

“Getting to Smart” Connected Cities Tour

Connectivity and Bandwidth are the oil of the Gig Economy.

Network Technologies such as: 4G/5G, IoT, Fiber, Small Cell and Wi Fi are Transforming How Society Operates.

These sessions bring together thought leaders from Government, Enterprise, Academia and the Tech Community to look at the Business Models, Technology Architectures and action plans that City and Community ecosystems are using to build Dense Broadband Infrastructure.

Be part of the Solution



The Social Think Tank™

www.densenetworks.com

2019 - 2020 Event Schedule

| | |
|--------------|--------------|
| September 10 | Seattle |
| September 19 | St. Louis |
| October 23 | Los Angeles |
| October 29 | San Diego |
| November 14 | New York |
| December 4 | Columbus |
| February 11 | Miami |
| March 12 | Jacksonville |
| March 26 | Atlanta |
| April 30 | Chicago |

Connected Cities Tour “GETTING TO SMART” Los Angeles

The Palm, 1100 S Flower St.
October 23 10:30 am to 3 pm

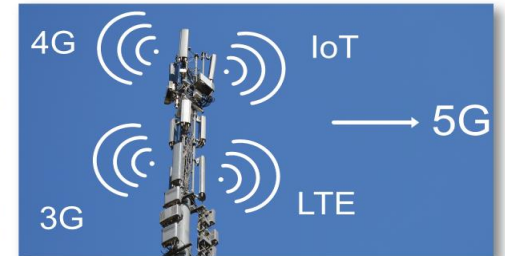
PRESENTING SPONSOR: **GraybaR.**

“Getting to Smart” is a quick dose of knowledge to help you navigate in our increasingly mobile, always-on, information intensive, and SMART Society.

Smart Cities require connectivity to enable Smart.

- Fiber Optics are essential to dense network capacity and coverage.
- 4G coverage and capacity is becoming widespread. 5G is emerging. Small Cell Demand is exponential.
- Video is driving bandwidth demand. Learn how a Smart Spaces approach is enabling new capability.
- DAS Networks are critical to Commercial Real Estate both for Public Safety and Functionality.

Join government, tech and enterprise thought leaders as we explore the business models, technology architectures and action plans that are driving innovation and disruptive solutions.



HITACHI
Inspire the Next

JMA
WIRELESS



extenet
SYSTEMS



5th Gen MEDIA

Mobile
BUILD YOUR OWN COVERAGE

SAFER BUILDINGS COALITION

Granite

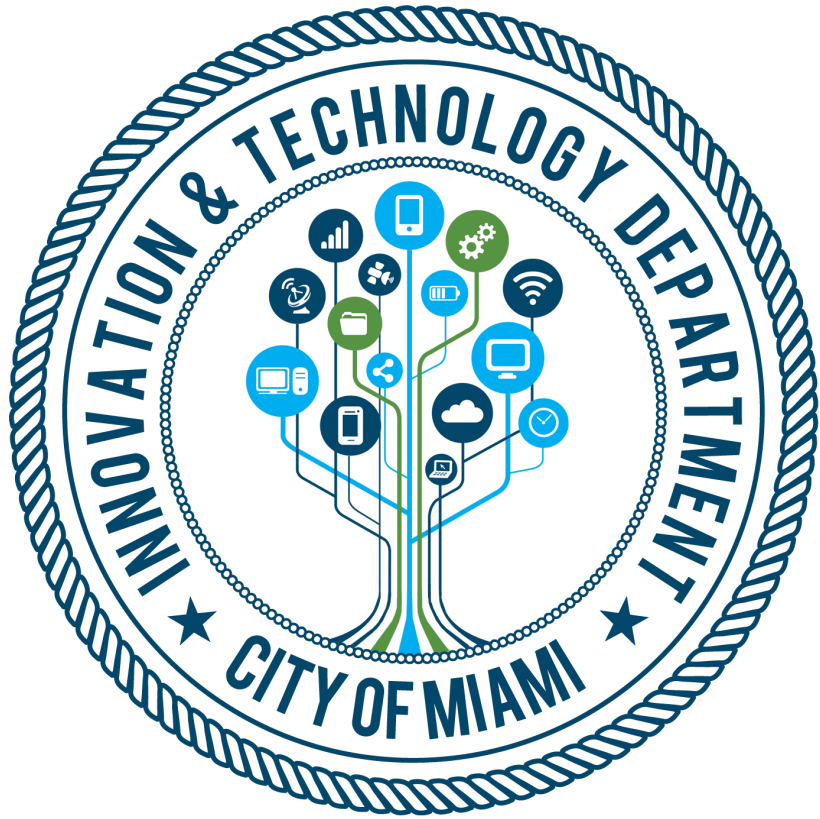
Gabe's

LANDMARK FLEXGRID

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Connected City
Smart City



What does
“Smart” Mean for
the City of Miami?

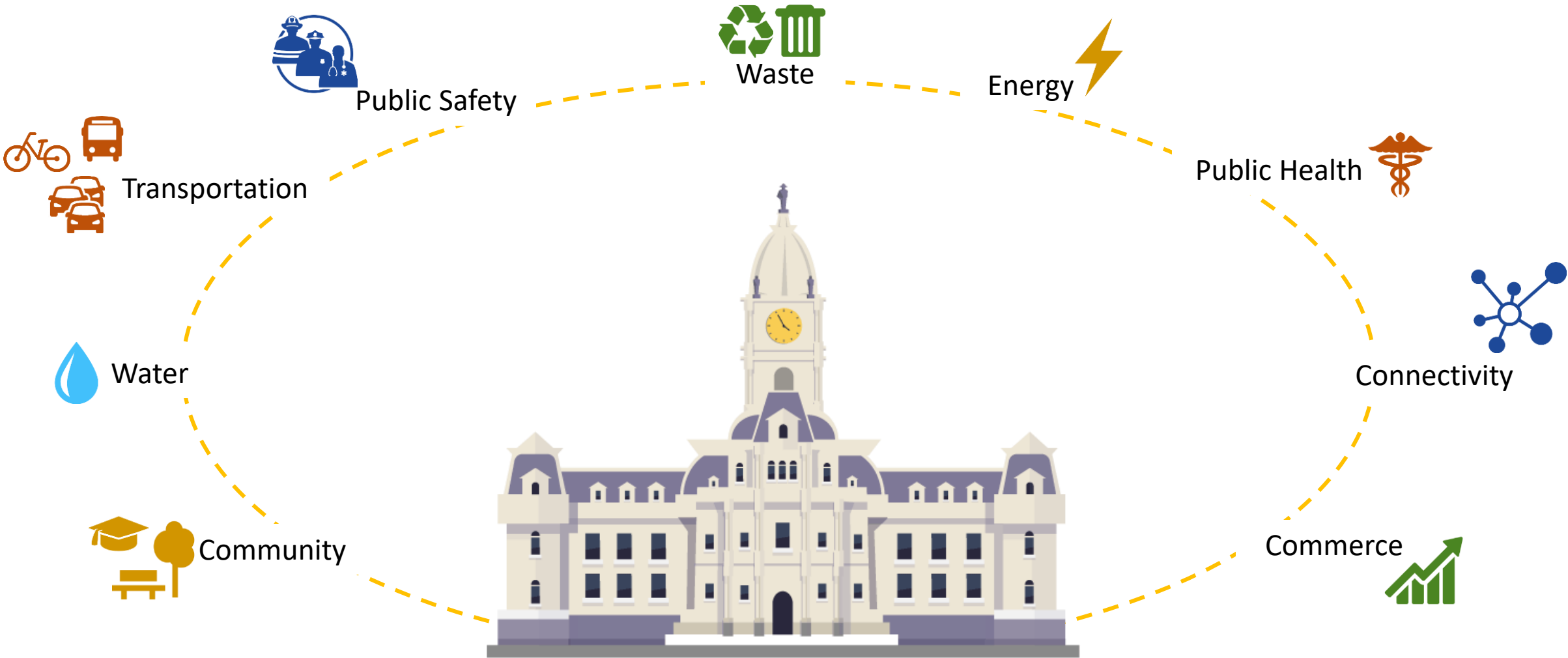
A Smart Miami is:

- *Connected*
- *Equitable*
- *Resilient*
- *Sustainable*
- *Transparent*
- *Self-Aware*



The Big Picture

Smart Collaboration > Improved Efficiency > Faster Response > Better Service





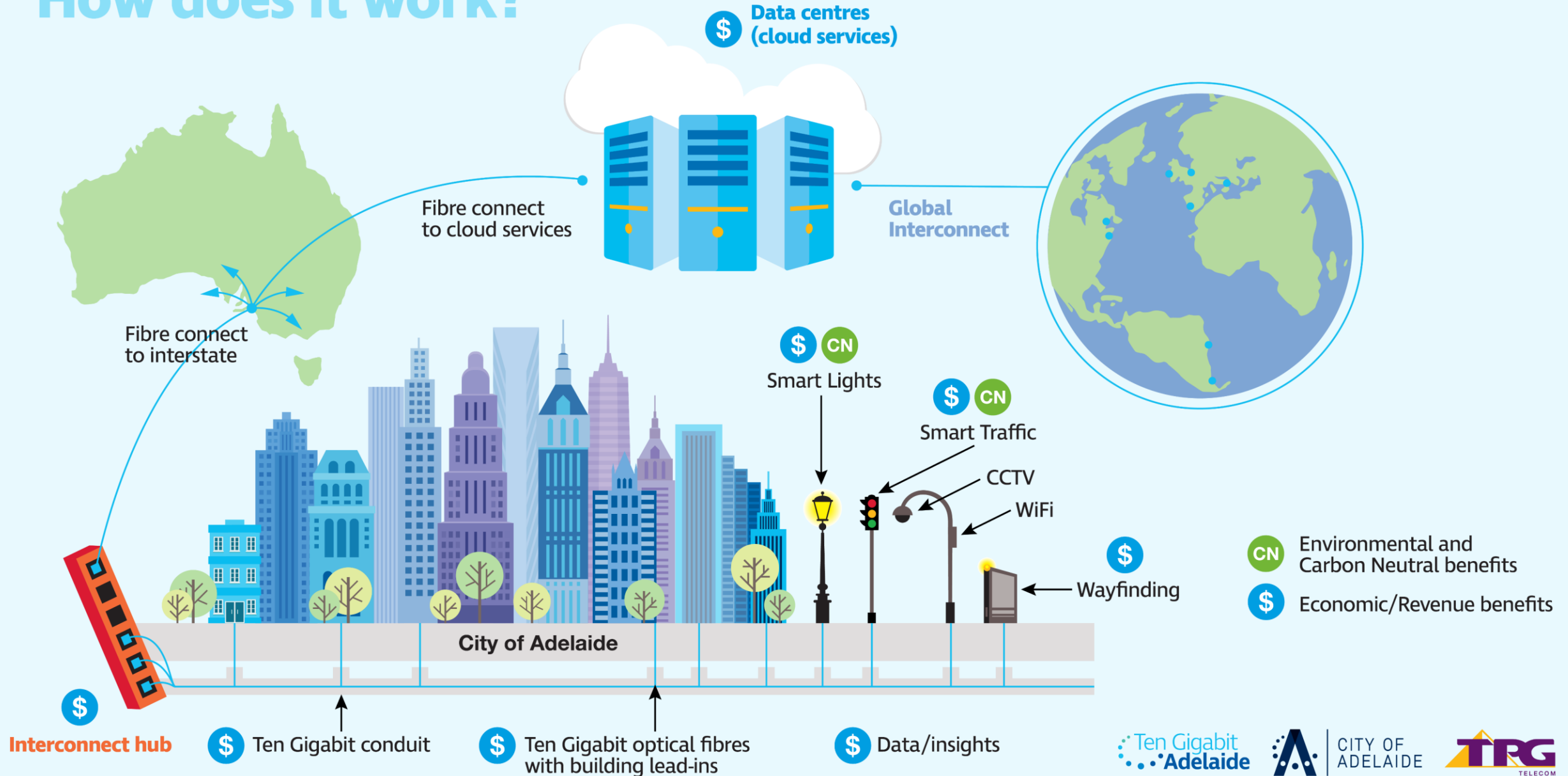
The Smart Cities Framework

TECHNOLOGY ENABLERS

| | Universal Aspects | Built Environment | Energy | Telecommunications | Transportation | Water and Wastewater | Health and Human Service | Public Safety | Payments and Finance | Waste Management |
|-----------------------------|-------------------|-------------------|--------|--------------------|----------------|----------------------|--------------------------|---------------|----------------------|------------------|
| Instrumentation and Control | | | | | | | | | | |
| Connectivity | | | | | | | | | | |
| Interoperability | | | | | | | | | | |
| Security and Privacy | | | | | | | | | | |
| Data Management | | | | | | | | | | |
| Computing Resources | | | | | | | | | | |
| Analytics | | | | | | | | | | |



How does it work?



San Jose Broadband Strategy

Emerging landscape for voice and DATA

Effective in Dense Urban, Urban, and Suburban

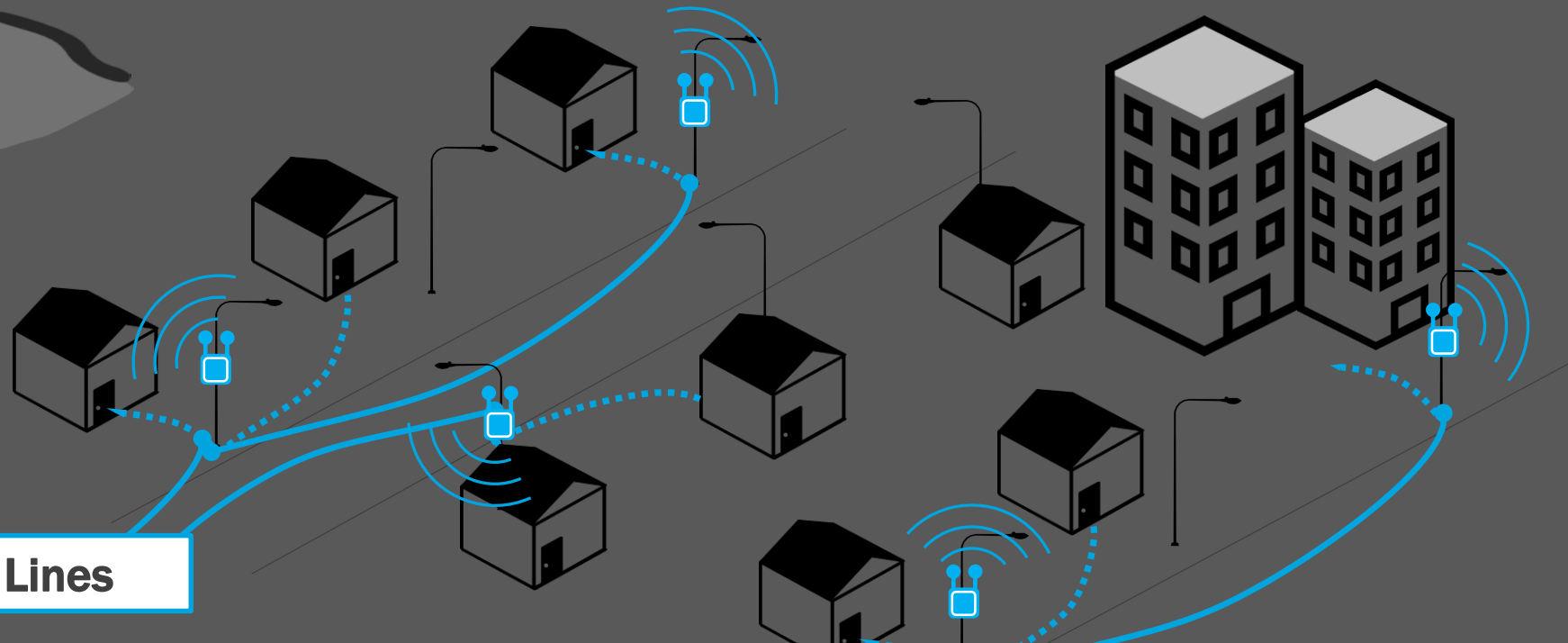
Cell towers: carry all mobile voice & some data

 **4G/5G Small-Cells**

Gigabit speed
up to 50x faster

Fiber Lines

Light pole is most valuable asset for broadband



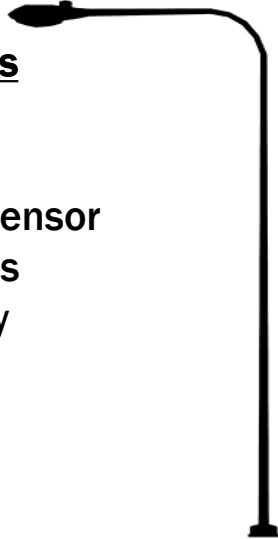
San Jose Broadband Strategy

STREETLIGHT

Light/Safety

Properties

- Height
- Power
- Light Sensor
- Lumens
- Density

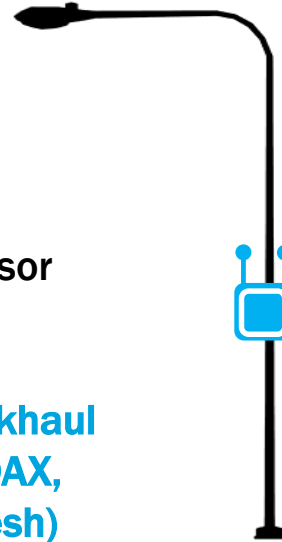


SMALL CELLS

Broadband Digital Infrastructure

Properties

- Height
- Power
- Light Sensor
- Lumens
- Density
- **Data Backhaul (Fiber, COAX, Radio mesh)**

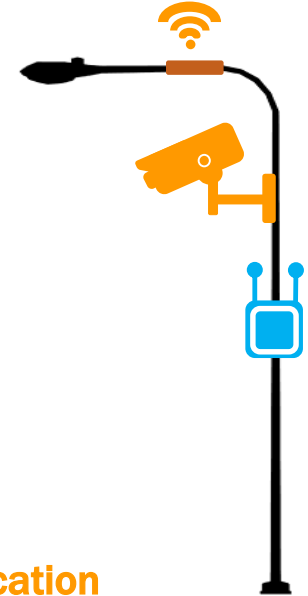


INTERNET OF THINGS

Smart Cities

Properties

- Height
- Power
- Light Sensor
- Lumens
- Density
- **Data Backhaul**
- **Sensors**
- **Cameras**
- **2-way Communication**
- **Banner Advertising**



Maturity:

Mature

Emerging

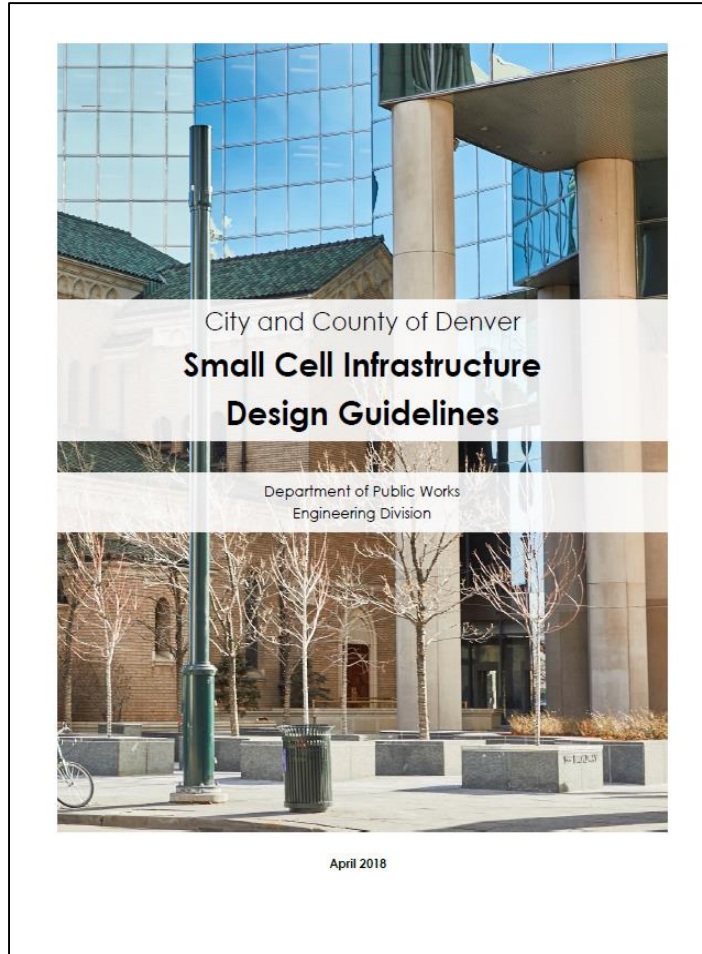
Extremely Immature

Possible Action: Proceed w/ LED Light Replacement Only

Re-examine in Broadband Strategy

Seek to Understand with Knight IoT Grant

Public Works has created Design Guidelines and a custom Permit process to address:



- ❑ Public-facing review process including Districts, City Departments, Neighborhood Orgs
- ❑ Policy for co-location first
- ❑ Notification of adjacent property owner
- ❑ Restricting new pole density through min **250'** spacing
- ❑ Restricting placement (along parks, historic & residential frontages)
- ❑ Restricting placement in front of residential & valuable sight lines
- ❑ Requiring camouflage and concealment
- ❑ Limiting height and equipment size
- ❑ Opportunity to coordinate fiber conduit





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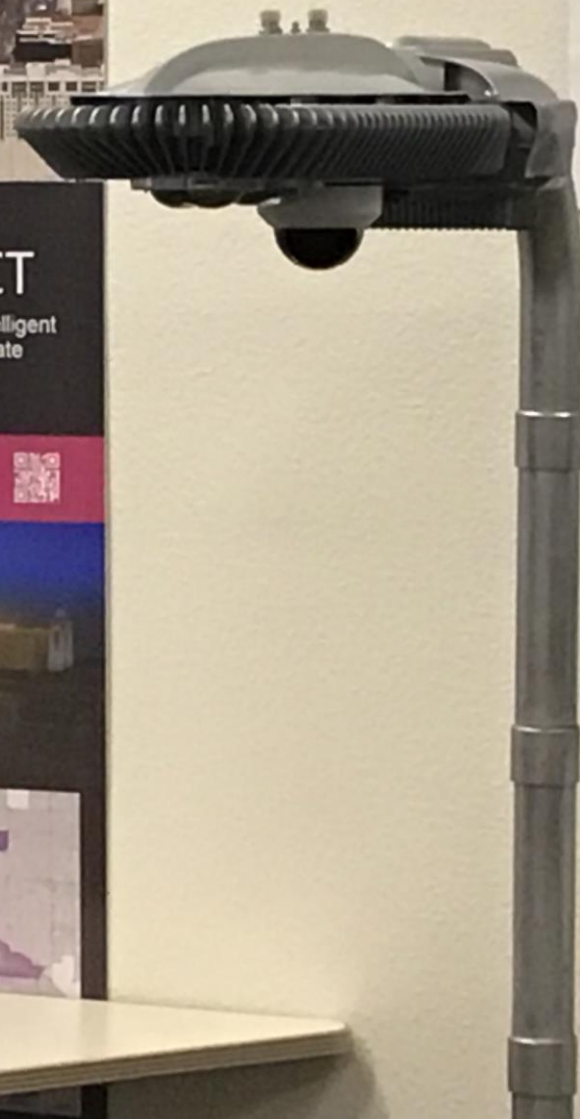
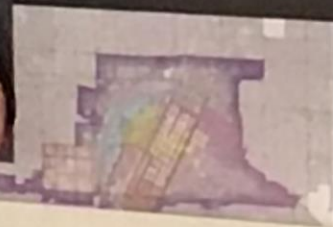


DOWNTOWN INNOVATION DISTRICT

The city is working quickly to create a place where intelligent transportation systems and smart technology operate seamlessly to provide services efficiently to its 650,000 residents and 42 million visitors.

lasvegasnevada.gov

ASMARTCITY



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Smart Street lighting

- **GOAL:** 100% LED streetlight by 2020
- OUC working to retrofit 25,000+ streetlights to LED
 - 18,000 currently retrofitted
- Exploring test of new “Smart Streetlights” in Downtown
 - LED technology
 - Video surveillance
 - Environmental monitoring
 - Traffic analytics
 - Wi-fi / DAS systems
 - Gun shot detection





LAOUE

LAOUE CAS BUILDING

apartments

Peabodys

Leasing

Today!
5.1711

Leahy's Sign Company

70

THOMPSON
CORPUS



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Autonomous



Connected

Easter morning 1900: 5th Ave, New York City. Spot the automobile.

Disruption can happen very fast...



Source: US National Archives.

**Easter morning 1913: 5th Ave, New York City.
Spot the horse.**

Disruption can happen very fast...



Source: George Grantham Bain Collection.