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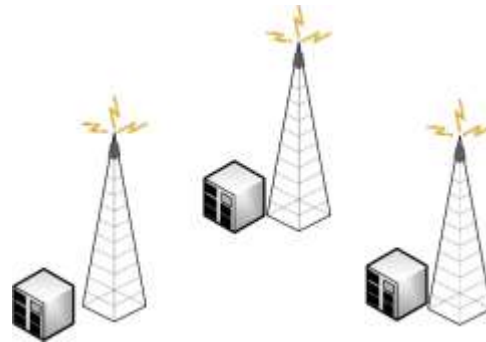
# SMALL CELL DEPLOYMENT IN THE PUBLIC RIGHT-OF-WAY

City of College Park – Public Meeting – June 28, 2022

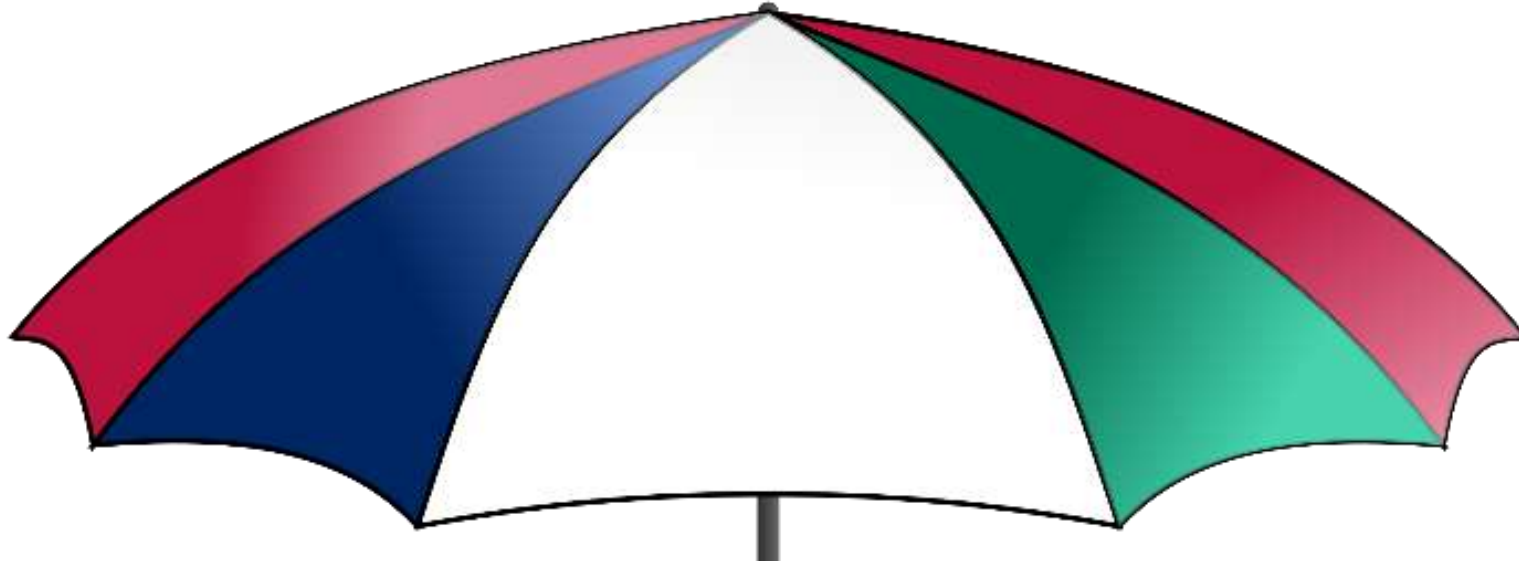
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CTC Technology & Energy

# Increase in wireless carrier locations

- ▶ Increase in mobile data demand
  - ▶ Requires increased data capacity
  - ▶ Requires improved coverage AND density
- ▶ Solution is more towers or alternatives



# What is a small cell?



“Small cells’ is an umbrella term for operator-controlled, low-powered radio access nodes, including those that operate in licensed spectrum and unlicensed carrier-grade Wi-Fi. Small cells typically have a range from 10 meters to several hundred meters.” - Small Cell Forum

Metro cells  
Pico cells



Femtocells  
Microcells  
Distributed Antenna Systems (DAS)

# Development of small cells

- ▶ Historically, to support voice-only applications, wireless providers installed 150- to 200-foot transmission towers and monopoles (aka macro sites)
- ▶ Broadband 4G and 5G technologies require greater bandwidth and signal strength than voice-only
- ▶ Service providers moved from tall tower deployment to neighborhood wireless transmission facilities with smaller coverage

## FCC regulations: public right-of-way

- ▶ FCC refers to small cell sites as Small Wireless Facilities (SWF)
- ▶ Carriers have the right to deploy in a jurisdiction's right-of-way (ROW)
- ▶ Jurisdictions cannot ban SWFs in the ROW
- ▶ Carriers must abide by jurisdictions' zoning and regulatory requirements in order to receive a building permit or equivalent
- ▶ Jurisdiction has 60 days to approve a qualified application
  - ▶ Ten calendar days to notify carrier if any corrections or further information is required
  - ▶ A Request for Information (RFI) stops the 60-day clock

# FCC definition of an SWF

- ▶ The structure on which antenna facilities are mounted:
  - ▶ Is 50 feet or less in height; or
  - ▶ Is no more than 10 percent taller than other adjacent structures; or
  - ▶ Is not extended to a height of more than 10 percent above its preexisting height as a result of the collocation of new antenna facilities; and
- ▶ Each antenna (excluding associated antenna equipment) is no more than three cubic feet in volume; and
- ▶ All antenna equipment associated with the facility (excluding antennas) is cumulatively no more than 28 cubic feet in volume; and
- ▶ The facility does not require antenna structure registration; and
- ▶ The facility does not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified by federal law

# Overview of application process

- ▶ Wireless carrier or a representative files an application for an SWF
- ▶ Application review
  - ▶ Verifies need for new antennas
  - ▶ Assures the support structure meets needs
- ▶ Recommendations based on:
  - ▶ Engineering
  - ▶ Zoning compliance
  - ▶ Appropriateness of siting to meet carrier's stated goals
  - ▶ Impact on community

# Application review

- ▶ Engineering review: Can an existing structure be used to support the antenna(s)?
- ▶ Review documentation that demonstrates need (propagation maps for new structures)
  - ▶ Conduct site visit
  - ▶ Verify application information regarding site
- ▶ Evaluation of visual impact
  - ▶ Screening of equipment?
  - ▶ Commercial vs. residential areas



# Application review

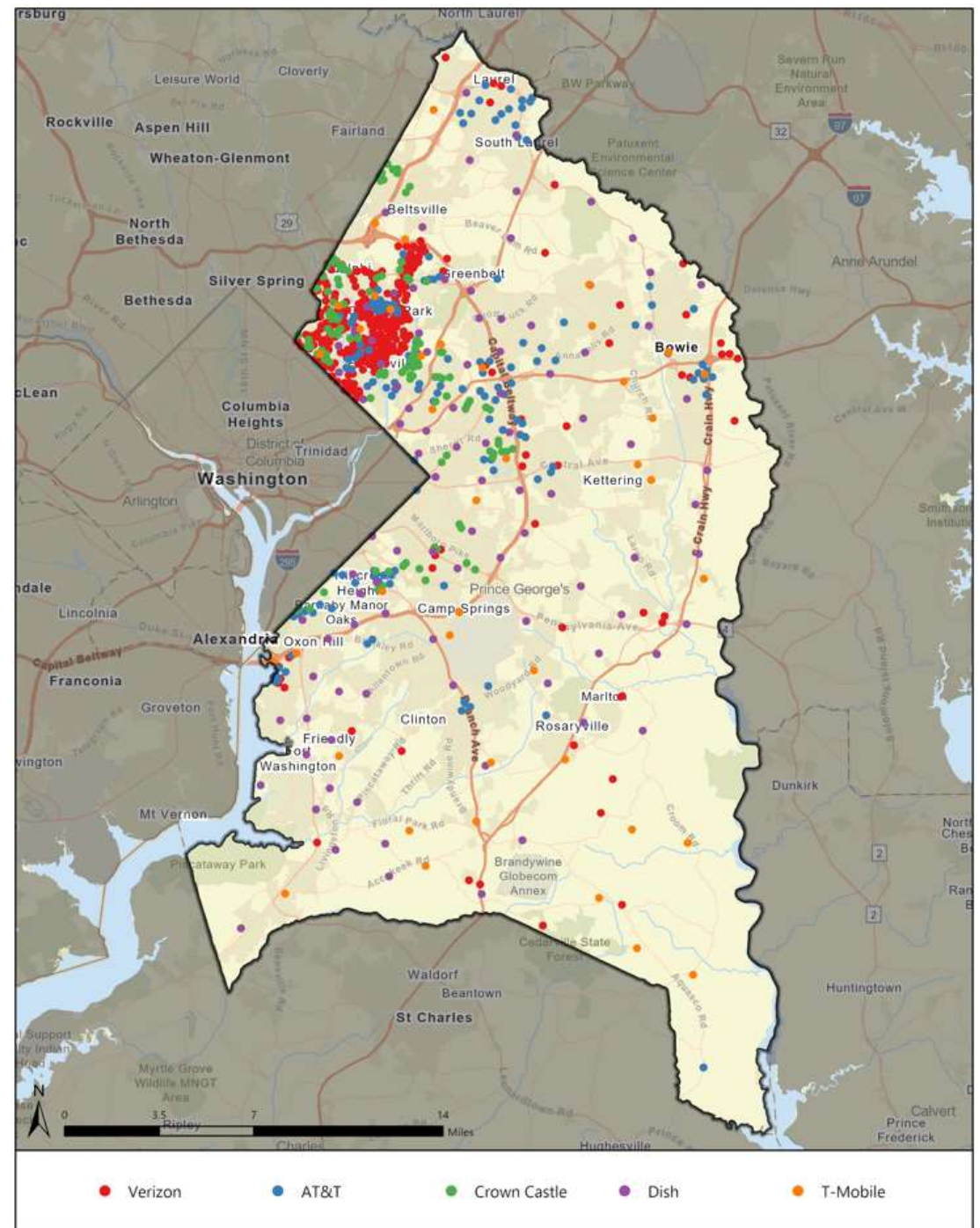
- ▶ Adding new antennas to an existing structure (utility pole, light pole)
- ▶ Zoning review: Is antenna placement permitted?
- ▶ Plan review: Are other antennas planned there?
- ▶ Radio frequency review: Are there any conflicts with the frequency utilized?
- ▶ Structural review: Can the structure physically support the new antennas?

# County projections

- ▶ Each carrier is required to submit an annual plan on August 1.
- ▶ Dish Wireless: only on existing macro sites for colocation
- ▶ Crown Castle is expected to file on behalf of T-Mobile for SWF.
- ▶ 823 sites were proposed for fiscal year 2022.
- ▶ 661 were proposed for SWF.
- ▶ 20 were proposed for College Park.
- ▶ Carriers are under no obligation to make an application for all the sites included in their plans, but applications cannot be accepted unless noted on the plans.

Carrier	Macro Sites	SWF
AT&T	10	145
Crown Castle	0	118
Dish Wireless	105	0
T-Mobile	41	0
Verizon	15	398

# FY22 projected sites by carrier



# American Legion - Glenarden

Private property; 12-inch antenna at 20 feet, 24-inch antenna at 30 feet



# Bowie Walmart parking lot

27.5-inch antenna at 25 feet on a 42-foot light pole



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QUESTIONS?