** is providing operational and energy efficiencies that result in guaranteed savings.

Technology advancements are allowing communities across the country to create the safe, sustainable environments a growing number of citizens demand. In a study commissioned by the U.S. Conference of Mayors[1], more than half of adults surveyed – 56% – believe their local government should "go green" and make environmentally friendly and energy efficient changes throughout their local community, even if they may have to significantly change their lifestyle.

While there appears to be support for the implementation of sustainability initiatives, local governments are under increasing pressure to reduce technology spend. Beginning in 2009, according to a recent survey released by Gartner Research[2], virtually all IT project investments within local governments will undergo a value-for-money reassessment.

- IT operational spending will be reduced 10-15%, with an additional 10-15% undergoing closer scrutiny.
- From 10-40% of ongoing IT projects will be affected, with an additional 20-30% undergoing stronger scrutiny and assessment.

Clearly, the mandate for local governments is to pursue technology initiatives where constituent expectations can be met and where value can be measured and communicated.

Fortunately, the technology has matured so that it is now possible to deliver meaningful Return on Investment data. And funding options are available like never before to local governments. Performance Contracting (a tool that enables communities to leverage future savings to pay for improvements) and the American Recovery and Reinvestment Act (ARRA), also known as the "2009 stimulus bill," make it possible for communities to stretch dwindling operational funds.

Opportunities do exist for local governments to create a safe, sustainable community – even in a challenging economy. And as this white paper describes, a *well-planned* implementation will deliver the strongest public value impact.

Most communities lose 10-20% of their water due to undetected leaks and aging meters. Today's technology can improve a community's water loss profile.

[1] U.S. Conference of Mayors/Zogby Poll, 2008
[2] Government IT Spending, Gartner Research, Dec. 2008

#1: A well-planned technology implementation adds value when it's comprehensive.

City and county governments get the most from their budgets through a comprehensive approach to sustainable community practices. A well-planned strategy combines technology, implementation expertise and funding strategies to reduce waste, improve the environment, upgrade technology and reduce operating expenses.

A wireless infrastructure, for example, can be the foundation to support a variety of advanced applications for local government, leveraging capital investment and operating costs. Consider the possibilities:

- **Mobile Public Safety** – An increase in community safety is directly related to lower crime rates and faster emergency response times. A wireless mobile broadband network enables access to critical information and communication to dispatch centers and other mobile public safety workers from the field, improving efficiencies.

- **Video Surveillance** – Video Surveillance is fast becoming an indispensable tool for public safety and the security of communities and schools. Fixed and mobile video surveillance solutions over a network can now deliver mission-critical video feeds to field units, headquarters and anywhere else in the coverage area

- **Utility Meter Reading** - As part of an Automated Meter Reading/Advanced Metering Infrastructure (AMR/AMI) solution, cities can move away from manual utility meter reading or drive-by solutions to digital meters that link wirelessly to a central network – saving time and cost while improving customer service and the ability to accurately monitor and control valuable resources.

- **Intelligent Transportation Systems (ITS)** - Centrally controlled traffic signal intersections improve the efficiency of vehicle movement through a city, keeping a steady state of traffic and maintaining minimal wait times at signals. Intelligent Transportation Systems collect information at signals, correlating real-time data and automatically regulating citywide traffic.

- **Municipal Modernization and Mobility** - City after city is showing that productivity increases when public employees are able to access the same resources from the field as they can in the office. Wireless networks provide city employees with secure access to the information they need, wherever they are around town, enabling them to do their jobs more efficiently.

- **Automated Parking Meters** - Parking availability and meter management presents unique challenges for municipalities and impacts various aspects of day-to-day life for citizens and visitors including traffic congestion, pollution, merchant prosperity, building construction and tourism. A wireless network-enabled parking management system allows centralized monitoring and control, growing revenue for the city and increasing its attraction for visitors.

- **Public Access** – Citywide, campus-wide, and hot zone wireless broadband networks increase quality of life, educational opportunities, and economic development. Publicly accessible wireless IP broadband networks are being deployed in cities around the world, providing new capabilities and services for citizens and subscribers.

So while any one of these advances delivers value – the greatest public value impact takes place when local governments leverage their capital investments by bundling technology-based initiatives.

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Success Story Snapshot:

The city of Hollywood, Florida is streamlining many of its city functions through the use of wireless technology. The citywide Wi-Fi also enables the community to increase efficiencies across multiple departments.

- The wireless communications infrastructure enables Hollywood's public safety agencies to operate more efficiently while providing free outdoor Wi-Fi Internet access to all city residents, businesses and visitors.

- Automated Meter Readers provide improved billing accuracy, reduction of billing errors, proactive leak detection and eliminate the need to enter customer's property.

- Wi-Fi multi-space parking meters reduce the frequency of trips by parking meter collectors and maintenance costs.

The technology improvements allow Hollywood to reduce structural costs and streamline city functions. As a result, it is able to deliver services to its citizens more efficiently, **saving the city $23 million** over the 15-year performance contract.

#2: A well-planned implementation adds value when it creates operational efficiencies and increases revenue.

As evidenced by the forecast for the city of Hollywood, the implementation of smart technology solutions creates measurable efficiencies and savings. But you might be surprised to learn how broadly those efficiencies reach. As an example, let's take a closer look at the operational efficiencies delivered by an Automated Meter Reading/Advanced Metering Infrastructure (AMR/AMI).

Most communities lose 10-20% of their water due to undetected leaks and aging meters. Today's technology can improve a community's water loss profile. With it, water, gas and electric utilities gather utility usage data from residential and commercial customers without manually reading meters. Instead, new meters contain a transmitter that remotely sends meter readings to the municipality. With a guaranteed level of read rate and read rate accuracy, this Advanced Metering Infrastructure (AMI) delivers a host of benefits:

- Reduced field costs: Because readings are transmitted remotely, municipalities can reduce or reassign meter reading staff and the vehicles they drive, reduce fuel consumption and vehicle maintenance.

- Improved customer service: By eliminating the possibility of human error or mechanical meter failure, customers are much less likely to receive inaccurate bills. In addition, the AMI allows the local governments to deliver *proactive* customer service through the technology's "alarm" feature. If a continuous flow of water is detected at a specific location, the AMI can trigger an alarm that, in turn, generates an automated call to that location.

- Increased billable revenue: Because a level of accuracy is guaranteed, municipalities can reduce unaccounted water loss due to theft or inaccurate meters.

- Increased forecasting accuracy: The AMI provides daily or hourly consumption records. By identifying peak demand at such a granular level, utilities can establish a detailed pattern of use for every account and use that data to more accurately forecast future needs.

- Reduced risk: Although the AMI technology has not fully matured, the risk associated with its performance (reliability and uptime) is transferred to the technology provider who, as part of a Performance Contract, assumes those risks during the technology's useful and efficient life.

#3: A well-planned implementation adds value when it meets constituent expectations.

Today's citizens expect local government to take advantage of technology. They want real-time access to information and the ability to conduct routine transactions online. They insist their communities use technology to enhance public safety. They demand local government utilize technology advancements to implement "green" initiatives. Community leaders who accept and embrace these expectations will be better positioned to attract new business, and recruit and retain bright minds.

Among college graduates, some studies show the commitment to "green" has become so important, even starting salaries take a back seat to "greenness" when students evaluate opportunities. While prevalent among members of Generation Y, the attitude toward social and environmental responsibility extends beyond the college campus. A U.S. Conference of Mayors' survey shows the majority of adults think green technology will create new local jobs make their communities better places to live. Local government leaders must be prepared to meet this growing set of eco-expectations through a demonstrated commitment to sustainability.

In the years since 9/11, public safety has also been top-of-mind among the citizenry. Communities must address the heightened awareness of threat vulnerability. During an emergency or disaster situation, community leaders need the ability to communicate effectively to ensure the safety and security of all residents.

Video surveillance, for example, is becoming an increasingly important tool for enhancing public safety. Advancements in video surveillance technology combine the benefits of digital video recording with sophisticated software that improves the way images can be monitored, analyzed and archived. Cameras can provide detailed images of faces and license plates, can zoom-in on suspicious activities and are equipped with analytics technology where cameras are programmed to recognize certain menacing activities, such as someone pointing a gun at another person, and set off alarms when criminal activity is spotted.

Success Story Snapshot:

Cook County, Illinois is home to the nation's largest broadband interoperable first responders' communications system. Called Project Shield, its goal is to enhance the safety and security of residents by putting directly in the hands of first responders the tools to manage emergencies swiftly and efficiently.

Project shield includes:

- Real-time video and data can be accessed directly in first responder vehicles, giving them breaking information about an emergency or disaster.
- Video and data can be exchanged between responder vehicles and vital management facilities, including the City of Chicago's Office of Emergency Management and Communications.
- Video surveillance can be exchanged between the City of Chicago's Office of Emergency Management and Communications and other critical infrastructures such as regional water treatment plants.
- It enables an Emergency Alerting capability that will allow a single message to be broadcast to multiple mediums, including PCs, mobile data terminals, wireless handheld devices, cell phones and pagers.
- Cook County Communications Command Center, commonly referred to as C5. C5 has the ability to integrate all regional and statewide public safety communications systems for listen-only as well as two-way voice traffic with any other network programmed into the system. In addition, C5 has the ability to enable interoperable push-to-talk capabilities between standard cell phones and PDA's with public safety land mobile radios.

The system serves as a model for communities around the world to gain a better understanding of how an integrated wireless communications system meets constituent expectations for a safer, more livable community, and simultaneously delivering value by creating efficiencies.

#4: A well-planned implementation creates value by taking advantage of funding opportunities.

While the opportunity exists like never before to use technology to improve public safety, create connected communities and generate savings, a *well-planned* implementation creates value when it takes advantage of available sources of funding. Both Performance Contracting, and the American Recovery and Reinvestment Act (ARRA), also known as the "2009 stimulus bill," make it possible for communities to stretch dwindling operational funds; to improve public services and create energy efficiency – without budgetary pressure.

Performance Contracting is a procurement tool that enables communities to leverage future savings, guaranteed by a third party, to pay for improvements made today. Once the third-party contract is fulfilled, ongoing savings can be used by local governments to implement additional infrastructure improvements.

Performance contracting allows communities to do more with less.

- It has no impact on capital budgets
- It maximizes existing budgets
- It addresses deferred maintenance
- It minimizes risk through guaranteed results

Stimulus dollars complement, and can be used to leverage, Performance Contracting dollars. The American Recovery and Reinvestment Act (ARRA) was passed into law in February of 2009 and is designed to create and save jobs, jumpstart the economy, and build the foundation for long-term economic growth. The Act directs federal agencies to quickly invest in improved energy efficiency and modernization projects, as well as to increase the use of renewable energy sources. The ARRA includes, for example, $4.7 Billion dollars to improve broadband access for public safety agencies.

Because states are encouraged to use ARRA funding to support long-term projects, Performance Contracting can be used to either fund ARRA projects outright, leading to savings sooner in the process, or the funds can be used to stretch the project to include more long-term efficiency measures, such as renewable energy, making both the short- and long-term energy impact greater ability to bundle short payback.

A well-planned technology implementation takes advantage of these funding opportunities to maximize impact and minimize drain on operational budgets.

#5: A well-planned implementation creates value when accomplished by experts.

To meet the challenges posed by creating a safe, sustainable community in today's economy, local governments need experienced, highly capable partners with deep resources. Johnson Controls has a track record of successful performance on thousands of energy efficiency, facilities improvement and integrated technology projects.

Local Government Experience

Johnson Controls improves the physical and financial health of communities. The company partners with local governments to develop comprehensive programs that support the achievement of a sustainable community – from green buildings and renewable energy to water and infrastructure improvements. As a community partner, Johnson Controls provides the technology expertise and funding strategies to implement projects that reduce waste, improve the environment, upgrade technology and reduce operating expenses.

Performance Contracting Experience

Johnson Controls has an active portfolio of over $4.6 billion in performance contracting guarantees – the largest portfolio in the U.S. The critical component of the Performance Contracting program provides customers with annual performance data to share over the life of the contract. This measurement and verification ensures those projects are successfully managed.

Technology Contracting Experience

Johnson Controls® Technology Contracting™ is positioned to make your technology vision a reality. Designed for a world that needs information anytime, anywhere, Technology Contracting provides the network infrastructure required for wired or wireless connectivity throughout a community.

Resources

Johnson Controls' dedicated team of experts deliver cost effective project execution through more than 150 branch offices. Our branch offices understand the local conditions, regulations, suppliers and small business alliances that make every project unique. In addition, Johnson Controls has a fully staffed ARRA Program Office, which leads our ARRA efforts. Staffed with a cross-functional team of analysts, engineers, attorneys and grant writers, our ARRA experts are charged with understanding and maintaining the standards required by ARRA.

Conclusion

A well-planned technology implementation adds value when it is comprehensive, creates operational efficiencies, meets constituent expectations, takes advantage of funding opportunities and is accomplished by experts. Johnson Controls delivers on all counts.

Let us show you how to create a safe, sustainable community in this challenging economy.

DID YOU KNOW?

Every $1M spent with Johnson Controls on an energy efficiency project is estimated* to generate:

· Up to $3 million of new spending

· Up to 26 new jobs

*BUREAU OF ECONOMIC ANALYSIS, DEPARTMENT OF COMMERCE, RIMS II MULTIPLIERS

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