



Small Cell Facilities

Federation of Civic
Associations

March 27, 2019



AGENDA

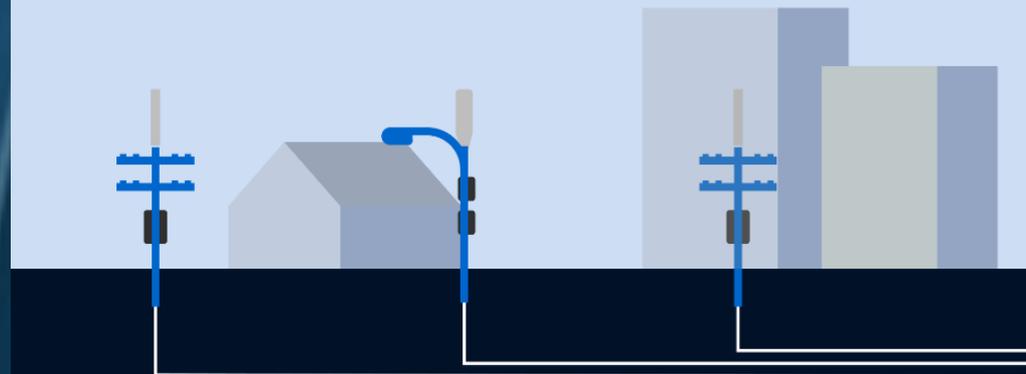
- What are Small Cells?
- Needs, Benefits, & Concerns
- Legal Framework
- What We Know
- Current Process
- Work in Progress & Next Steps

What are Small Cells?

- Small cells are low power wireless installations.
- Small cell antennas and associated equipment can fit on existing utility or streetlight poles.
- Small cell antennas needed to support existing 4G networks, primarily in dense areas

SMALL CELL:

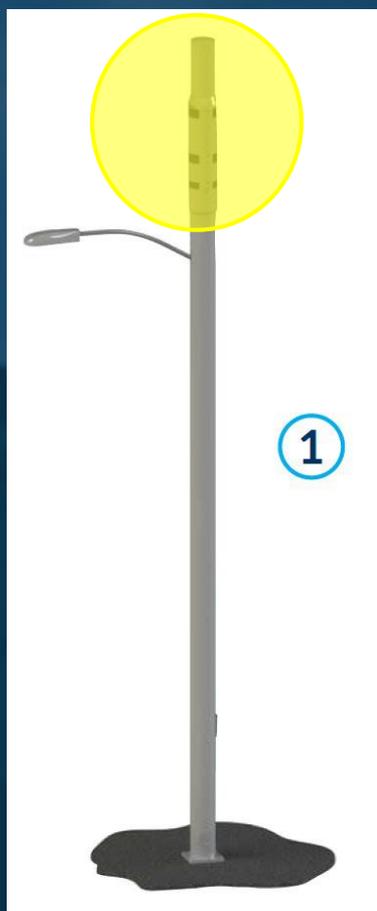
- MULTIPLE NODES SPREAD ACROSS CITY
- MOUNTED ON EXISTING INFRASTRUCTURE
- CONNECTED BY FIBER



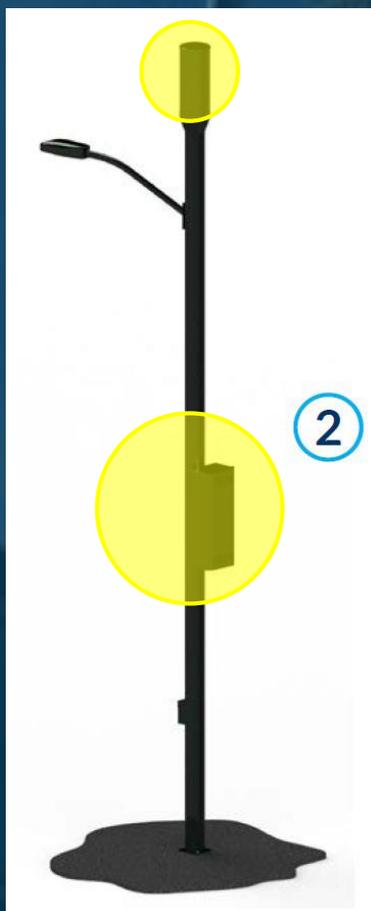
SOURCE: THE CBR GROUP

Types of Small Cells

Pole Top



Mid Pole



Base Pole





Need, Benefits & Concerns

The Need?

- Increasing usage of wireless devices and data; increased demand requires reliable high-speed wireless service

Concerns

- Pressure to greatly increase number of equipment mounted on existing poles
- Pole density will likely be substantially more as 5G deploys in future
- Carriers may prefer to own and operate their own poles and not co-locate on existing utility poles, streetlights, etc.

Potential Benefits

- Increases mobile broadband network service and capacity for the community
- Economic competitiveness
- Increases opportunities to deploy smart city and IoT (Internet of Things) technology
- Robust wireless networks are critical to public safety as 80% of national 911 calls are placed via wireless phones.



Regulatory Rundown

VA General Assembly
adopts SB 1282

VA General Assembly
adopts HB 1258 and SB 405

Oct. 2017

Sep. 2018

Apr. 2017

July 2018

City Council approves zoning
text amendment to comply
with state regulations

FCC issues second Declaratory
Ruling and Order



Changes in Federal and State Law

- Virginia General Assembly enacted new statutes governing small cell zoning in 2017 and 2018.
- FCC issued two orders preempting local authority over wireless facilities in 2018.
- Special rules now apply to facilities to be installed at or below 50 feet in height these are deemed “small cell” or “small wireless facilities.”



Changes in Federal and State Law

- Under both federal and Virginia law, City is now subject to new rules governing:
 - Deadlines for evaluating applications for siting small cell facilities, both in and out of the City's rights-of-way
 - Permitting fees
 - Aesthetic standards that may be applied to a facility
 - Undergrounding requirements
- In some cases, these may conflict



Effect on Legal Changes on City

- City applies “like for like” regarding pole replacement
- Zoning Ordinance regulations for small cell facilities will need to be updated to conform with new Virginia laws & FCC rules.
- Undergrounding policy limits installation of stand-alone poles and prohibits installation of new poles in ROW.
- Wireless carriers still need to obtain franchise agreements authorizing placement within City ROW.



What We Know

**Small Cells =
Infrastructure**

5G = Technology





What We Know About 5G

- 5G is the successor to current “4G” wireless technology; common “5G NR” technical standard was released in December 2018.
- 5G networks can support a larger number of devices than current networks – as reliance on smartphone apps increases, carriers will deploy 5G to support current services in high use areas as well as new services.
- Designed to improve connection speeds and reduce latency (internet response time).
- Lower latency is essential for advanced services, such as driverless cars.
- Carrier roll-out claims largely based on testing and marketing efforts.
- 5G smartphones available in 2019, but networks won’t be able to deliver new services until at least 2020 – assuming network in an area has been built.



What We Know

Key points for the City:

- Current “4G/4G+” deployments are aimed at increasing capacity in high-use areas. 5G will come later, facilities are likely very similar.
- Networks are not truly wireless: Carriers need ROW access for fiber backhaul.
- Antennas are small enough to place on existing utility poles, but ancillary equipment is visible.
- Over long term, carriers may need antennas per block, at or below rooftop level.



What We Know

Key points for the City:

- Each carrier and infrastructure provider has independent right to install facilities under Virginia law and FCC rules.
- Overall, both current (still 4G) and future (5G) equipment will supplement rather than replace existing networks.



Current Zoning Process

- Established in 2017
- Guided by state law
- 60-day review period upon submission
 - Routed to multiple city departments and agencies
- Deemed approved if final decision not rendered within 60-day review period (per state law).

The form is titled "DEPARTMENT OF PLANNING AND ZONING Small Cell Facilities for Wireless Communications Application Cover Sheet". It includes a header with the city seal and the department name. Below the title, there are fields for "Date Received" and "Date Deemed Complete". The form is divided into two main sections: "Part I. Identification of Applicant" and "For City Staff Use Only".

Part I. Identification of Applicant

Applicant Name: _____ Applicant Contact Person Name: _____
Applicant Address: _____
City _____ State _____ ZIP Code _____
Applicant E-mail: _____ Phone: _____

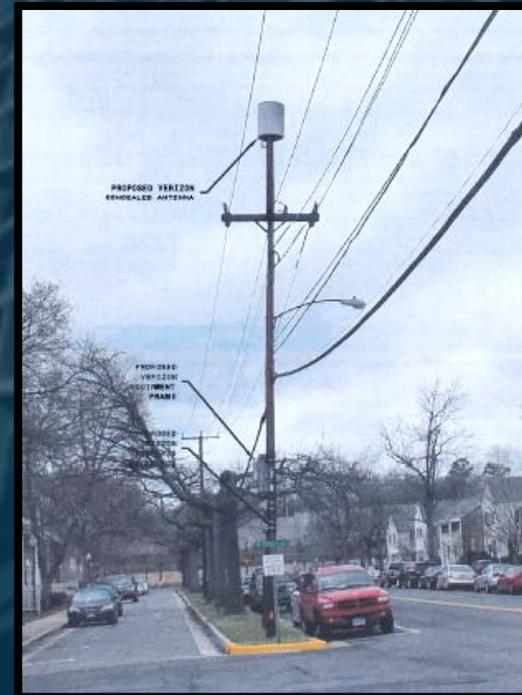
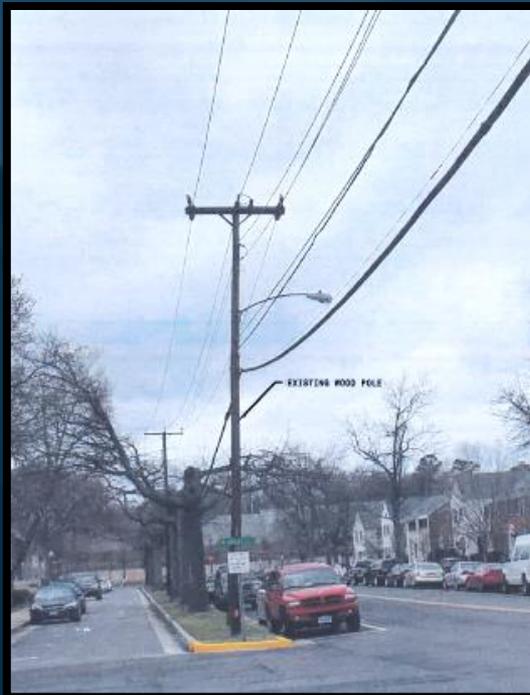
For City Staff Use Only

Department	Disposition	Staff	Date
Board of Architectural Review (BAR)	Disposition: <input type="checkbox"/> Approved <input type="checkbox"/> Denied <input type="checkbox"/> Not Applicable	BAR Staff	Date
Emergency Communications (DEC)	Disposition: <input type="checkbox"/> Approved <input type="checkbox"/> Denied <input type="checkbox"/> Not Applicable	City Radio Communications Manager	Date
General Services	Disposition: <input type="checkbox"/> Approved <input type="checkbox"/> Denied <input type="checkbox"/> Not Applicable	General Services Staff	Date
Recreation, Parks and Cultural Activities (RPCA)	Disposition: <input type="checkbox"/> Approved <input type="checkbox"/> Denied <input type="checkbox"/> Not Applicable	RPCA Staff	Date
Planning and Zoning (P&Z)	Disposition: <input type="checkbox"/> Approved <input type="checkbox"/> Denied <input type="checkbox"/> Not Applicable	Director, Planning & Zoning	Date
Transportation & Environmental Services (TES)	Disposition: <input type="checkbox"/> Approved <input type="checkbox"/> Denied <input type="checkbox"/> Not Applicable	TES Staff	Date



Applications to Date

- City has received 21 applications since state law enacted in 2017.
- 3 applications have received zoning approval.





Current Work in Progress

- Meetings with community and stakeholders
- Staff is drafting proposed amendments to Zoning Ordinance to respond to Virginia law and FCC regulations
- Drafting interim aesthetic guidelines for small cell facilities that complies with regulations
- Reviewing current policies governing undergrounding, new poles, and replacement
- Exploring development of Smart Technology Framework
- Developing/revising internal staff guidance documents as appropriate



QUESTIONS?

Richard Lawrence, AICP

Richard.Lawrence@alexandriava.gov