Smart City roadmap update + 5G grant opportunity

For Community Technology and Telecommunications Commission
November 14, 2018

Daniel Honker, Office of Innovation
Ted Lehr, Communications & Technology Management

Contents

1

Update on smart city roadmap activities

"What makes these technologies smart isn't just their connectedness. It's how we're using them to connect communities equitably to new opportunities.

The communities that usually get left behind are first in line for this Next Big Thing."

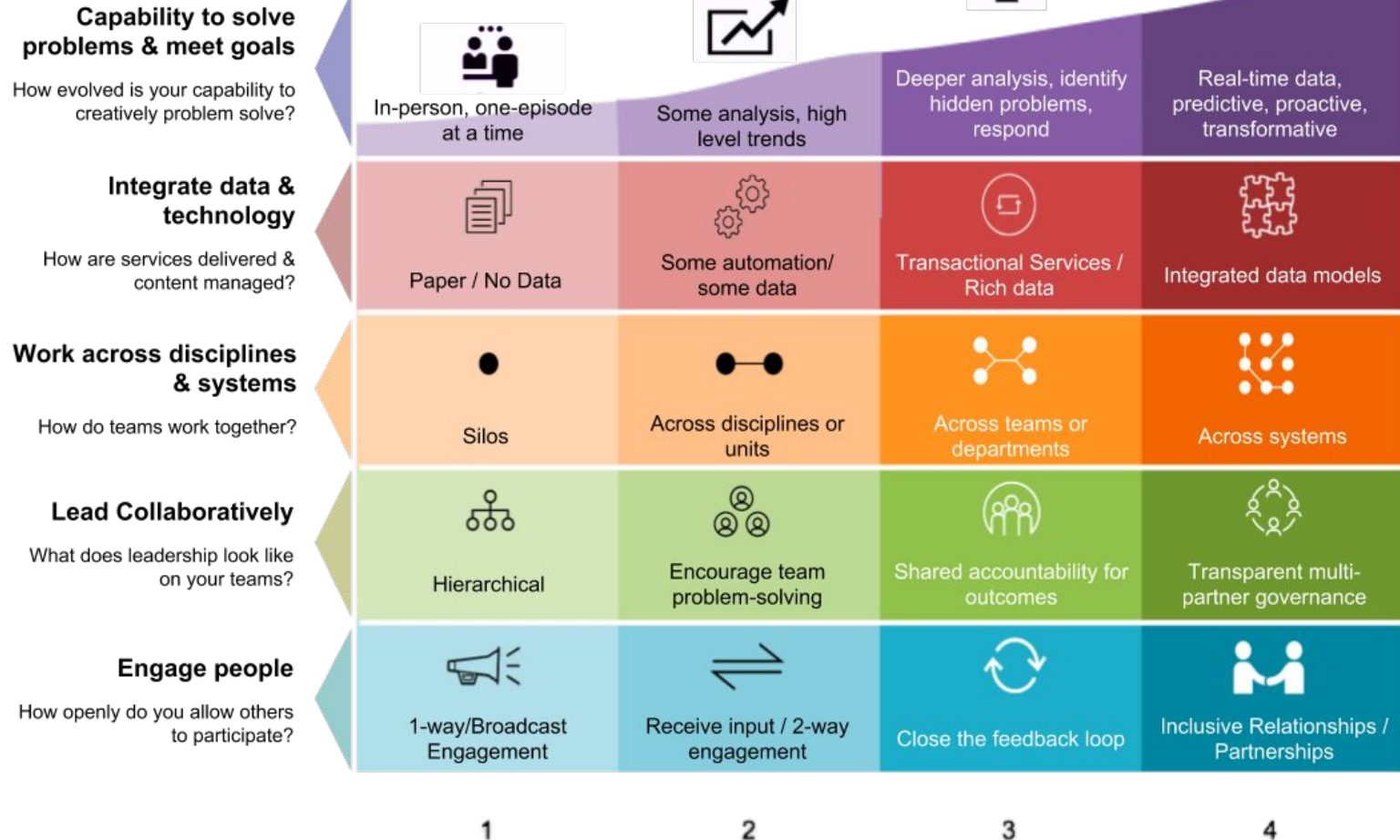- Mayor Steve Adler, Sept. 2016

Austin's Smart City Definition*

We are a city that becomes **increasingly efficient** in **solving real problems for real people** by:

Open

(i) engaging stakeholders and users,

(ii) leading collaboratively,

(iii) working across disciplines, departments, and city systems; and

Smart

(iv) using data and integrated technologies

to transform services and improve quality of life with and for **_all_ Austinites,** businesses, and visitors.

* Derived from the International Standards Organization definition

Transformation doesn't happen overnight

Category	1	2	3	4
Capability to solve problems & meet goals — How evolved is your capability to creatively problem solve?	In-person, one-episode at a time	Some analysis, high level trends	Deeper analysis, identify hidden problems, respond	Real-time data, predictive, proactive, transformative
Integrate data & technology — How are services delivered & content managed?	Paper / No Data	Some automation/ some data	Transactional Services / Rich data	Integrated data models
Work across disciplines & systems — How do teams work together?	Silos	Across disciplines or units	Across teams or departments	Across systems
Lead Collaboratively — What does leadership look like on your teams?	Hierarchical	Encourage team problem-solving	Shared accountability for outcomes	Transparent multi-partner governance
Engage people — How openly do you allow others to participate?	1-way/Broadcast Engagement	Receive input / 2-way engagement	Close the feedback loop	Inclusive Relationships / Partnerships

Design, Technology, and Innovation Projects

bit.ly/ATX-smart-roadmap

Work with us

AUSTIN'S SMART CITY INITIATIVE

Smart city vision

Defining "smart city" for Austin

Becoming an open and smart city

How we got to now

Projects

Who we are

Get in touch

Smart city vision

Let's use technology to solve real problems for real people

The "smart city" movement has swept the globe. Cities like Austin are booming with interest in how we might use data, algorithms, automation, and increased connectivity to improve services. From smart lighting that adjusts to people's movements, to self-driving cars, to aerial drones for disaster response, these technologies promise improvements in public safety, mobility, and sustainability, to name a few. The problem is this: too much of the smart city conversation focuses on the technology itself, at the expense of real issues people are facing.

In Austin, we're thinking about how we might use these tools to solve real problems that impact real people.

This means looking through the lenses of equity, sustainability, and accessibility (to name a few) to understand the challenges facing Austin communities – rather than starting with technology and trying to find problems it can fix.

Where we are now: Building our capability to use emerging technologies in equitable and sustainable ways
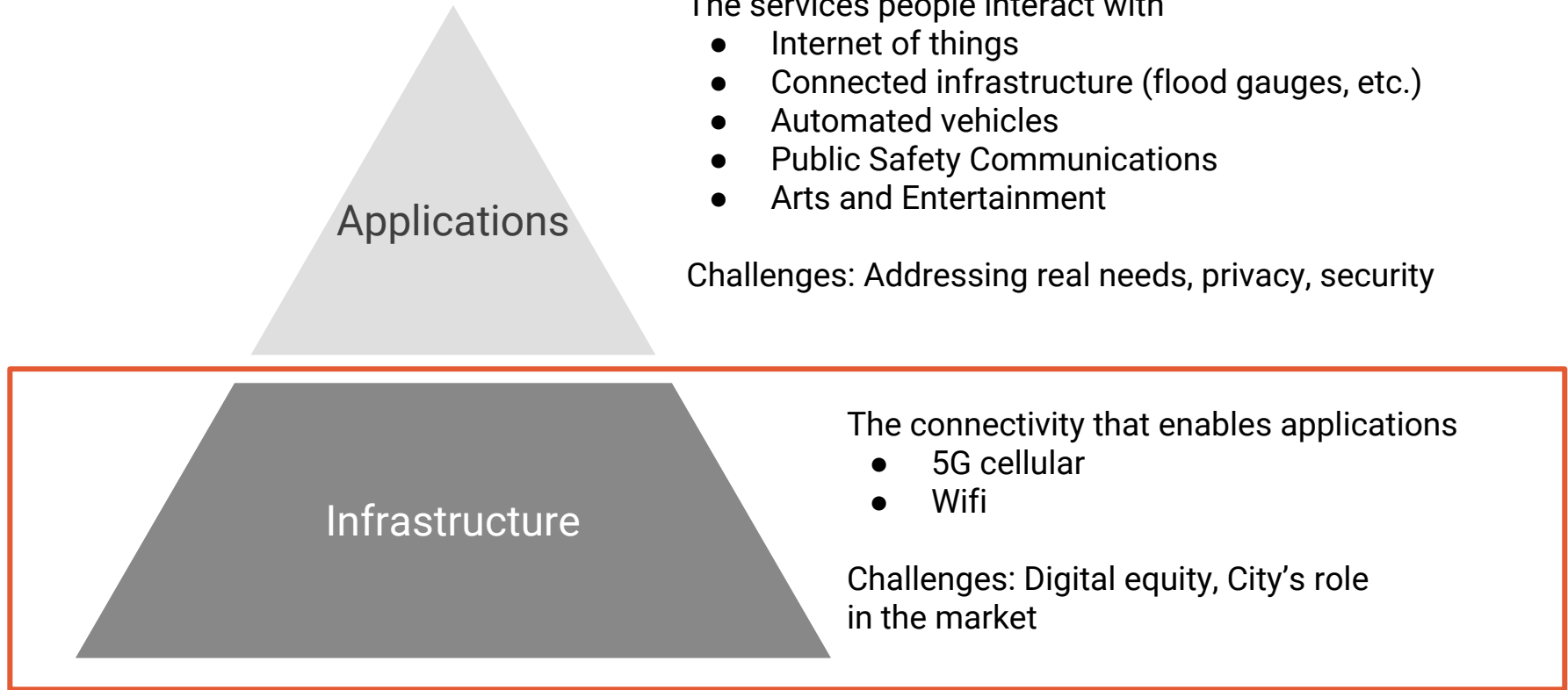
Focus areas:

Inform City staff on emerging technology issues and trends

Explore ways the City gov can ensure equitable use and benefit of smart city technology

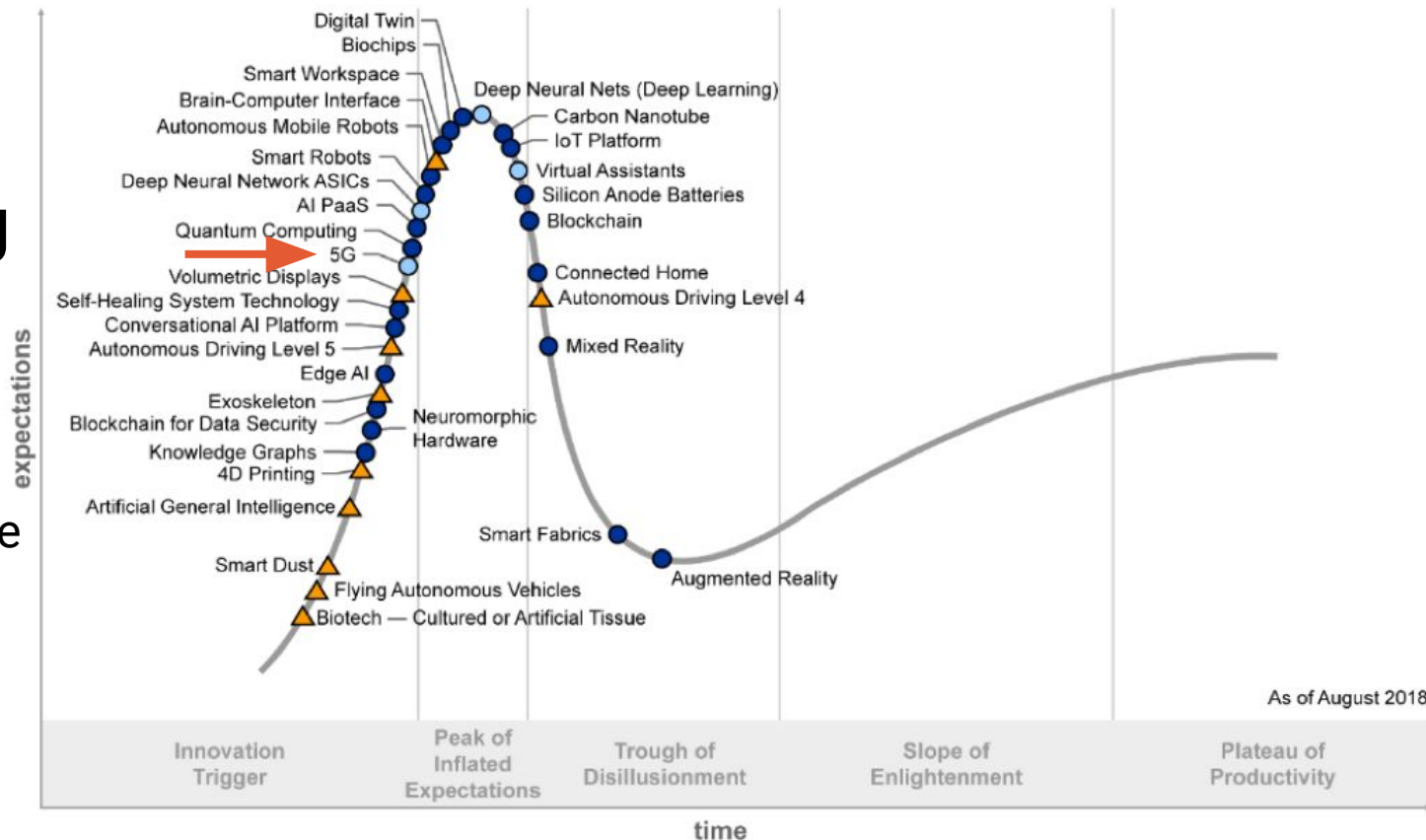Create shared resources with legal, policy, and contracting guidance for technology projects

Create a communication and content strategy for Austin's smart city initiative

The infrastructure challenge

Applications

The services people interact with
- Internet of things
- Connected infrastructure (flood gauges, etc.)
- Automated vehicles
- Public Safety Communications
- Arts and Entertainment

Challenges: Addressing real needs, privacy, security

Infrastructure

The connectivity that enables applications
- 5G cellular
- Wifi

Challenges: Digital equity, City's role in the market

5G is in a research and testing phase

Emerging technologies hype cycle, 2018

As of August 2018

Plateau will be reached:
○ less than 2 years   ○ 2 to 5 years   ● 5 to 10 years   △ more than 10 years   ⊗ obsolete before plateau

© 2018 Gartner, Inc.

2

Current opportunity: NSF 5G grant proposal

Grant opportunity for advanced wireless research

Grant purpose: Fund research platforms that accelerate the nation's wireless innovation ecosystem and enhance broadband connectivity

Proposal: Create and test applications for public safety, mobility, health, and energy

Funding: $24 million x 4 awards
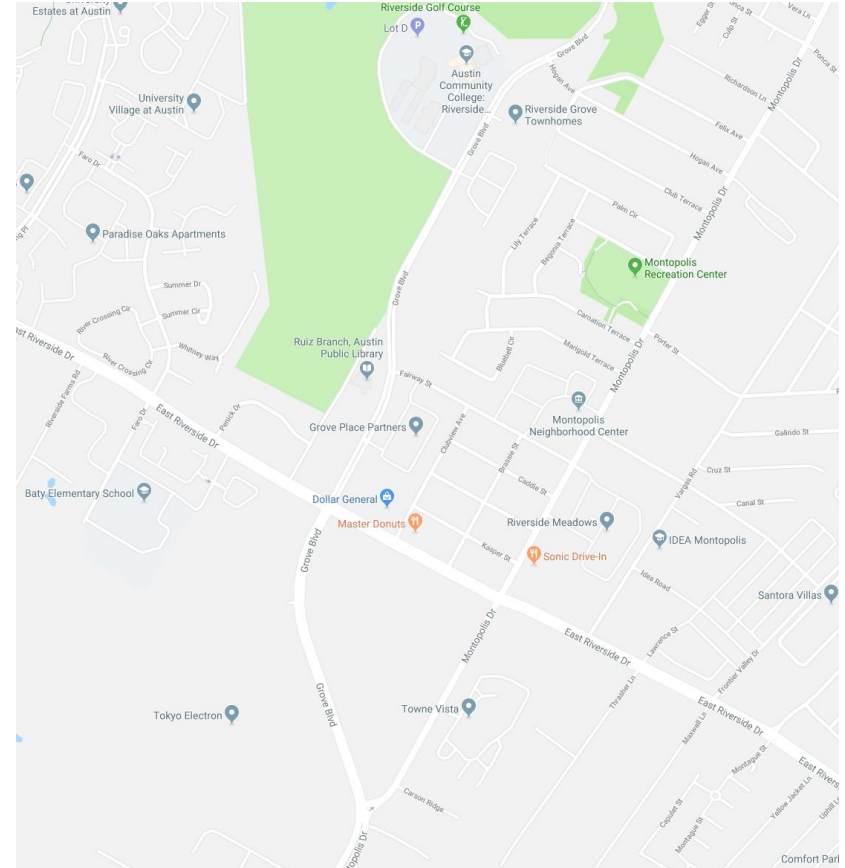
Research partners:

Proposal overview

Potential research topics: Mobility, energy, public safety

City of Austin's role: Community engagement, oversee equipment permitting and installation

Co-creating community benefits:

- Education and job training
- Youth development programs
- Technology innovation lab for local developers and startups

Proposed location: East Riverside Corridor / Montopolis area

Grant timeline

Dec 2019: Full proposal due
> Includes letters of support from community leaders

Feb 2019: Finalists announced

2018

2019

2020

Spring 2019:
NSF site visits

Summer/Fall 2019:
Winners announced

Late 2019:
Start work

Backup

Smart City Strategic Roadmap

Resolution No. 20161103-051

Discovery Phase

Roadmap definition, maturity model

Standardize, refine inventory

We are here

Align Key Goals, Measures from Strategic Plan

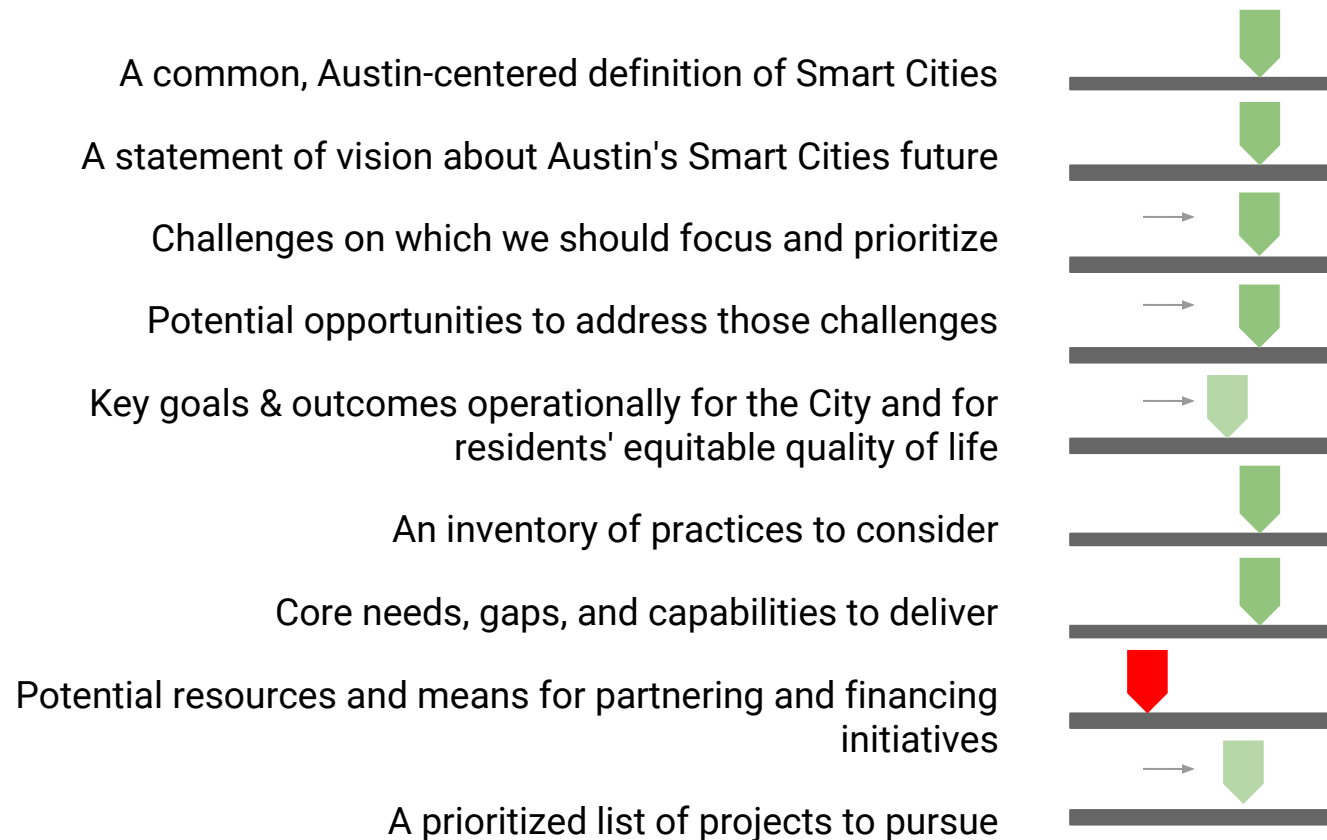Prioritize Resources & Means

Project Tracking Site

Deliverables Progress

A common, Austin-centered definition of Smart Cities

A statement of vision about Austin's Smart Cities future

Challenges on which we should focus and prioritize

Potential opportunities to address those challenges

Key goals & outcomes operationally for the City and for residents' equitable quality of life

An inventory of practices to consider

Core needs, gaps, and capabilities to deliver

Potential resources and means for partnering and financing initiatives

A prioritized list of projects to pursue

Technology hype should inform our investment choices

Smart city hype cycle, 2017

Smart Parking Strategies
Blockchain in Government
IoT Platform
Greenfield Smart City Framework
Connected Home
Internet of Things
LPWA
Smart City Framework
Smart Transportation
Smart Monitoring for Public Infrastructures
Sustainability and COP21
Digital Security
Digital Ethics
Civic and Community Development
City Operations Center
Data Marketplace
Water Management
Car-Sharing Services
Building Controls and Management
Microgrids
Vehicle-to-Vehicle Communications
Distributed Generation
Health Information Exchange
Big Data
Intelligent Lamppost
Smart Lighting

expectations

time

As of August 2017

Innovation Trigger | Peak of Inflated Expectations | Trough of Disillusionment | Slope of Enlightenment | Plateau of Productivity

Plateau will be reached:
○ less than 2 years   ○ 2 to 5 years   ● 5 to 10 years   △ more than 10 years   ⊗ obsolete before plateau

© 2017 Gartner, Inc.

SMART CITY

The 4 IoT products a smart city needs in 2017

Connected IoT devices are part of the key elements of a smart city. Here are some of the most interesting and useful products for smart cities in 2017.

By Teena Maddox | December 26, 2016, 4:00 AM PST

3. Digital kiosks

A digital kiosk gives information about restaurants, retail stores, and events in the immediate area. It also provides mapping for visitors, and can sync with a mobile phone to give additional data as needed.

http://www.techrepublic.com/article/the-5-iot-products-a-smart-city-needs-in-2017/

OPINION

The shuttering of those internet kiosks is another tale of two cities

By Nicole Gelinas   September 18, 2016 | 7:45pm

http://nypost.com/2016/09/18/the-shuttering-of-those-internet-kiosks-is-another-tale-of-two-cities/