

Smart Cities Strategic Roadmap Update

✓ Council Work Session, November 7, 2017

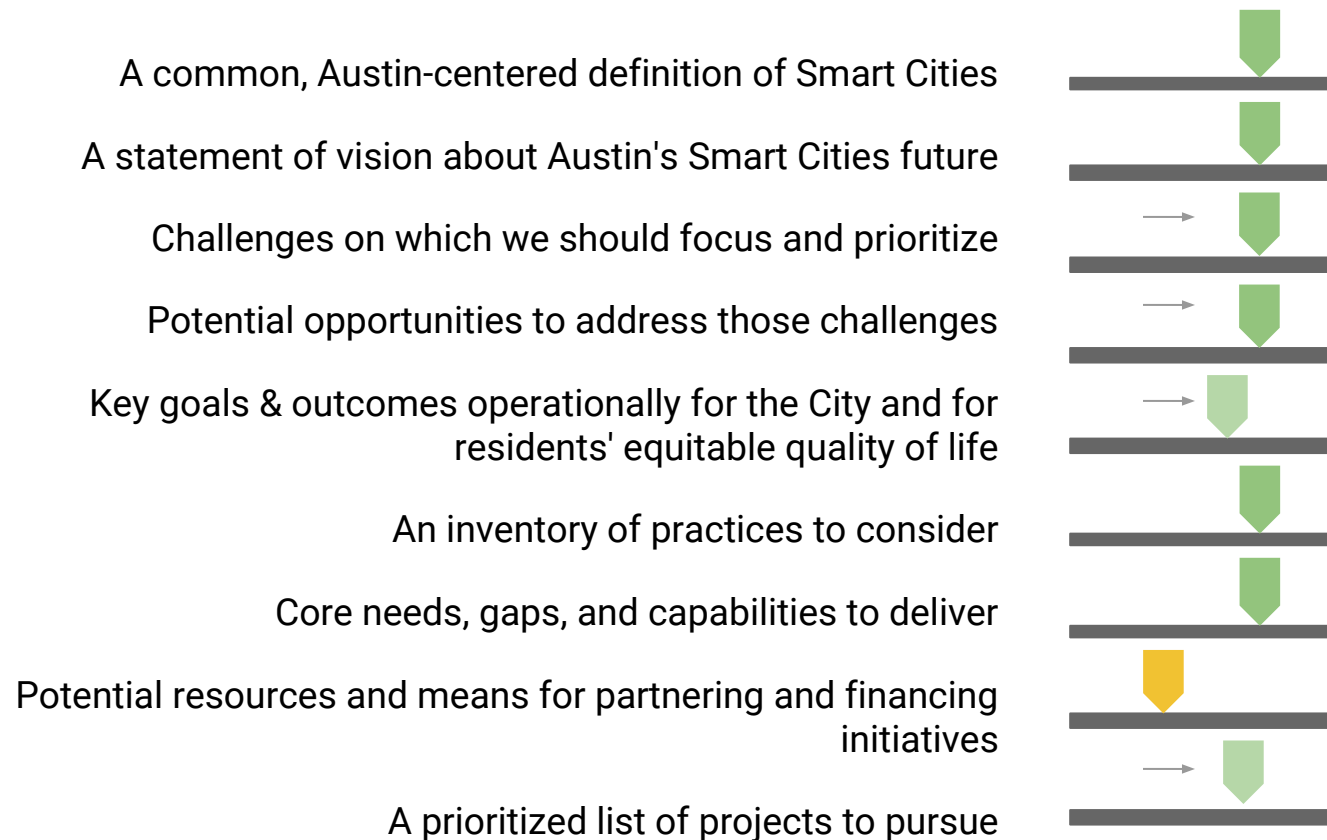


Contents

1. Quick recap
2. Current list of projects
3. Unpack how we got here; how we'll get there
4. Recommended projects
5. Discussion

Deliverables

Progress



| Project Highlights



**Economic Opportunity
and Affordability**

Austin Energy Smart Grid and Digital Meters

Connectivity from power plants through transmission and distribution systems to achieve quicker outage restoration, easier billing, personal control over energy usage, and improved efficiency



**Economic Opportunity
and Affordability**

Digital Inclusion PC Loan Pilot

Program ensures that all residents have access to the skills and devices necessary to engage in our digital society -- including our PC loan pilot



**Government that
Works for All of Us**

Human Capital Management

Provide an automated self-service system for time, attendance and scheduling capabilities to replace the current paper time-keeping and scheduling processes



**Economic Opportunity
and Affordability**

Tech Hire

Identify data related to employer needs, innovative hiring practices, opportunities to connect students to internships, jobs; identify strategies for scaling up



**Cultural and Learning
Opportunities**

Central Library & Video Conferencing

150 self-check portable devices and a technology petting zoo with virtual reality, 3D printing; video conferencing in progress for all branches to help residents communicate with Council



**Government that
Works for All of Us**

Austin.gov Goes Paperless

Identify and prioritize services that need transformation from paper to digital on new austin.gov platform to reduce transaction cost, save time, increase accessibility, open data



Mobility

Smart Mobility Roadmap

Analyzes impact of shared, electric and autonomous mobility vehicles on equity, affordability, safety, land use, infrastructure, and resources



Safety

Improvements to ATX Floods

Improve how we provide information about the status of roadway closures to the public and emergency services, with real timestamped data, imagery and context region-wide



Safety

Security Operations Center

A virtual security operations center to organize and centralize information security staff for enhanced security monitoring



Health

Resource Recovery Smart Fleet

Get to more sustainable outcomes with Integrated data, GPS, radio-frequency identification in vehicles to reduce risk, improve customer service, and increase operational efficiencies



Health

Food Environment Maps

Map Travis County food retail store survey data into a food environment map understand food access in Austin to help prioritize initiatives



Government that Works for All of Us

Open & Smart Project Tracking

Provide a smart and open project tracking tool to help following along on open government and smart city projects across City departments



Safety

Pedestrian Lighting Pilot

Integrate sensor-activated pedestrian lighting in safety study in West Campus. Partnering with Vision Zero for better illumination to increase visibility and interactive contrast lighting to reduce nighttime crashes



Cultural and Learning Opportunities

WiFi in Austin Parks

Provide free, consistent, and reliable public WiFi within parks at no cost to the City



Government that Works for All of Us

Leak Detection of Austin Water's existing infrastructure

Detecting water leaks by analyzing spectral images from satellites

| Let's unpack how we got here, how we'll get there.

Discovery Phase

We are here



Roadmap definition,
maturity model

Standardize, refine
inventory

Align Key Goals, Measures from
Strategic Plan

Prioritize Resources &
Means

Project
Tracking Site



WHERE
IT
LEADERS
CONNECT

SmartCitiesCouncil®


Livability
Workability
Sustainability



Think of our roadmap as a strategic conversation

Our first draft unifies our vision.

Next steps - we refine the vision and course of action.



Austin's Smart City Definition

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

- (i) engaging stakeholders and users,
 - (ii) leading collaboratively,
 - (iii) working across disciplines, departments, and city systems; and
 - (iv) using data and integrated technologies
- to transform services and improve quality of life with and for **all Austinites**, businesses, and visitors.

In this definition, Open Government + Smart Overlap

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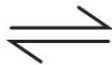
to transform services and improve quality of life with and for ***all* Austinites**, businesses, and visitors.

| With this definition, we know how to grow...

1

1-way/Broadcast
Engagement

2

Receive input/ 2-way
engagement

3

Close the Feedback
Loop

4

Inclusive Partnerships/
Relationships

ENGAGE PEOPLE

How openly do you allow
others to participate?LEAD
COLLABORATIVELYWhat does leadership look
like on your teams?

Hierarchical

Encourage Team
problem-solvingShared Accountability for
OutcomesTransparent multi-partner
governanceWORK ACROSS
DISCIPLINES, SYSTEMSHow do teams work
together?

Silos

Across Disciplines
or UnitsAcross Teams or
Departments

Across systems

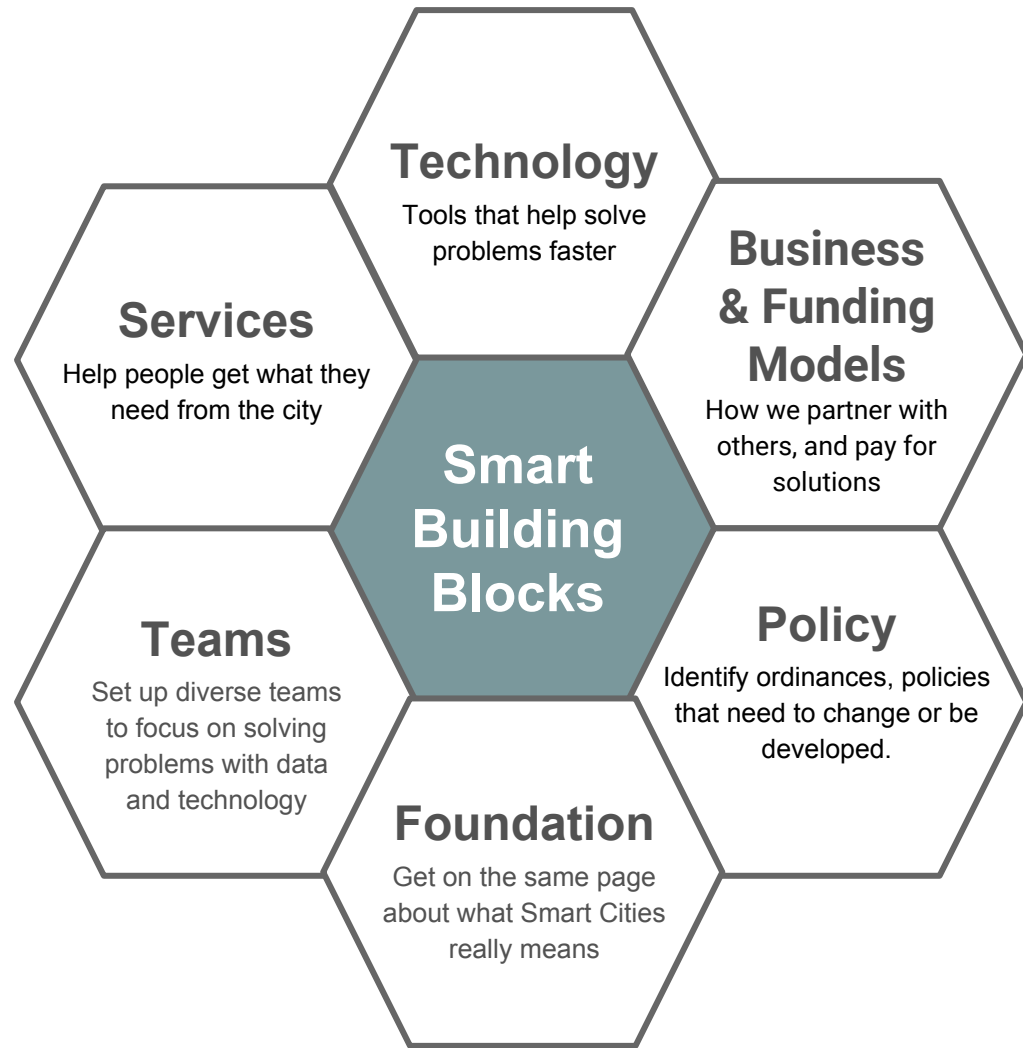
TECH & DATA


How is content managed?
How are services delivered?Paper/
No DataSome Automation/
Some DataTransactional Services/
AnalyticsIntegrated Systems
Data models

CAPABILITY

How evolved is your ability to
solve problems?In-person, one episode at a
timeSome analysis - high level
trendsDeeper analysis, identify
hidden problems, respondReal-time data, predictive,
proactive, transform

From roadblocks to building blocks





With the definition and building blocks, we can align and prioritize projects, which will then help define means for partnering and financing

Align with Strategic Outcomes, then Prioritize



Economic Opportunity and Affordability

Having economic opportunities and resources that enable us to thrive in our community.



Mobility

Getting us where we want to go, when we want to get there, safely and cost-effectively.



Health

Enjoying a sustainable environment and a healthy life, physically and mentally.



Government that Works for All of Us

Believing that city government works effectively and collaboratively for all of us—that it is equitable, ethical and innovative.



Safety

Being safe in our home, at work, and in our community.



Cultural and Learning Opportunities

Being enriched by Austin's unique civic, cultural, ethnic, and learning opportunities.

Draft prioritization formula

- ✓ **Real People:**
Resident population served
- ✓ **Real Problems:**
Resident value
- ✓ **Equity**
- ✓ **Sustainability**
- ✓ **Total Cost of Ownership**
Shared tools lowers costs

Resources and means for partnering and financing

Progress



Platform for Advanced Wireless Research (5G)

Feedback on \$25 million grant application

Strengths:

Effort brings together diverse skillsets and organizations across the state, including communities that already work well together

Strong connections to academic wireless research (local and foreign)

Effort includes the development of verticals such as public safety, health, energy and transport

Weaknesses:

Lack of a coherent coordination plan among the various local/regional and vertical communities

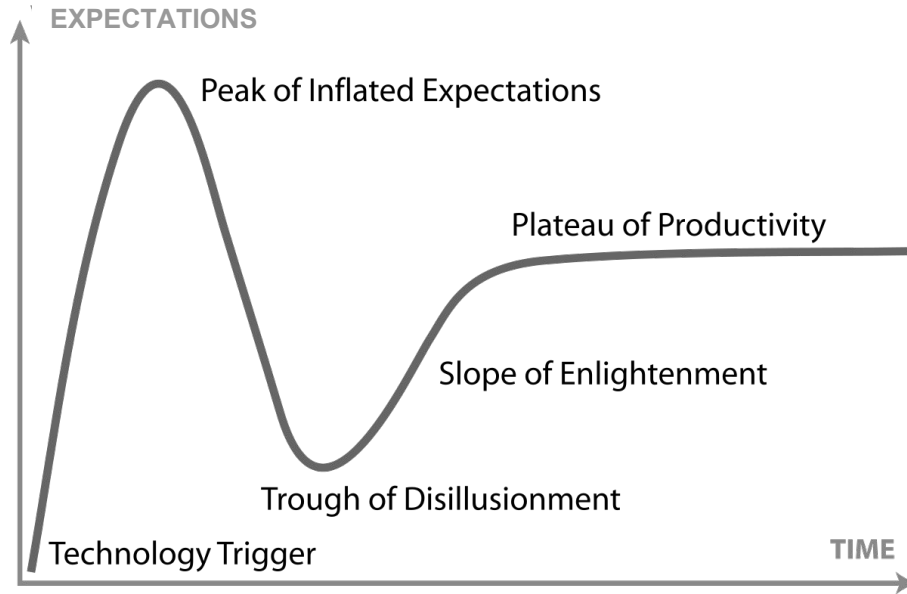
Lack of details on engagement plans and governance

Lack of risk mitigation and analysis plans

Not enough transformative and innovative research elements and sufficient details to be convincing. The value-added remains incremental and small.

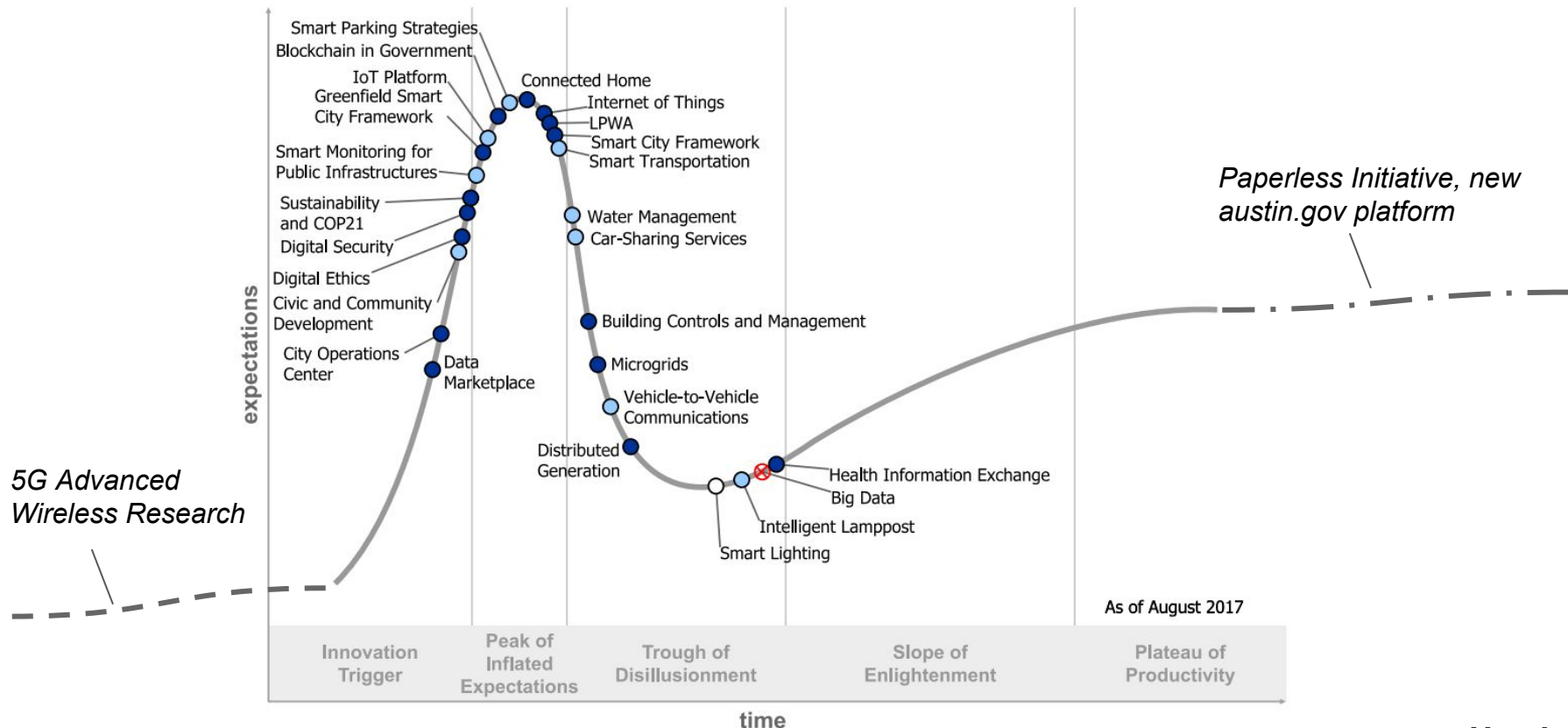
| Why the Maturity Model is important

Introduction to the Hype Cycle



*We tend to overestimate
the effect of a technology in
the short run and
underestimate the effect in
the long run.*

Smart Cities Hype Cycle (plus future and past)



Plateau will be reached:

- less than 2 years
- 2 to 5 years
- 5 to 10 years
- ▲ more than 10 years
- ⊗ obsolete before plateau

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What can happen between the peak and the trough

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

4. Smart streetlights

Connected LED streetlights are the easiest way for a city to add smart tech. One benefit is reduced crime, because the lights automatically brighten when there are multiple people in the area, and dim when no one is around.



The ROI is a no-brainer, with the LED lights saving more on energy costs within a few years than it costs to purchase and install them. In Los Angeles, the city saves nearly \$9 million annually on utility costs as a result of its decision to spend \$57 million to convert nearly 80% of its 215,000 old sodium-vapor streetlights to LED versions.

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

LED Streetlights Are Giving Neighborhoods the Blues

Early adopters of LED street lighting are struggling with glare and light pollution



<http://spectrum.ieee.org/green-tech/conservation/led-streetlights-are-giving-neighborhoods-the-blues>



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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.



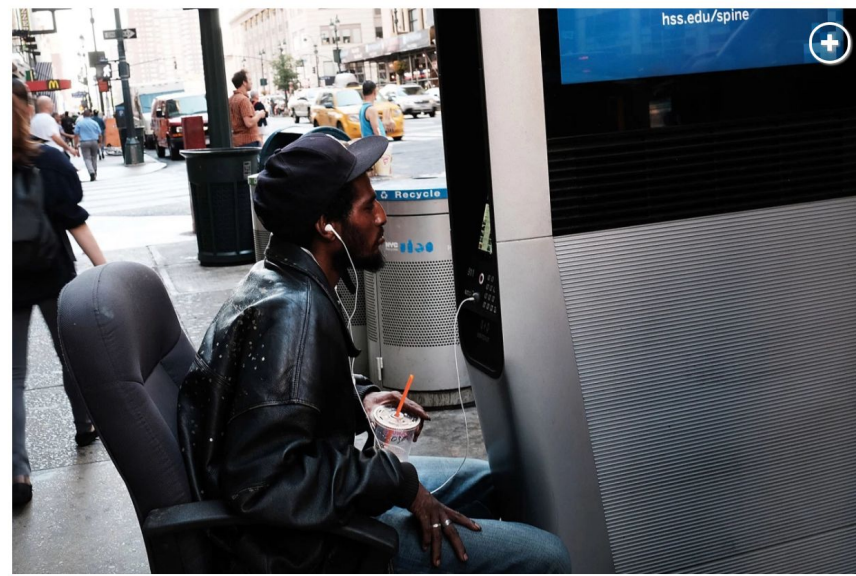
<http://www.techrepublic.com/article/the-5-iot-products-a-smart-city-needs-in-2017/>

OPINION

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

By Nicole Gelinax

September 18, 2016 | 7:45pm



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

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**It's not about stopping progress.
Methodically researching and testing
in a human-centered way can mitigate
these risks.**

Six Inconvenient Truths about Smart Cities

The Urban Technologist, former IBM UK Executive
Architect for Smarter Cities

1. The “Smart City” isn’t a technology concept; it’s the political challenge of adapting one of the most powerful economic and social forces of our time to the needs of the places where most of us live and work
2. Cities won’t get smart if their leaders aren’t involved
3. We can’t leave Smart Cities to the market, we need the courage to shape the market
4. Smart cities aren’t top down or bottom up. They’re both.
5. We need to tell honest stories
6. No-one will do this for us – we have to act for ourselves



How Austin brought the human touch to smart city planning

By Jenny McGrath — Posted on July 31, 2017 3:00 am

<https://www.digitaltrends.com/home/austin-texas-smart-city-technology/>

Orient to the future, play catch-up, flatten the curve



4

New Recommended Projects

Next steps - strategic initiatives, projects

Research & Testing Lab for Smart City Initiatives

A collaborative space where city staff, residents, and technology community can test new technologies

Smart & Open Advisory Network

Networking the technology community with Commissions and the City Manager's Open & Smart Advisory Committee in permanent open dialogue on smart cities

Smart Kiosks

Testing and experimenting with kiosks for wayfinding and other uses in a controlled environment

5

Discussion