

Principles for **Smart Cities**

What is a **Smart City**?

A Smart City uses new technologies to efficiently manage, distribute, and utilize civic resources

Smart Cities are fundamentally different from cities of the past

Next-generation technologies allow for an evolution in how communities are managed

Next-Generation Technologies

Intelligent Transportation Systems (ITS)

- connected vehicle technology / autonomous vehicles
- smart traffic signals



Smart Buildings

- autonomous HVAC systems
- autonomous lighting systems

smart building



E-Governance

- online municipal services
- transparent and accessible information

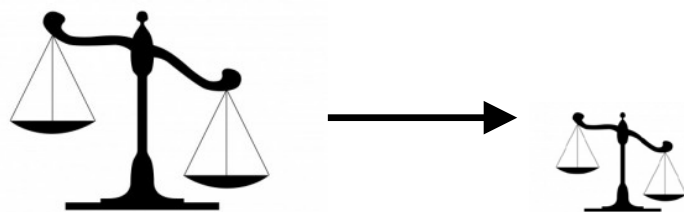


Can Smart Cities Reduce Inequity?

Will Smart Cities expand access to key resources and opportunities?

How can we implement next-generation technologies so their benefits are distributed broadly and equitably?

How can we retain control of these new technologies and their impact on our civic infrastructure?

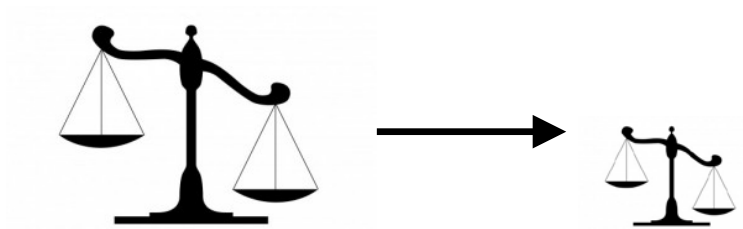


Can Smart Cities Reduce Inequity?

How can we avoid the monolithic control of our communities by the Big Tech industries?

How can we create a connected web of locally robust, self-reliant communities?

We believe the following principles will help.



Principles for Smart Cities

Compatible versus incongruent

Dependable versus vulnerable

Flexible versus singular

Teachable versus esoteric

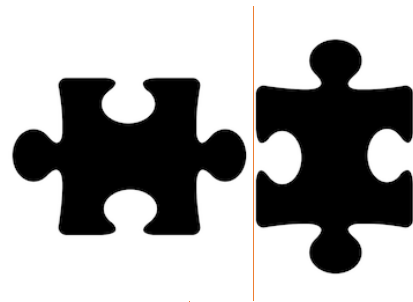
Public versus proprietary

Compatible versus Incongruent

Next-generation technologies must be developed to work together synergistically

Compatible technologies enable multi-system analytics

Compatibility allows us to leverage existing technologies

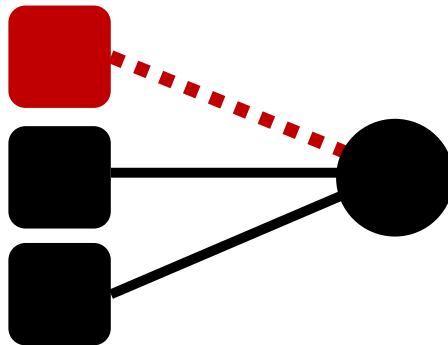


Dependable versus Vulnerable

Dependable infrastructure maintains efficiency in the long-term

There must always be a backup plan

Utilize both the digital and the physical

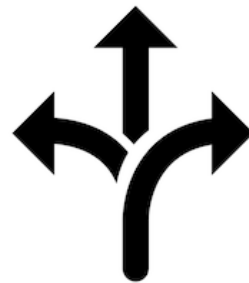


Flexible versus Singular

Technologies must be flexible, customizable, and adaptable in order to prepare for an unknown future

Must adopt an attitude of open anticipation in preparing for Smart Cities

Must invest in multi-purpose opportunities (not singular solutions)



Teachable versus Esoteric

Smart City applications must be broadly accessible, learnable, and useable

Municipal caretakers must not be at the mercy of Big Tech – cities must control the tools for maintenance, adaptability, etc.

Municipal caretakers must be able to speak to and understand each other to develop multisystem synergies



Public versus Proprietary

To the extent possible, make municipal records and procedures transparent and accessible

Utilize an E-Governance platform

Encourage shared access – avoid restrictive services



What do these principles look like
in action?

Smart City Technologies: InfiniteGIS

Leverage resources from multiple agencies

Preserve institutional knowledge

Forecast maintenance needs and capital improvements



Smart City Technologies: InfiniteGIS

Make information available to users anywhere, anytime, anyhow

Develop intuitive applications and create user-friendly analyses



Smart City Technologies: Centralized System Management

Tie together disparate systems with an Application Programming Interface (API)

View municipal records through a single pane of glass



Smart City Technologies: Government-to-Citizen Services

Enable the online submission, review, and tracking of municipal permits, licenses, and other applications

Promote transparency in municipal decision-making, and activate citizen participation



Smart City Technologies: **AWS and the Cloud**

Use AWS networks and cloud infrastructure to unlock dynamic growth

Plan for operational expenses versus capital expenses



Smart City Technologies: Internet-of-Things

Integrate data with the physical world to better understand how people use cities

Improve decision-making and operate more efficiently with in-depth analysis of municipal services



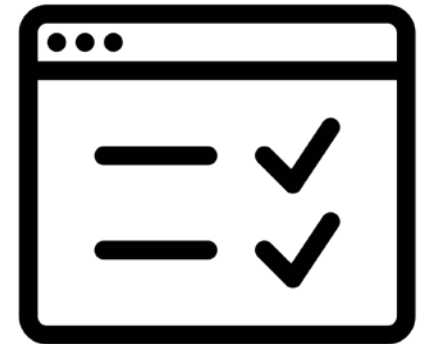
Smart City Technologies: **Potential Future Applications**

Smart City Technologies: Testing Planning Theories

Urban Design and Public Places

Stormwater Management and Housing Values

Public Transit and Customer Generation



Smart City Technologies: Sustainable Infrastructure Financing

Sustainable infrastructure can generate operational efficiencies

Long-term savings from operational efficiencies can be measured precisely with Smart City technology

With solid accounting and reliable metrics, new financing tools can be created to encourage the implementation of sustainable infrastructure



What **Smart City Planning**
does Wisconsin need?

Smart City Planning for Wisconsin

The region would benefit from a clearing house and conduit for Smart City applications

- Expand the toolkit for Smart City planning
- Promote the application of Smart City tools
- Develop a regional Smart City implementation plan

Other ideas?