Evolution of a Smart City

ICMA conference

BALTIMORE 2018
104th Annual Conference
SEPTEMBER 23–26

Jane Christenson, Deputy City Administrator
Redmond, Washington
ICMA Conference Panel Chair

#ICMA2018

Evolution of Smart City: Panel Introduction

- Smart City Defined: Michael Mattmiller, Microsoft (Seattle CTO)
  - What is it and how does one get smart (or smarter)?
  - How can investments improve customer service/community's quality of life?

- Digital City Hall: Luke Norris, OpenCities (Code for America)
  - Principles of 21st Century Govt/Best Practices
  - Changing Citizen/Consumer Behavior & Keeping City Hall Accessible

- Shared Insights on Civic Innovation: Ashley Hand, CityFi (CIO-Kansas City, LA)
  - More than just technology
  - Designing for outcomes

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Ashley Z. Hand, AIA, LEED AP BD+C

- Co-Founder, CityFi
- Former Transportation Technology Strategist, City of Los Angeles Department of Transportation
- Former Chief Innovation Officer, City of Kansas City, MO

CITYFI

Urban
MOBILITY
in a Digital Age

A TRANSPORTATION TECHNOLOGY
STRATEGY FOR LOS ANGELES

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Evolution of Smart Cities

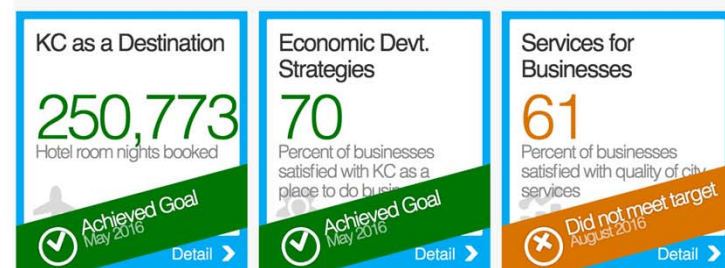| CLOCKWORK CITY	OPEN CITY	EMERGENT CITY
Management-focused	Citizen-focused	Citizen-as-a-system focus
Government-as-customer	Government-as-enabler	Government-as-one-of-many
Operational efficiency	Operational transparency	Self-organizing, adaptive
Top-down, monolithic	Mostly unidirectional	Multiple stakeholders
Big IT corporations	Nonprofits, civic developers	Experimentation-as-a-service
Marketing success	Read-only	Condition-making
Business of running a city	Making the city more legible	Read-Write

Data as a critical resource

- Data helps build accountability and transparency
    - Trust
- Data is not about punishing departments but supports early engagement and better problem-solving
- Commitment through policy and process to transform city hall into a data-driven organization

**Planning, Zoning, and Economic Development**

KC as a Destination	Economic Devt. Strategies	Services for Businesses
250,773	70	61
Hotel room nights booked	Percent of businesses satisfied with KC as a place to do business	Percent of businesses satisfied with quality of city services
Achieved Goal May 2016	Achieved Goal May 2016	Did not meet target August 2016
Detail ❯	Detail ❯	Detail ❯

Public Safety

Animal Safety	Crime Prevention	Emergency Services	Promote Justice
39	45	77	90
Percent of citizens satisfied with enforcement of animal code	Percent of citizens satisfied with efforts to prevent crime	Percent of citizens satisfied with the quality of fire/EMS services	Percent of Municipal Court cases cleared last quarter
Measured July 2016	needs improvement	Achieved Goal May 2016	needs improvement
Detail ❯	Detail ❯	Detail ❯	Detail ❯

KC Stat was the gateway to becoming "smart"

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A new social contract

- Data stewardship is a key consideration
    - Privacy
    - Security
- New players and business models require a rethinking of procurement and sharing

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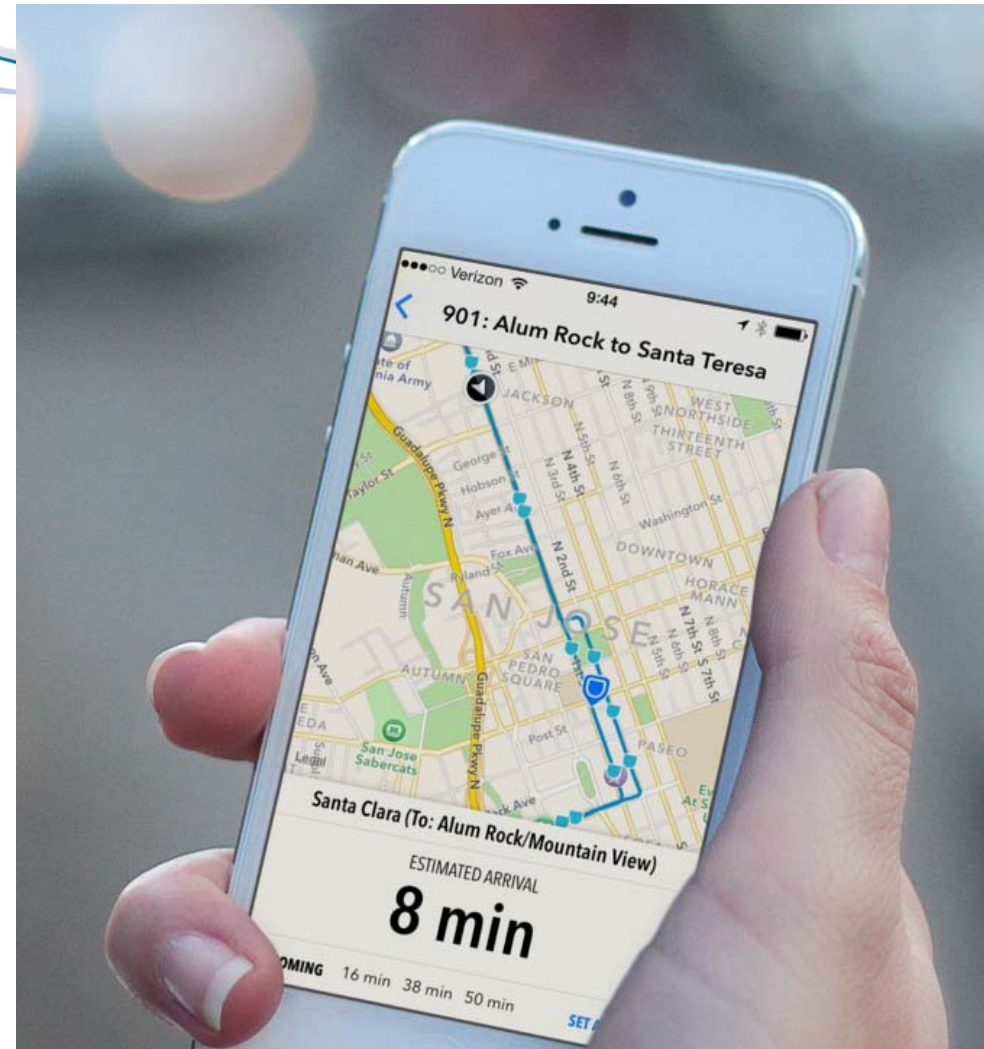
Technology is a tool

- Technology alone will not transform outcomes
  - What is your vision?
  - What are your goals?
- How will you leverage technology to change business as usual?
  - Reprioritize or redesign service and infrastructure delivery
  - Improve responsiveness to community
  - Generate new revenue

San Francisco bike counters track infrastructure use

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Why is this important?

- Technology is changing at an exponential rate
- Cities are challenged to keep up with evolving business models and new players
- Resources are limited

App-enabled business models are disrupting the status quo.

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Digital infrastructure

- How does information architecture shape our culture and community?

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A better understanding of the built world

- How can data reshape our understanding of the built environment?
  - Modeling can test our assumptions more efficiently
- How can we leverage technology to change the conversation about what the future of our cities looks like?
  - Data-driven vs. NIMBY
- How can we use these tools to bring new stakeholders to the table?
  - Public and private partners

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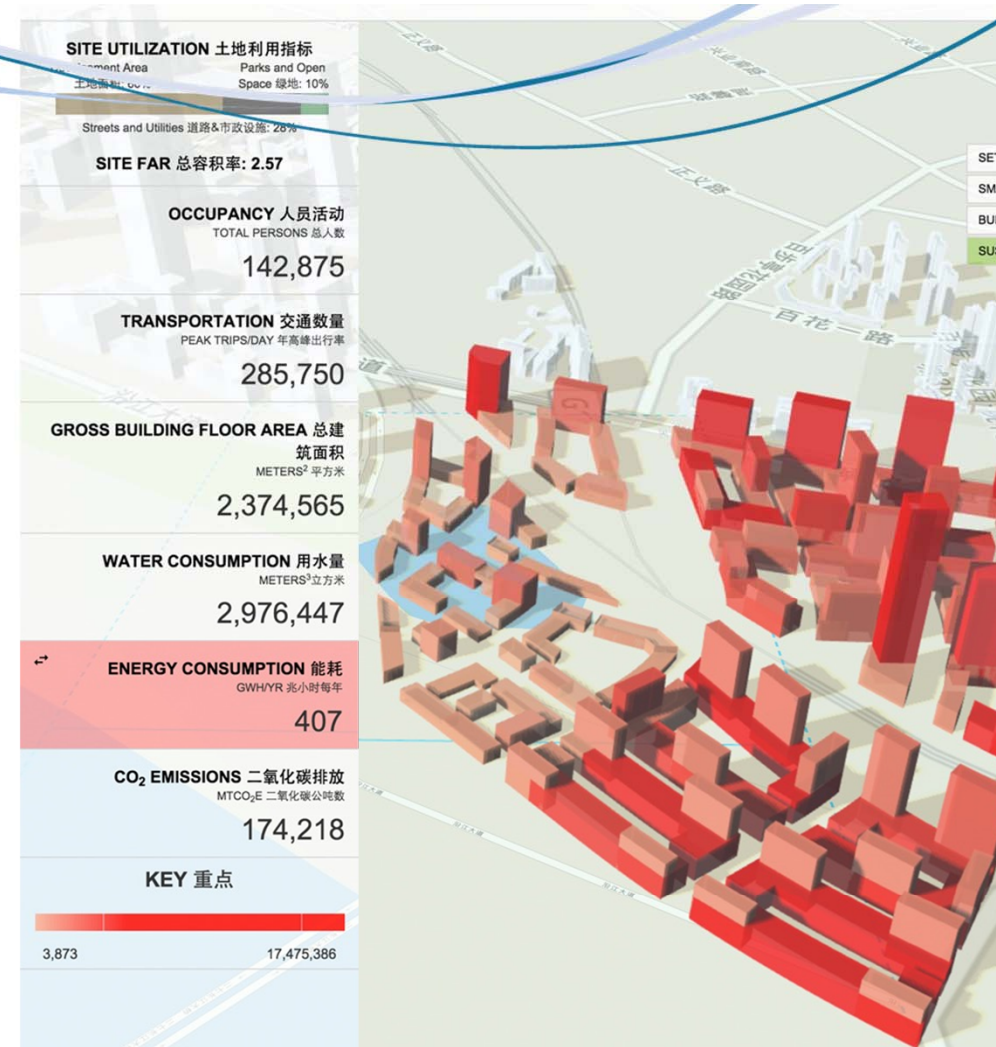
Data can transform our physical space

- Physical world should reflect our behaviors and optimize our use of the public right-of-way
  - Policy goals should shape our built environment (Vision Zero, sustainability, etc.)
- Real-time assessment of our existing infrastructure
- Post-project evaluation for a better understanding of return on investment

Dutch intersection in Chicago

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Reshape your city daily

- Responsive pedestrian signals
- Adaptive traffic signals
- Curbside management

Build on your priorities

- Start with policy and city goals to guide technology choices

- Consider how technology can complement existing or planned infrastructure improvements

- Identify internal champions to "own" the strategy

- Start small (pilot), measure/evaluate, and then scale

A CLOSER LOOK

WHAT DOES THAT DEVICE DO?

Kansas City's current smart city system includes 125 "smart" streetlights that can track pedestrian activity, sensors on the streetcar to improve traffic, 25 information kiosks and public Wi-Fi. The devices are connected through Sprint Corp.'s Wi-Fi network, which is bolstered by several "small cells" along the existing 2.2-mile streetcar line.

1 TRAFFIC LIGHT SENSOR
A traffic signal pre-emption receiver for emergency response service vehicles

2 SMART STREETLIGHTS
Streetlights that can track pedestrian activity

3 STREETLIGHT SENSORS
Streetlight nodes that help identify items such as obstacles blocking the streetcar

4 CROSSWALK SAFETY
A crosswalk sensor that warns pedestrians

5 PUBLIC WI-FI
A public Wi-Fi access point

SOURCES: Blake Miller, KCBJ research

KCBJ explains KCMO smart city technology

Focus on your strengths

- Data-sharing can improve communications
- Enhance citizen satisfaction without any new resources or service redesign
- Meet your customer where they are
  - The medium matters

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Elevate user experience

- Human-centered design ensures more responsive, equitable services
- Qualitative and quantitative measures are important

LADOT's Core Principles for Transportation Happiness

ACCESSIBILITY	RELIABILITY	SAFETY & COMFORT	CULTURE & COMMUNITY	EQUITY & TRANSPARENCY
Freedom to Get Around	**Freedom from Disruptions**	**Freedom from Harm**	**Freedom to Connect**	**Freedom from Exclusion**

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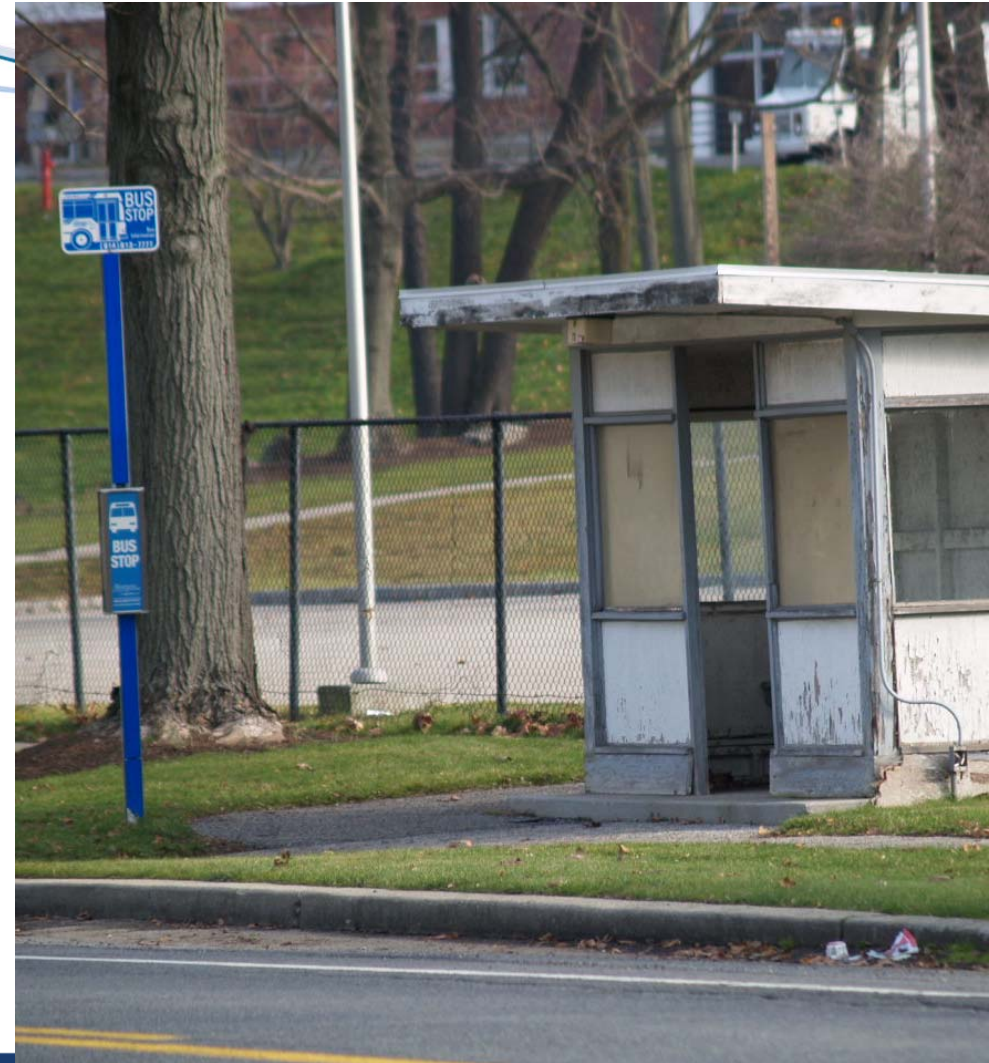
Bring new players to the table

- Define new ways to get things done quickly

- Establish collaborative spaces (virtual and physical)

- Cultivate a culture of innovation

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