



Image used with permission from: Australian Mobile Telecommunications Association, GSM Association, & Mobile and Wireless Forum

Metro West COG – 5G Impacts and Opportunities

INTRODUCTION

Founded in 1913, HR Green is employee owned with offices throughout the United States and has provided engineering, technical, and management solutions in the following markets:



TRANSPORTATION



WATER



GOVERNMENTAL
SERVICES



LAND
DEVELOPMENT



ENVIRONMENTAL



CONSTRUCTION

HR Green® | Building Communities. Improving Lives.

A NATIONAL 5G LEADER – FOCUSED ON COMMUNITY OUTCOMES



Metro West COG – 5G Impacts and Opportunities

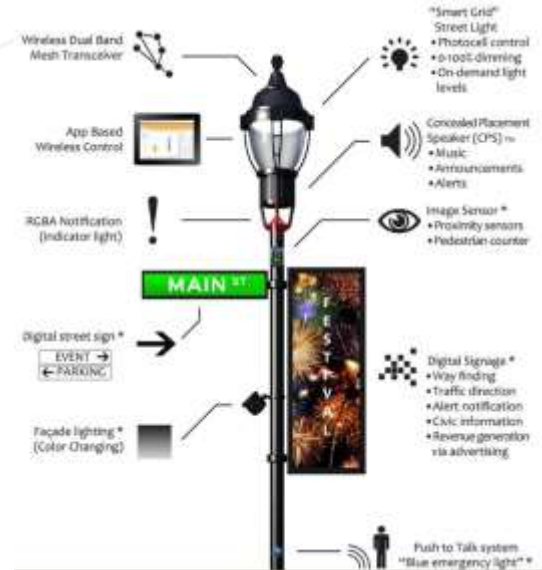
WHAT DOES THE FUTURE LOOK LIKE?

- **Wireless 5G Services**



WHAT DOES THE FUTURE LOOK LIKE?

- Wireless 5G Services
- Improved Experiences



Graphic by IntelliStreets, Inc

❖ Speeds

❖ Cost

❖ Local Control

❖ Improved Service

Metro West COG – 5G Impacts and Opportunities

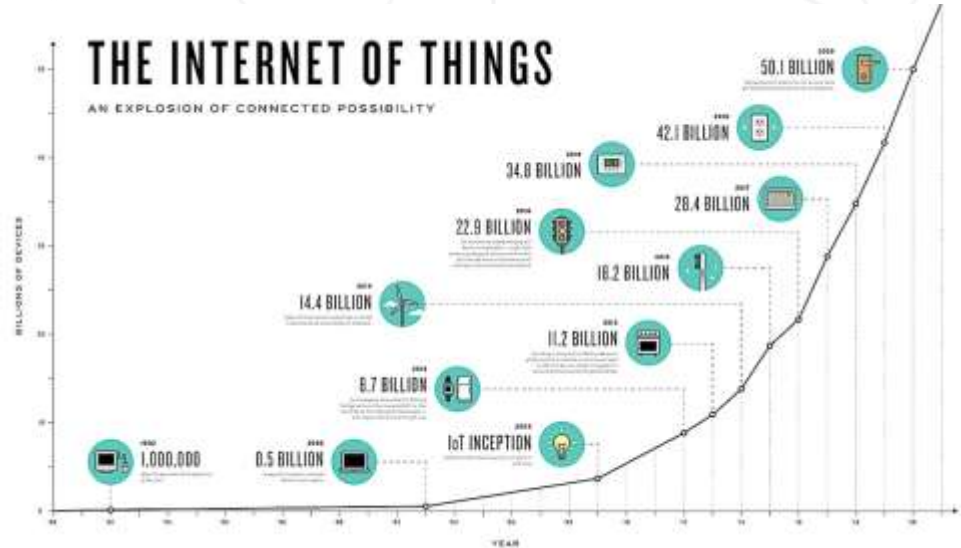
WHAT DOES THE FUTURE LOOK LIKE?

- Wireless 5G Services
- Improved Experiences
- **Autonomous Vehicles**



WHAT DOES THE FUTURE LOOK LIKE?

- Wireless 5G Services
- Improved Experiences
- Autonomous Vehicles
- The Internet of Things (IoT)



5G AND SMALL CELL DEPLOYMENT

- **Small Cell Antennas ~ Every Block**
- Fiber Optic Backbones - “Densify”
- Faster, lower latency and many, many more devices
- Twice as many small cells as street lights at full deployment



REGULATORY STRUCTURE & LOCAL PREEMPTION

The FCC order and Illinois Small Wireless Facility Act:

- **Creates a “Shot Clock”** shortening the time cities must process applications for small cells
- **Limits application fees** for small cells and recurring fees
- **Prohibits cities from assessing fees** that include anything other than a “reasonable approximation” of “reasonable costs”
- **Limits aesthetic review** and requirements of facilities

HOW YOU CAN RETAIN CONTROL

- Effective Public Policy
- Manage Aesthetics
- Establish Standards
- Protect Health & Safety
 - RF Emissions
 - Infrastructure



Las Vegas Blvd & Flamingo

YOU MUST ACT... PROACTIVELY

- Your policies must be in place **before** permits are received
- Some cities are being **overwhelmed** with permits



Courtesy – City of Centennial

SMALL CELLS – UNMANAGED & UNCONTROLLED



SMALL CELLS – MANAGE ABOVE GROUND



Street Light Pole



Stand-alone Pole



Traffic Signal Pole



Existing – Dual Use

Source: "Verizon Small Cell Program", 2017 CML Conference Presentation

SMALL CELLS – MANAGE THE GROUND



Underground Communication Vault



Concealed Equipment Enclosure

MANAGE HEALTH CONCERNS

The New York Times

The 5G Health Hazard That Isn't

How one scientist and his inaccurate chart led to unwarranted fears of wireless technology.



Golden Cresset

5G Is Coming: How Worried Should We Be about the Health Risks?

So far, at least, there's little evidence of danger

By Noriaki H. Foster on September 10, 2019

“

5G is an emerging technology that hasn't really been defined yet.

Michael Wyke, toxicologist



Activists fear radiation from 5G wireless service could be dangerous to public health. And they want more research done before carriers deploy the technology.

Shutterstock

STEP ONE: IMPLEMENT SMALL CELL/5G POLICIES

Maximize community control:

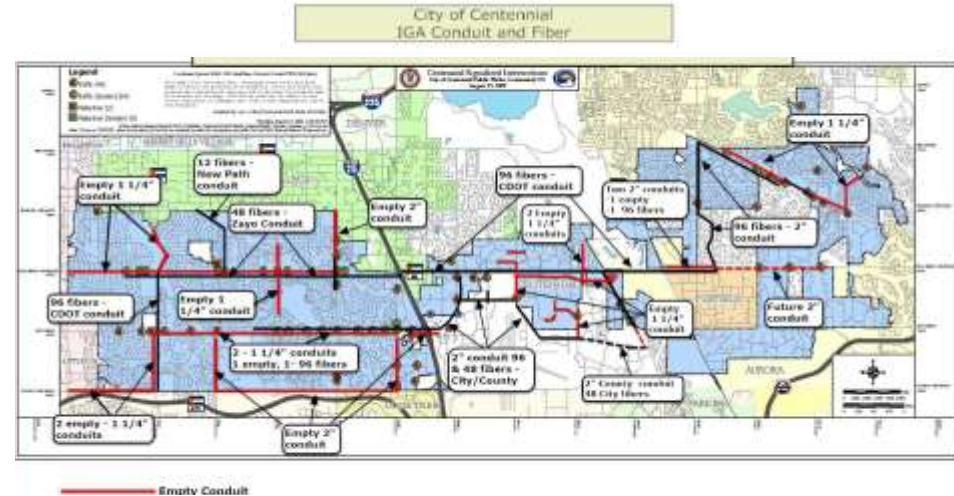
- Create effective ordinance and **policies**
- Develop & deploy **Design Guidelines**
- Require **NIER Certification** of equipment
- Document **costs** & set reasonable **fees**



HR GREEN'S 12-PAGE SMALL CELL PLAN REVIEW CHECKLIST

STEP TWO: CREATE VALUE FOR FUTURE

- Enact **fiber-friendly** policies
 - Colocation and Dig Once programs
- Identify existing “broadband currency”
- Partner/joint use infrastructure
- Create backbone for future Smart City uses



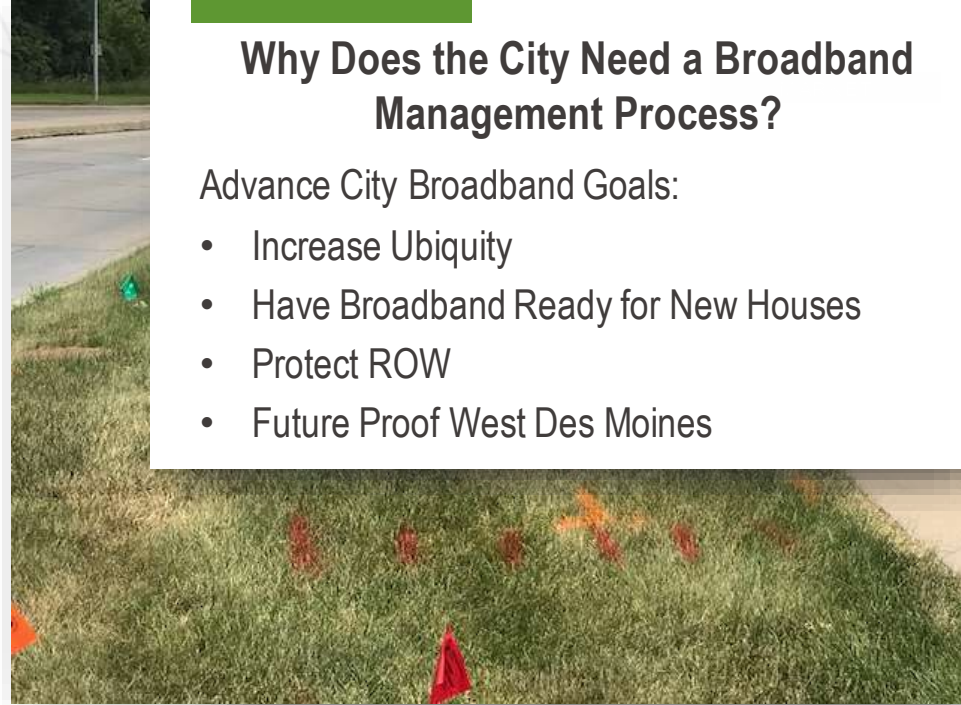


West Des Moines

- Solving 5G means Solving Right of Way
- Creative approach to solving a key municipal problem

SHARED APPROACH TO INFRASTRUCTURE MANAGEMENT

- Solves shared problems
- Creates shared infrastructure to protect Right of Way
- Future and Built Infrastructure
- Facilitate provider engagement
- Operationalizing the system



Why Does the City Need a Broadband Management Process?

Advance City Broadband Goals:

- Increase Ubiquity
- Have Broadband Ready for New Houses
- Protect ROW
- Future Proof West Des Moines

ELK GROVE VILLAGE: ECONOMIC DEVELOPMENT

- Largest Business Park in North America
- Developing P3 to make it the **Smartest** Business Park in North America
- Focus on 5G to drive:
 - Industrial Automation
 - Advanced Supply Chain Management
 - Future Smart City Implementations



RIDING THE WAVE...FROM THE FRONT

- Compliance and Policy
- Create Value for the Future
- Create a Community Strategy
- Partner and Prosper

STEP THREE: CREATE A COMMUNITY STRATEGY

Starting Point:

- Visioning: Where are you going?
- Align to broader community priorities
 - Comprehensive plan
 - Economic development priorities
 - Smart City implementation
- Engage policy and Elected Officials
- Develop community goals for advanced communications



STEP FOUR: PARTNER AND PROSPER

- Facilitate private sector competition and consumer choice
- Explore making some public assets available to private sector
- Facilitate access in public places
- Create private sector relationships to seek **mutual gain**
- Encourage the private sector to make investments
- **Monetize access** to connectivity assets where available

IT'S TIME FOR YOUR QUESTIONS!



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