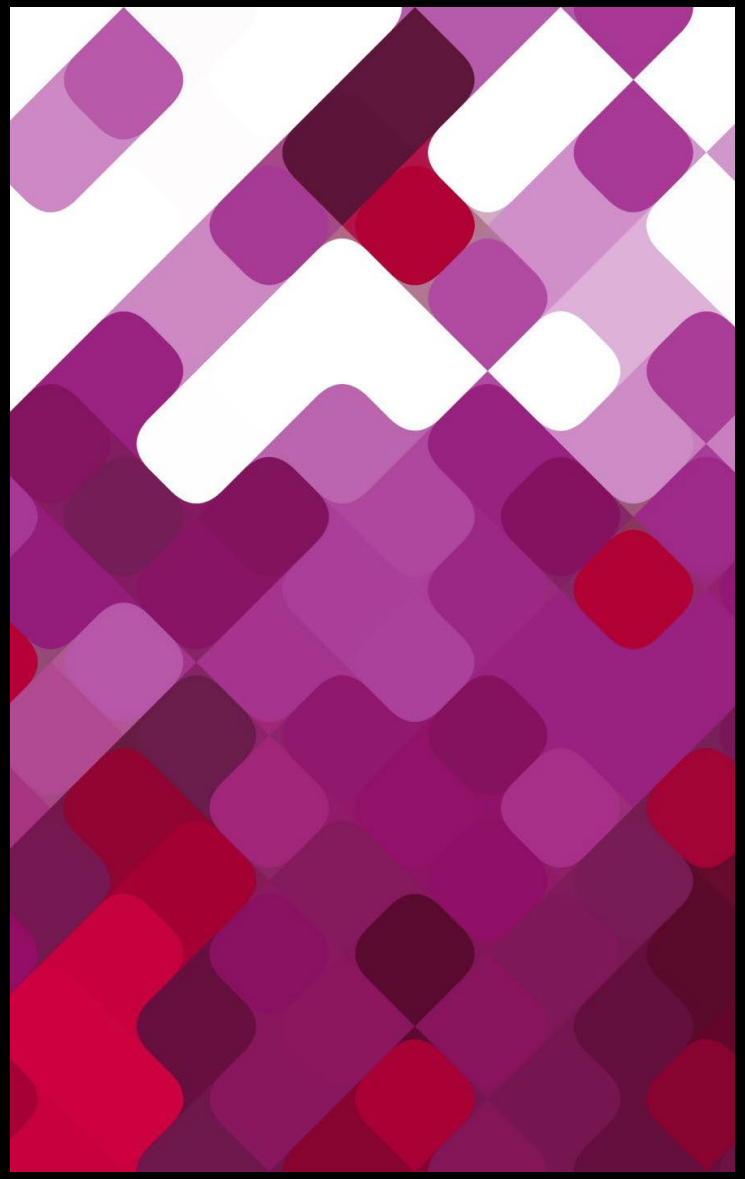


Ordinance Governing Small Cell Wireless Facilities in the Public Right-of-Way

City Council Work Session
February 7, 2022

Presented By: Debi Meling, Public Works Director and
Stacy Tenney, Deputy City Attorney

Evolution of Wireless Technology

1G — 1979 — Introduction of 1G

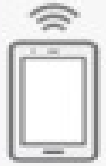
Analog Telecommunications

2G — 1991

Text Messaging

3G — 1998

Mobile and Wireless Internet Connection

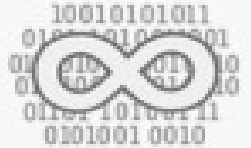


4G — 2008

Cloud, IP and Truly Mobile Broadband

5G — 2019 — Launch of 5G

Unlimited Data Capacity



4G Macro Cell facilities to 5G Small Cell Technology

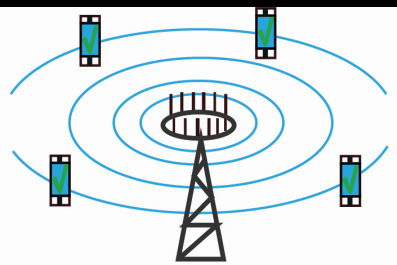
Telecommunication companies are rolling out 5G (5th technology) and adding to 4G coverage

Designed to densify coverage through “small cells” placed closely together (e.g., every 800ft.)

Small cells are antenna and related equipment that telecommunication providers deploy to increase their overall network capacity and to extend wireless coverage.

4G

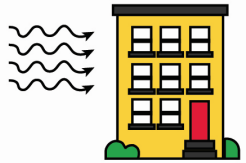
High Powered Antenna Towers broadcast signals over long distances



5G

PROBLEM

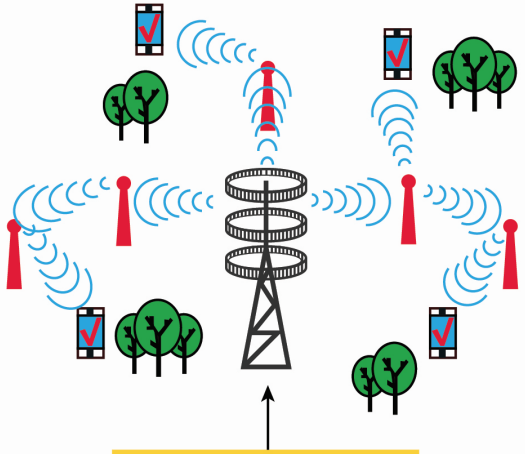
mm waves can’t travel well through buildings and obstacles



mm waves tend to be absorbed by plants and rain

SOLUTION

Using thousands of low power emitting base stations antennas to transmit signals around obstacles



Massive MIMO (Multiple Input Multiple Output)

Overview of 5G's Significance and Characteristics

5G will have three revolutionary characteristics:

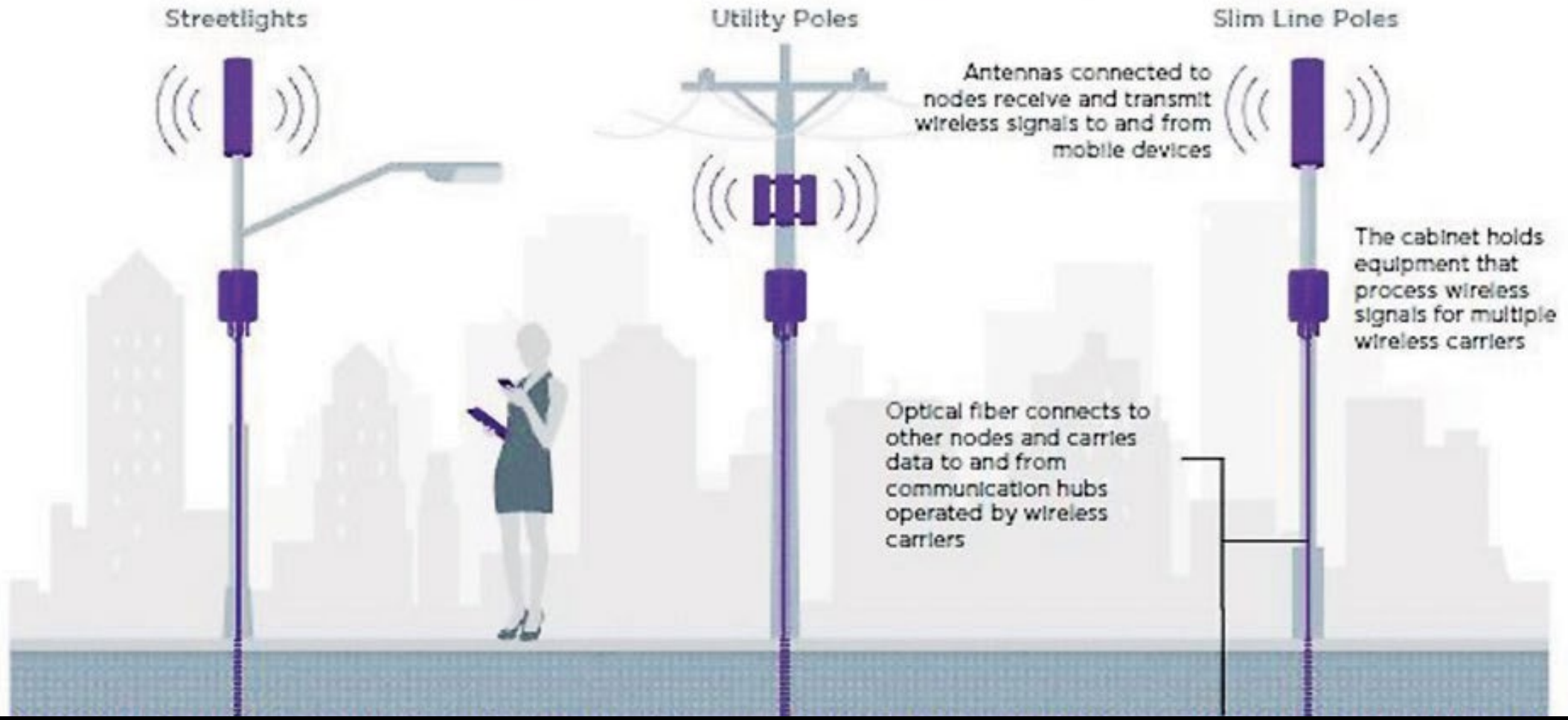
1) Data transfer speeds will be up to 100 times more rapid than 4G, allowing consumers to transmit and download content astonishingly faster than ever imagined.

2) 5G will dramatically reduce latency, which will allow consumers to stream content without delays and glitches.

3) 5G will materially increase device connectivity and capacity abilities, allowing consumers to communicate simultaneously with greater numbers of users and devices.

What Are Small Cell Deployments?

Small cell deployments are complementary to towers, adding much needed coverage and capacity to urban and residential areas, venues, and anywhere large crowds gather



What is Right-of-Way?

Right-of-way (or ROW) is real property dedicated to the public in trust for public use or acquired in fee by the City for purposes of maintaining streets and street improvements, including utility easements which are permitted for use by utilities.

Access to ROW is necessary for optimal 5G small cell deployments

ROW access is crucial because of:

1) fiber optic cables (5G fiber optic backhaul is necessary to flawlessly stream bandwidth-intensive applications)

2) power sources;

3) structures or space for structures to which small cells can be attached (e.g., utility poles, streetlight poles and other structures)

Structure Options in ROW:

1) Installing their own poles and structure and attaching small cells to them;

2) attaching small cells to city-owned poles and structures (whether existing, replacements, or to-be-constructed); and

3) contracting with public utilities to attach to the utility's poles and structures.

Federal Telecommunications Act of 1996 authorizes wireless providers to have the absolute right to place Small Cell wireless facilities in the ROW, subject to:

Design Review of the Small Cell

Density (Location) Standards

Recoupment of Costs of Application Review and ROW Management

Fees charged to Providers cannot effectively prohibit deployment

Fees for application review, right-of-way access and attachment to public property are allowed but must be cost-based and objectively reasonable. The FCC has established the following "safe harbor" fees amounts:

→ *One-time fees:* $500 for an application covering up to five small cell attachments to existing public property; $100 for each additional attachment; and $1,000 for a new pole containing small cell equipment.

→ *Recurring fees:* an annual fee of $270 per unit to cover costs, such as right-of-way maintenance.

The FCC says it believes cities will be able to justify charging higher amounts only in very limited circumstances, and that providers are unlikely to take a city to court if its fees do not exceed these amounts.

Small Cell Wireless Ordinance

- Ordinance governs the placement of all small wireless telecommunication facilities in the public right-of-way.
- Overseen by Public Works Director or designee.
- Establishes application and approval process for small wireless telecommunication facilities in the public right-of-way to promote efficiency in the expansion of wireless service and coverage within the City to serve residents and businesses.
- Imposes reasonable time, place and manner regulations upon the installation of wireless telecommunication facilities within the public right-of-way.
- Prevents visual and physical obstructions that create safety hazards.
- Protects the aesthetics and character of the locations where wireless telecommunications facilities are installed.