SMART CITIES – TURNING INFORMATION INTO ACTION

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SMART CITIES COUNCIL
The tools for taking action
Cities are our hope for the future
But they face enormous challenges

Aging infrastructure
Falling budgets
Growing populations
Congestion
Crime
Climate change
Etc., etc.
To get where they need to go, cities must get smart.

“For those of us living in cities, – we need to make sure they are smart cities. Nothing else makes sense. And nothing else is such a worldwide economic opportunity.”

Neelie Kroes
Vice President
European Commission
Why a smart city?

The world is flat
  - Workability

The world is hot
  - Sustainability

The world is mobile
  - Livability
What is a smart city?

Uses information and communications technology (ICT) to enhance livability, workability and sustainability

A city that shares infrastructure, costs, data and policies across departments to understand the city as a whole

A city whose infrastructure can report on its own condition and can be controlled remotely:

- Get a full picture in real time (situational awareness)
- Optimize conditions at the speed of computers
- Predict problems before they occur
How do you get to a smart city?

Create a vision of your future
- Where do you want to be in 20 years?

What are your strengths?
- Signature facilities, signature industries, trained workforce, fiber optic network, airports

What are your challenges?
- Congestion, education, Internet access, water, energy

What are your aspirations?
- Tourism, high-tech hub, industry cluster, regrow downtown, improve public safety, cultural center
How do you get to a smart city?

Create a smart city taskforce
- Visionary leader
- Involve all stakeholders

Find the intersections
- Where can you address challenges that bolster your strengths and advance your aspirations

Think big but start small
- Look for quick wins
- Smart transportation, energy efficiency, smart grid, smart water, smart street lights, smart policing, smart payments, digital government services, Open Data
We equip cities for their journey to a better, smarter future
We help cities build a roadmap to a better future

SMART CITIES READINESS GUIDE
The how-to manual for building tomorrow’s cities today

SmartCitiesCouncil
LIVABILITY | WORKABILITY | SUSTAINABILITY
We help cities find the money to get smart

SMART CITIES FINANCING GUIDE
Expert analysis of 28 municipal finance tools for city leaders investing in the future

Developed by the Center for Urban Innovation at Arizona State University
Tools, guides, case studies and other resources

SmartCitiesCouncil.com
RUSS VANOS, SENIOR VICE PRESIDENT STRATEGY AND CORPORATE DEVELOPMENT ITRON

The technology that forms the foundation for smarter, sustainable cities
The way we manage energy and water will define this century. By applying knowledge and technology, together we can create a more resourceful world.
THE FUTURE DEMANDS COLLABORATION
MOVING TO SMART EVERYTHING

The digital world is here

» Internet of things is driving innovation across industries
» Multiservice networks breakdown information silos
» Creates new possibilities
TECHNOLOGY INNOVATIONS
Leveraging tools today for a smarter tomorrow

» Mobile insights app
» Smart Street lighting
» EV smart charging
» Parking structure sensors
EXCITING THINGS ARE HAPPENING NOW

» Envision Charlotte
» DTE Energy Smart Cities Demonstration Project
JASON ZOGG, URBAN PLANNER & STRATEGY ANALYST
DTE ENERGY

Smart city demonstration project in action
Purpose & Objectives of demonstration project
Selected project highlights
Collaboration: focus on your anchor institutions
Leveraging the urban planning community as champions
Thoughts on reaching the hearts and minds of utilities
Collaboration

- Itron
- DTE Energy
- Detroit Future City
- City of Detroit
- Cisco
- Neighbors, Stakeholders, and Property Owners
Purpose Statement

In collaboration with committed partners, develop, fully implement, test and present a set of demonstration projects within 7 months from March-September that add value to DTE, the district, or the City of Detroit, that are relevant to the smart city technology or sustainable development movements, and are feasible to complete within the timeframe.
Objectives

- Demonstrate urban thought leadership
- Ensure that projects are scalable and relatable to the audience
- Build the city’s aptitude and capacity for this type of rapid experimentation, using the DTE district as the canvas
- Align with and support the vision of Detroit Future City
- Ensure this demonstration has a long-term on-going legacy
- Use the MoM conference as the impetuous to drive ambitious value added improvements in a short period of time
Itron Insight App
City Leaders

Itron Insights

Dashboard

- **YTD Expenses**
  - $2,148,512
  - 2%

- **Revenue**
  - $6,093,053
  - 8%

- **Expenses**
  - $5,131,738
  - 11%

- **YTD Non-Revenue**
  - $408,888
  - 16%

- **YTD Footprint**
  - 35,000 KG CO₂
  - 1%

- **YTD Expenses**
  - $120,000
  - 4%

- **Carbon Footprint**

Alerts & Tasks

- **ALERT - Unusual electricity cost**
  - Net 9% increase from last year towards electricity expenses on "Educational Institutions" category might be attributed...
  - 9%

- **ALERT - Unusual electricity cost**
  - 148% net increase from last year towards cumulative water volume loss in zip code 93177 might be attributed to mild...
  - 148%
Application Benefits

- Collaboration: citizens – city - corporations
- Bridging the silos of smart city technologies
- Engaging experience

Issue Reporting
Energy/water
Crime/Traffic/Parking
EV Charging
Smart City Education Kiosk

- Interactive
- Educational
- Collaborative
- Reward based

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- Energy
- Water
- Public safety
- Transportation
- Waste
EV Smart Charging

- Integrated communications and metrology
- Extends Smart Grid Intelligence
- Leverages DTE’s AMI
- Special rate tariffs
- Load management
Intelligent Streetlighting

- Itron/ Cisco IPv6 wireless network
- Internet of Things
- Alert indicator
- Digital street sign
- Digitally controlled floodlight
- Lighting control
- Sound system
- Camera system
- Digital video banner
- Blue call button
Parking Structure/Signal Integration

• **Problem**: Employees facing occasional backups in the MGM garage of several hours. Important to help manage and support shared parking in Detroit.

• Adaptive traffic signals linked to MGM garage

• Signals throughout the demonstration area
Additional Concepts Along the Way?

Targeted List of “Microprojects”

- Some are inside DTE
- Some are outside DTE
- All are scalable and applicable to a large audience
- Anything that supports DTE’s operations is supporting smart city systems

General Demonstration District
Collaboration: focus on your anchor institutions

THE ROLE OF ANCHORS IN COMMUNITY REVITALIZATION

- **Real Estate Developer**
  - Using real estate development to anchor local economic growth

- **Core Product or Service**
  - Tailoring core products/services to serve the community

- **Community Infrastructure Builder**
  - Providing resources and expertise to build local community capacity

- **Cluster Anchor**
  - Stimulating growth of related businesses and institutions in the community

- **Purchaser**
  - Directing institutional purchasing toward local business

- **Employer**
  - Offering employment opportunities to local residents

- **Workforce Developer**
  - Addressing workforce needs of the cluster

COMMUNITY AND ECONOMIC VITALITY

EcoDistrict is a new model of public-private partnership that emphasizes innovation and deployment of district-scale best practices to create the neighborhoods of the future - resilient, vibrant, resource efficient and just.

Image: Southeast False Creek, Vancouver CA. The neighborhood energy utility system provides space heating and hot water to new buildings in Southeast False Creek, including the Olympic Village.

ADAPTED FROM "ANCHOR INSTITUTIONS: AN UNTAPPED RESOURCE" BY INITIATIVE FOR A COMPETITIVE INNER CITY (2011)
• History of pushing society forward
• The latest EIA data
• The Kodak comparison
• The Future of Utilities: The City Systems view
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QUESTIONS?
Your chance to ask the experts
THANK YOU