



# The Connected Smart City

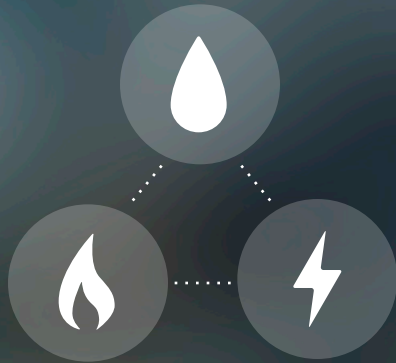
Building a foundation for the future

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## SMART CITIES. SUSTAINABLE FUTURE.

As cities around the world face aging infrastructure, growing urban populations, government mandates, and shrinking budgets, managing energy and water is critical to ongoing economic prosperity, resource conservation and social well being.

## WHAT DOES IT TAKE TO BUILD A SMARTER CITY?



Engaged,  
visionary  
leadership.



Collaboration and  
cooperation – the  
willingness to share  
information and  
technology.



The willingness to act,  
to make decisions,  
**to make a declaration.**

**A SOLID FOUNDATION**

## SMART ENERGY AND WATER

The measurement, management, and analysis of energy and water production, delivery, and consumption are critical.



- » Intelligent meters and sensors positioned throughout the system, enabling efficiency, conservation, and effective balancing of supply and demand
- » Location-aware devices detect and locate theft as well as provide accurate, timely event information such as outages and leaks
- » Provide city planners, businesses, and consumers with detailed consumption information, enabling them to become more resourceful about their energy and water consumption

## IT BEGINS WITH THE NETWORK

A scalable, secure, reliable communications network is critical to the success of every smart city.

- » Leverage existing networks if in place: utility (RF, PLC), telecom (cellular), WiFi, cable (coax, fiber)
- » Utilities are uniquely qualified to build and deploy dedicated infrastructure networks



# LEVERAGE THE POWER OF DATA

- » Smart devices provide real-time data
- » Data sharing opens new possibilities
- » Analytics turns data into insights
- » Data can be shared across city departments
- » Drive awareness for behavioral change

Expertise to solve our customer's business need with outcome-based solutions

# **10 Tenets of a Connected Smart City**





More and more people are living in cities. In fact, more than 50 percent of the population live in cities today. This growth, coupled with the need to better manage vital resources, is driving the connected smart city. At the core of every resourceful city are 10 tenets that enable tomorrow's thriving cities.



## 1 | adopt industry best practices

Central to any smart city is collaboration. A smart city learns from a cross-section of business, non-profit, government and academic leaders, and adopts best practices to accelerate smart city initiatives.

**Envision America – Helping America’s Cities Become Smarter:**  
Envision America is a nationwide nonprofit established to share best practices and challenge America’s cities to utilize smarter resource conservation technology, build a cross-sector collaborative model and commit to developing innovation for the improved quality of life for citizens.



## 2 | break down silos

A truly smart city breaks down traditional silos and shares information not only within city departments, but outside its walls with various stakeholder groups. Only through an integrated approach, open communication and cross-sector collaboration will a smart city thrive.

**City of Bismarck and Montana-Dakota Utilities Company – Demonstrating Resourcefulness:** Demonstrating the epitome of collaboration and communication, the water department at the City of Bismarck, North Dakota is managing the delivery of water with the network deployed by electric and natural gas provider Montana-Dakota Utilities Company. The public-private partnership is the first instance in which two utilities are cooperating to share a communications network where a city’s entire meter population is being managed.



### 3 | prioritize open-standards network infrastructure

A single multi-service/multi-purpose network creates the foundation for a smart city. With sensors and intelligence embedded in every device, the network provides the backbone for all city connections.

**BC Hydro – Extending Value with a Multi-Application Network:** BC Hydro, which serves 1.9 million electricity customers throughout British Columbia, Canada, is taking advantage of an Internet Protocol (IP)-based, multi-application network to improve business operations and offer greater value to their customers. The network enables new applications and capabilities developed internally or by third party developers, such as distribution automation monitoring, intelligent demand response, smart street lighting and electric vehicle charging stations, all over a common network for city services.





## 4 | create an open pathway for innovation

Committing to an open network will allow for interoperability and innovation. With open development processes, new technologies and applications that haven't been imagined yet can become a reality, creating numerous possibilities for smart cities.

**Itron Developer's Community – Inviting Innovation:** The Itron Riva™ Developers Community invites developers to participate in innovation and create apps for smart cities and the Internet of Things (IoT). Leveraging the power of many, the developer's community accelerates innovation to create an ecosystem of IoT apps for industries, including energy and water management, building energy management, smart street lighting and solar monitoring.



## 5 | leverage the power of data

Data sharing and analytics are instrumental to getting greater value out of the technology. Smart devices provide real-time data, and analytics turns that data into insights that can be shared across city departments.

**Envision Charlotte – Driving Sustainability Goals with Data:** Using energy, water, waste and air quality data, Envision Charlotte, a successful smart city initiative in Charlotte, NC, is connecting people with information to drive sustainability goals. By driving awareness and behavior change, Envision Charlotte is reducing waste in the city’s urban core. Since 2011, the initiative resulted in a 16.4 percent reduction in energy usage, which equals about \$17 million in savings.



## 6 | deliver safe and reliable resources

Energy and water resources are critical to a city's prosperity and sustainability. A smart city ensures the safe and reliable delivery of energy and water resources through modernized infrastructure, leak detection and sensing technologies.

**Malta – The World's First Smart Island:** Located in the heart of the Mediterranean, Malta is a group of small islands that is home to roughly 400,000 people, putting an immense strain on energy and water management. To ease this burden, Malta rolled out smart grid and smart water technology to achieve its smart island goals.



## 7 | drive economic growth

Cities need a competitive edge to secure new economic investments, retain skilled workers and attract entrepreneurs and companies. Driving city-wide efficiencies through smart city initiatives and subsequently lowering the cost for companies to do business lays the groundwork for economic growth.

**Tianjin Eco-City – A Model for Sustainable Development:** The Sino-Singapore Tianjin Eco-City in Tianjin, China has a vision to be a thriving city that is socially harmonious, environmentally-friendly and resource-efficient. The city is creating efficiency and the foundation for economic development through the use of smart gas, water and heat technologies that enable the resourceful delivery and use of energy and water.





## 8 | empower sustainability

A smart city is a sustainable city. From providing incentives to reduce energy, water and carbon footprints to integrating renewable energy, empowering citizens to be environmental stewards through programs and technologies helps create a more resourceful city culture.

**Glendale Water & Power – Promoting Conservation:** Glendale Water & Power, located in Southern California, was the first American utility and municipality to receive smart grid stimulus funding. The city is using smart grid and smart water technologies to promote conservation efforts and help citizens better monitor and understand their energy and water usage.



## 9 | engage participation

A successful smart city creates the foundation to engage, inform and empower its citizens. Mobile apps create greater awareness and action among citizens to reduce energy, save water, eliminate waste and improve air quality.

**DTE Energy – Creating Real-time Energy Awareness:** Detroit-based DTE Energy, one of the nation’s largest diversified energy companies, empowers thousands of its customers to save money by using its own DTE Insight mobile app. The app allows customers to discover how, when and where energy is being used in their home so they can reduce their usage and save money.



## 10 | lean on partners and experts

The pathway to developing and implementing a smart city is far bigger and more complex than any one company or entity. Managed services can help a city more quickly realize smart city benefits by relying on industry experts to manage and oversee day-to-day IT system operations.

**Tonga – Creating a Smart Island Leveraging Managed Services:**  
In the South Pacific, Tonga Power Limited (TPL) is installing smart grid technology, which features open standards and enables distributed intelligence, to help meet its goal of becoming a smart island. TPL will use managed services for overall system management and maintenance of Itron's cloud-based services for data collection.

THANK YOU



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