What "Smart Cities" Means to a Special District

By Greg Duecker

Local government communities around the world have packaged some of their innovation, technology, education, and community engagement initiatives into frameworks called "Smart City", "Smart Community", or even "Smart Region" as far back as the 1990's. However, innovation in cities actually goes back as long as there have been cities, usually with the most innovative cities being the most successful (such as aqueducts allowing the growth of ancient Rome).

"The concept of Smart Cities is not new, it is just new to us" (Bob Bennett, CIO, City of Kansas City).

Recent game-changing technology advances have accelerated the popularity and affordability of modern approaches to Smart City concepts. Technology advances include better broadband access, improved mobile access to information, and the increased availability of sensors that result in the Internet of Things (IoT), among many other advances. A Smart City has many definitions, and the specifics of what it includes varies from place to place. Typically, a Smart City initiative has several common goals:

- Make better use of physical assets/infrastructure through digital and analytical means. This can include improved operational efficiency, more access to information, and more-informed decision-making because of the information provided
- Consider and address digital equality issues (e.g., do all constituents have the same access to broadband and online technologies)
- Uses tools to provide services for improved quality of life, engaged constituents in governmental work processes and increased transparency (e.g., online 3-1-1 applications and Open Data policies)

As a technology professional with a 35-year background split between the environmental/engineering consulting industry and the water utility industry, my exposure to Smart City concepts has been peripheral at best. To a water district, the idea of Smart Cities has been just another thing that makes us different from cities, like running a fire department or having libraries. As such, I am new to the concept, so I asked myself, what, if anything, does "Smart City" have to do with Special Districts?

To dig into this question, I attended the MISAC-sponsored first annual City Launch Conference in San Diego in March of 2019 to see what I could learn. Here are the main points from what I learned, including how they might apply to my water district.

> **Smart City is a strategy and a framework, not just technology.** Although the concepts rely heavily on technology to succeed, these are not technology initiatives. Smart City concepts are frameworks with defined policies, goals, and objectives that should come from and be supported by the highest level of the organization. It is a strategic approach to changing the way an organization works and changing how the organization interacts with its constituents. As one conference attendee said, "I have been to a number of these over the years, and it used to be all technologists that attended. Now city council members, mayors, and other decision makers attend. This is an important shift in how cities move forward in making these ideas real."

Because of these factors, implementations require strong cross-departmental cooperation and collaboration to "get it right" and serve the residents the best possible outcomes. This collaboration can be very challenging but is a necessary component of success.

There are important similarities between the city/resident relationship and the utility/customer relationship. Citizens are likely to lump cities and utilities as "the government" that provides rules and structure while also providing needed services. The specifics of services provided can be very different, but most residents will focus on the similarities and not think about the differences. As cities implement Smart City initiatives, residents' expectations of their utilities will begin to match what they are experiencing from their city.

A vocal minority (and in many cases, a quieter majority) want their utility to make similar service enhancements that come from a Smart City initiative. Utility customers want to see their water use in real-time, have more information on how rates are set, be able to report a water leak from their phone, schedule the start or stop of service when the utility's office is closed, and to have more access to the decision-making process.

If a nearby city is doing something that has a direct parallel in a water district, constituents will expect the comparable capabilities in both organizations. Examples include:

- If local cities livestream/broadcast their council and committee meetings, constituents will want the same from their water district
- If a local city publishes Open Data on their web site with financial, mapping, and other reporting data, constituents will expect it from their utility as well.

There are many technologies coming that may not have a parallel in a water district, nevertheless the very existence of new capabilities will change expectations. For example, although a water district does not deal with city 3-1-1 type services, constituents that are used to these conveniences might ask why the water district is not using smart meter reading capability along with a customer portal in order to access and monitor their water usage information.

Nearby Smart City advancements may affect special districts operationally and financially. For example, Ryan Snyder of the Transpo Group presented a fascinating keynote address on the coming tide of autonomous vehicles (self-driving cars). Transpo predicts that 22-59% of all cars on the road will be partly or completely self-driving by 2025. When this happens, local governments are likely to adapt roadways to new configurations; these changes can take the form of street width, purpose and number of lanes, parking, curbside operations, and many others. How might this impact water districts and other utilities? Most water and sewer lines and other support facilities are directly under these streets or along adjacent sidewalks and utilities need to use large equipment in the public right-of-way. Road changes may require changes in operational procedures for construction, emergency repair, maintenance, and general access. Water Districts should be involved in city planning/decision-making when these changes are considered so that districts can continue to ensure a reliable, safe water supply for its customers.

Many projects on a water district's planning horizon are consistent with a Smart City-type Program. For example, my agency is currently planning for or has underway a number of initiatives consistent with these concepts:

- Meter replacement project using advanced metering infrastructure (AMI) technology with an online portal to allow customers to better monitor and control their water use
- Strategic Communications Plan with several actions to better inform and engage with our customers, many of which will be technology-driven
- Document/Content Management System that will allow greatly increased access to District documents by the public
- Rolling out an in-house drone program to support public outreach (video) and inspections of properties and assets to improve operational efficiency
- Increased rigor to Capital Improvement Program development, to prioritize how the limited supply of constituents' money is spent.

There is power in collaborative multi-agency or regional programs. Several San Diego-area cities (including, but not limited to San Diego, Carlsbad, and Chula Vista) are currently engaged in developing a "Smart Region" framework. This framework can be used to leverage the power of scale as well as be shared with other cities and agencies in the region when they are ready to move forward with similar initiatives. These programs can be difficult and expensive for individual agencies, but with collaboration, the brain trust is greater, the common challenges are handled once rather than repeatedly, and perhaps most importantly, the improvements do not stop at a city line. The whole region will benefit from common solutions.

I have heard critics of Smart City concepts argue that this is all a marketing ploy hyped by vendors to sell products and services, and that these changes are happening whether they are wrapped in the label of Smart City or not. There may be some truth to this, but I believe there is more to it than that. Having well-established strategies, goals and priorities, and then selecting solutions that address those goals has value in making sure the entire team is working in the same direction, that the constituents get real value from the program, and that the city/agency can communicate these changes in a meaningful way.

Although the term Smart City technically does not apply to a Special District, doing the same thing under the banner of Smart Utility or Smart Community has the power to focus how the district operates and how it engages with its customers in a deliberate strategic manner.

Greg Duecker is Director of Administration/Information Technology at Western Municipal Water District (WMWD) in Riverside California. Opinions in this piece are his own, and may not reflect those of WMWD. Thanks to the many presenters and attendees at the Connected Communities conference provided excellent insight into this topic.