



Wireless Technology Community Meeting

Montgomery County, Maryland

June 14, 2017





Wireless Community Meeting Agenda

- Demand for more wireless antennas
- County authority to manage these new antenna requests
- New Federal Communications Commission preemption threat
- What the County is doing to address Radio Frequency (RF) emission concerns
- County antenna siting process and suggested improvements
- Zoning changes – Community discussion





What Is Driving Demand For More Antennas?

- More people are using mobile devices for video
- To make better use of 4G spectrum, providers need “densification”
 - More lower height antennas (“microtowers” with smaller antennas) to supplement taller macrotowers
- To plan for new 5G spectrum, antennas to be closer to devices – 5G doesn’t travel as far, but the spectrum also needs to be repeatedly and rapidly reused to maximize capacity





Federal Restrictions on Managing Antennas

47 U.S.C. Section 332(c)(7)

- The County cannot enact laws that prohibit or have the effect of prohibiting service, nor deny permits based on the environmental effects of radio frequency emissions other than FCC's standards
- We have to process applications within specific time limits:
 - 60-day "deemed granted" shot clock under Section 6409(a) of the Spectrum Act
 - 90-day shot clock, FCC interpretation of Sec. 332(c)(7) of the Communications Act
 - 150-day shot clock, FCC interpretation of Sec. 332(c)(7) of the Communications Act





Recent FCC Actions

- Opened 3 new proceedings less than 4 months asking for suggestions on ways to further preempt local zoning, suggesting:
 - Even shorter time frames to process applications
 - Limit regulatory fees to cost
 - Limit compensation for property use to cost
 - Enact preemptory zoning (or “deemed granted”) for failure to act within time limits instead of courts as remedies to arbitrate disputes





County Executive's Message

“Our collective message from Montgomery County and our entire federal delegation to the FCC is that preemption efforts at the Federal level on this matter are not in the best interests of County residents. Local governments’ balance approach has not prohibited carriers’ ability to provide service. We need to retain our authority to grow access to wireless services while also reducing the adverse impacts of small cell and 5G deployments on residents and continuing to protect the quality of life in our neighborhoods.”





What Is the County Doing to Address RF Concerns?

- FCC has exclusive authority to regulate radio frequency (RF) emissions standards – it last updated rules in 1996
- County been asking FCC to update RF emission standards since 2010. FCC opened proceeding in 2013 to determine whether rules should be updated.
- CE Leggett, Council VP Riemer, Rep Raskin and staff from entire congressional delegation met with FCC Chairman in May. CE specifically asked FCC to complete 2013 proceeding before issuing new zoning preemption rules.
- County is working to find Congressional coalition to address issue.





Permissible Management of Antennas

- Regulate placement, construction and modification of antennas, and enforce safety and RF standards
- Update regulatory review process and zoning code to incentivize colocations – reduce the need for more towers and make them more compatible with neighborhoods
- Demonstrate that a managed process allows service, without requiring a one-size fits all approach that imposes inappropriate community uses

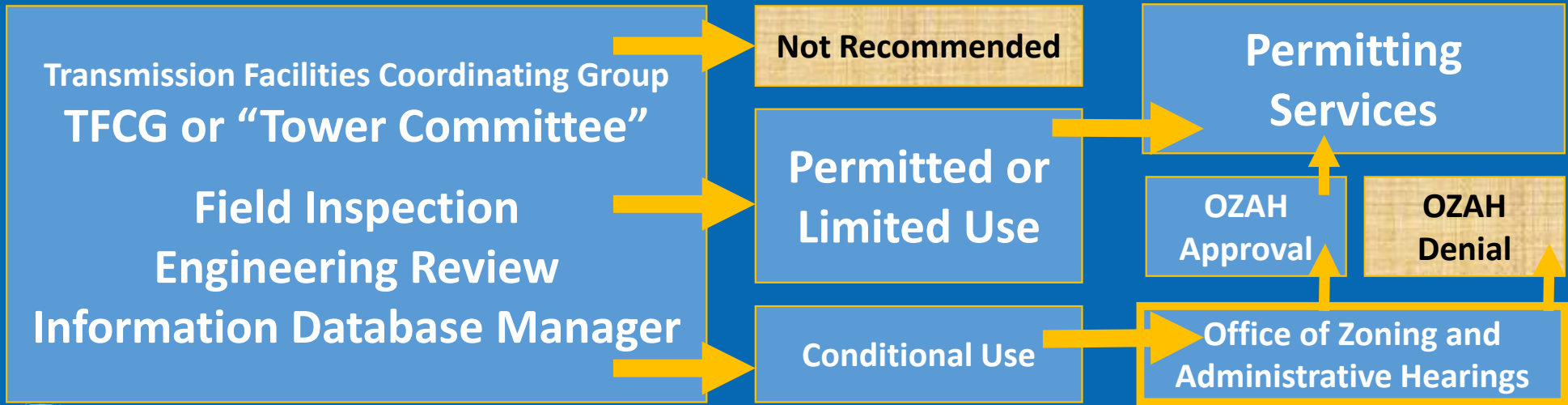




County Antenna Siting Process

→ → → 30 – 60 Days → → →

→ → 90 Days



→ → → 30 – 60 Days → → →

→ → 150 Days





Zoning 101

- OZAH is the designated forum for public hearings on siting applications – one public hearing to comply with FCC time limits
- OZAH reviews Conditional Use applications to determine whether an application proposes a compatible community use
- Limited Use creates specific use requirements – it is presumed that an application will be a compatible community use because it meets specific requirements





Suggested Process Improvements

- Require proof of permission to use property as part of TFCG
- Require TFCG Recommendation to be used within limited period
- Require missing application information be submitted within time limit or application is forfeited
- Use on-line submission to weed out worst of incomplete applications and increase transparency





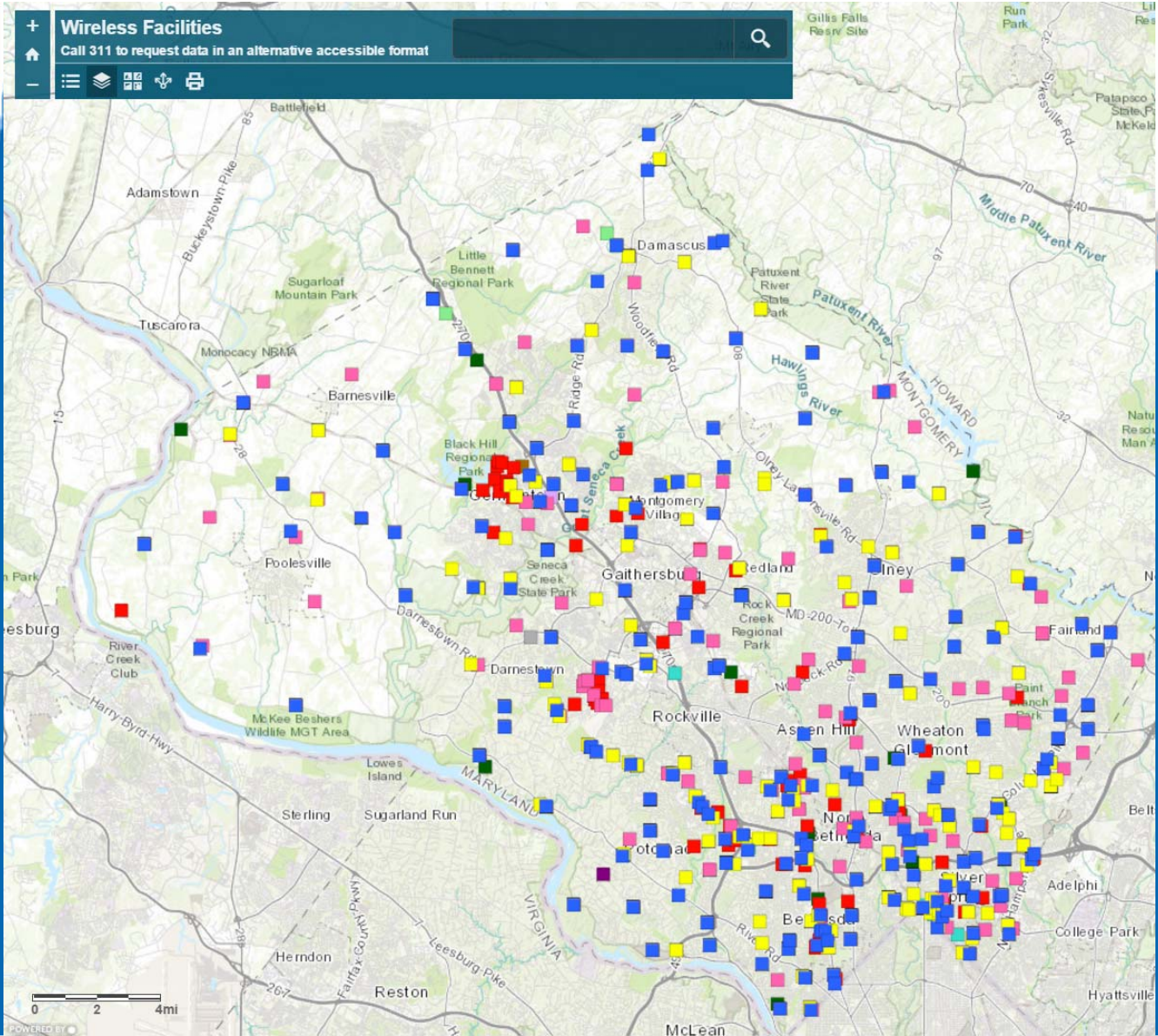
Suggested Process Improvements (continued)

- Address utility pole height increases to extent permitted by law
- Require 100% post-construction inspection to ensure deployments are built as promised
- Review size and technical requirements every 3 years
- Add mapping and more open data tools for residents





New Mapping Tool





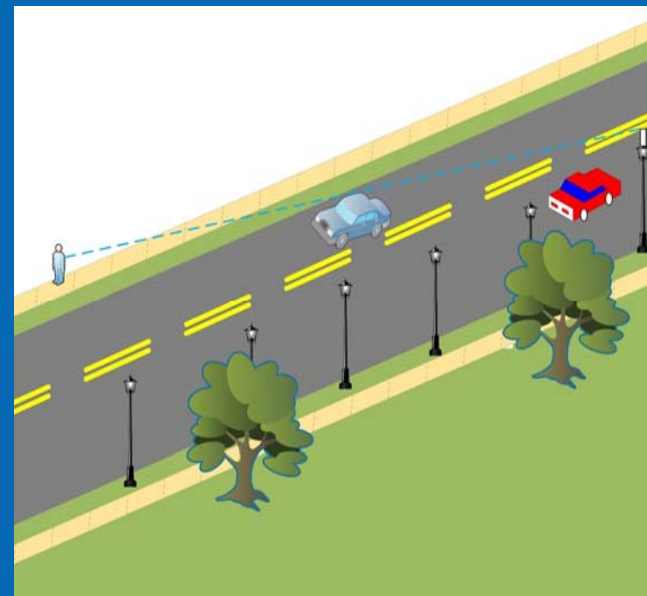
Additional Insights

- Montgomery County will continue to work to improve connectivity for all residents
- County seeks a regulatory environment that drives innovation and partnerships
- Industry wants transparency and certainty
- Antenna, radio head, and enclosure manufactures will continue to make more compact and robust equipment



What Is a “Small Cell”

- An undefined marketing term
- 5G standards don't exist yet (March 2018)
- Antennas and equipment are smaller than traditional macrocells but not insignificant – camping cooler vs dumpster equipment size
- Equipment cabinet for radio heads is also needed – radio heads convert analog RF into digital IP
- Antennas need power and typically fiber for backhaul





Specific Zoning Changes – General Concepts

- Treat underground utility areas differently than aerially wired areas
- Allow smaller height increases in residential areas
- Create more colocation options as alternative to adding more poles
 - Require use of existing streetlights where possible
 - Allow deployment on shorter-height retail, commercial and apartment buildings, but require more camouflage and smaller antennas





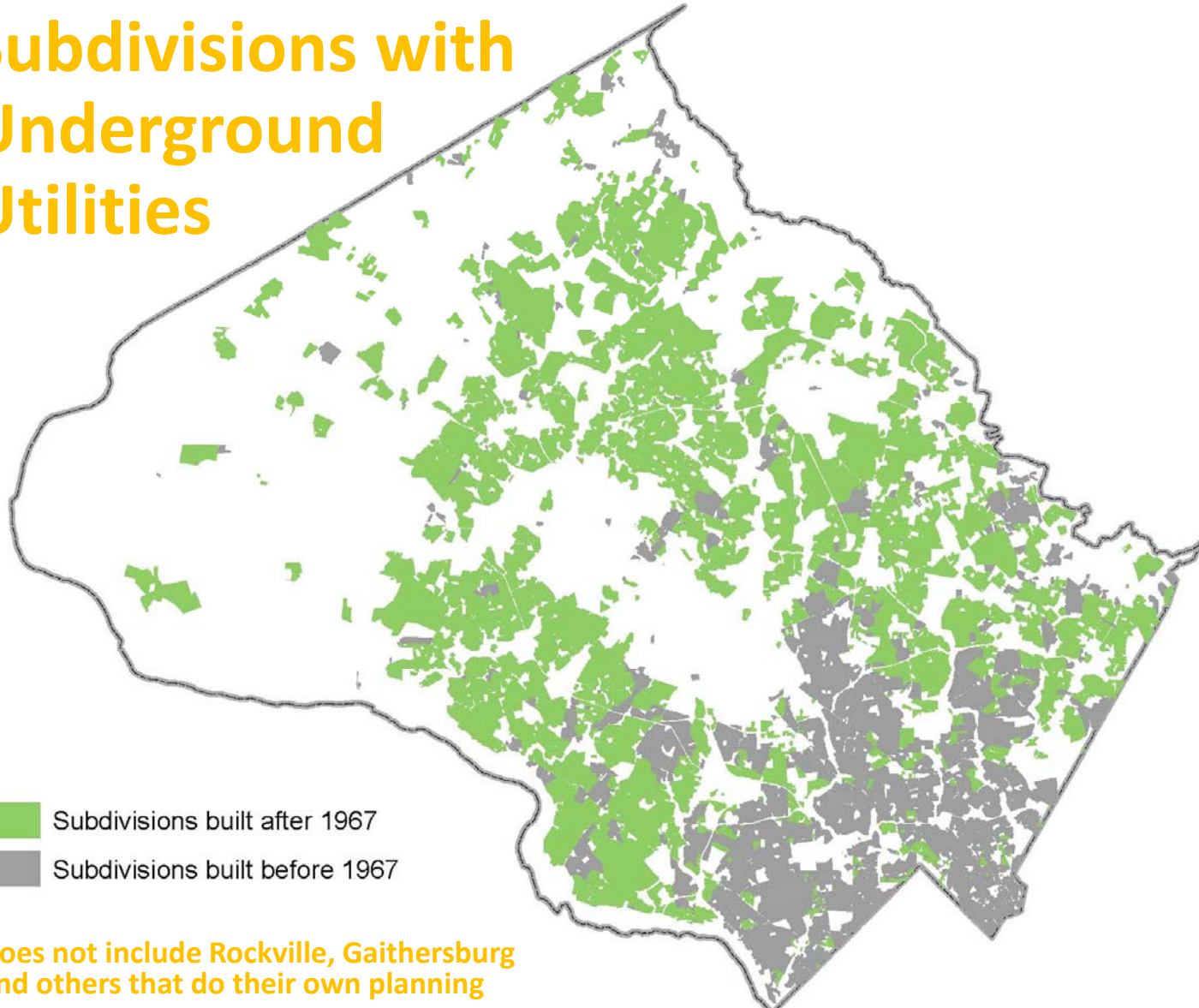
If Existing Streetlights, Utility Poles, Not Available

- New poles would be permitted as Conditional Use only
- At least 1-foot for 1-foot of pole height, set back limit
- Similar height limitations for Limited Use
- OZAH administrative review with public notice, public hearing, and hearing examiner report
- OZAH discretion to batch upon request, up to 5 applications of similar type, on similar structures, on same neighborhood into single hearing

Decision must be made within 150-day FCC time limit



Subdivisions with Underground Utilities

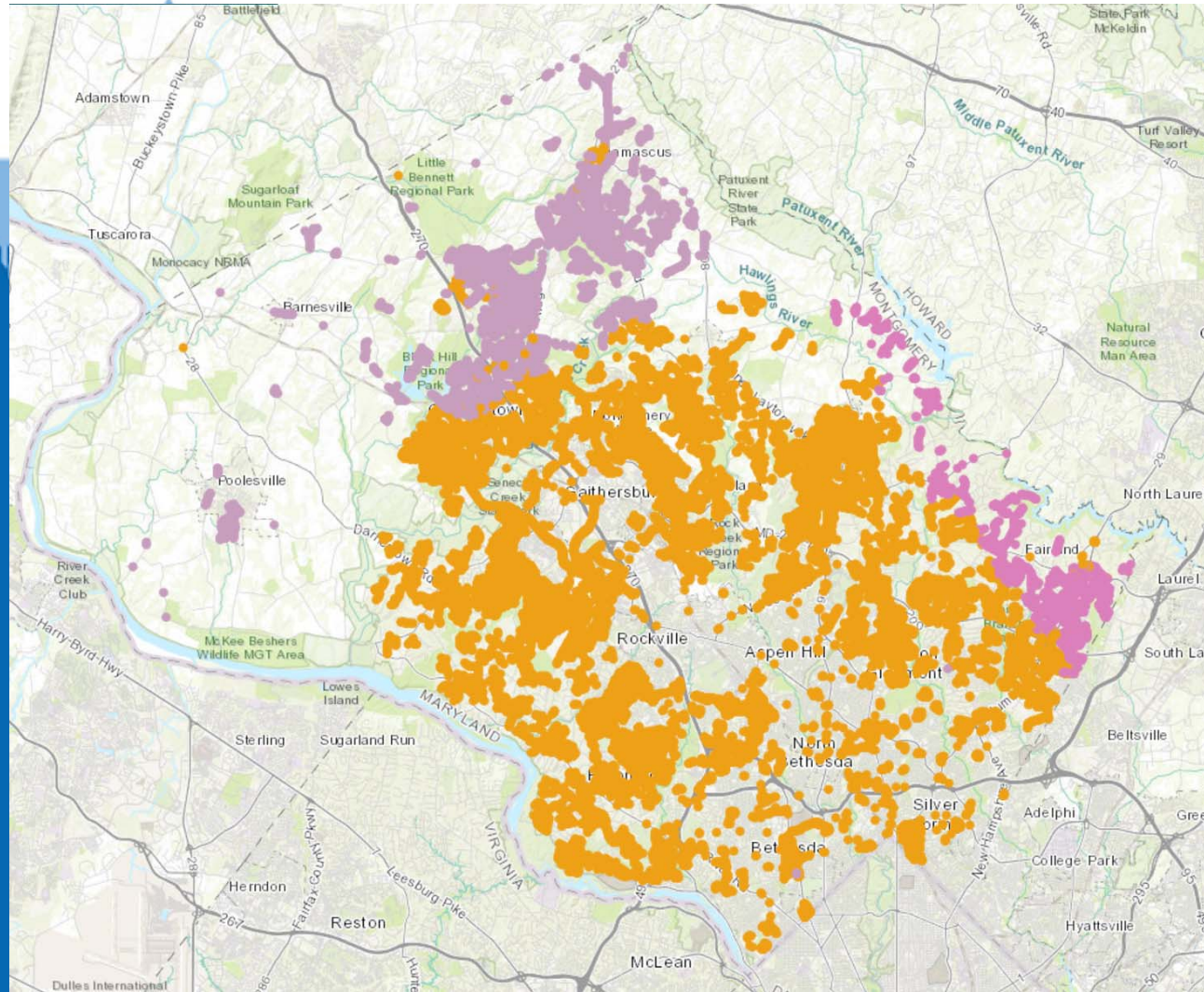


- Subdivisions built after 1967
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Does not include Rockville, Gaithersburg and others that do their own planning



County has many streetlights that can be used instead of adding more poles



Streetlights & Utility Poles





Draft Changes for Replacements Poles as Limited Use

| Utilities | Area | Streetlight Height | Additional Height | Antenna Size | Cabinet Size | Cabinet Ht from Ground |
|-----------|----------------------------|--------------------|-------------------|--------------|----------------------------|------------------------------------|
| UG | Residential | 14' to 16' | 5' | 4' x 16" | 50"x32"x12" | Pedestal, Ground Cabinet, or 8' Up |
| UG | Residential | 25' to 27' | 5' | | 50"x32"x12" 6' x 2' x 1 | |
| UG | 4+ lane road or Commercial | 25' to 27' | 10' to max 35' | | Same, maybe stealth | |
| Aerial | Residential | ~25' to 35' | 10' | | 50"x32"x12" 6' x 2' x 1 | 8' Up |
| Aerial | 4+ lane road or Commercial | ~35' to 45'+ | 10' | | 50"x32"x12" 6' x 2' x 1 | 8' Up |





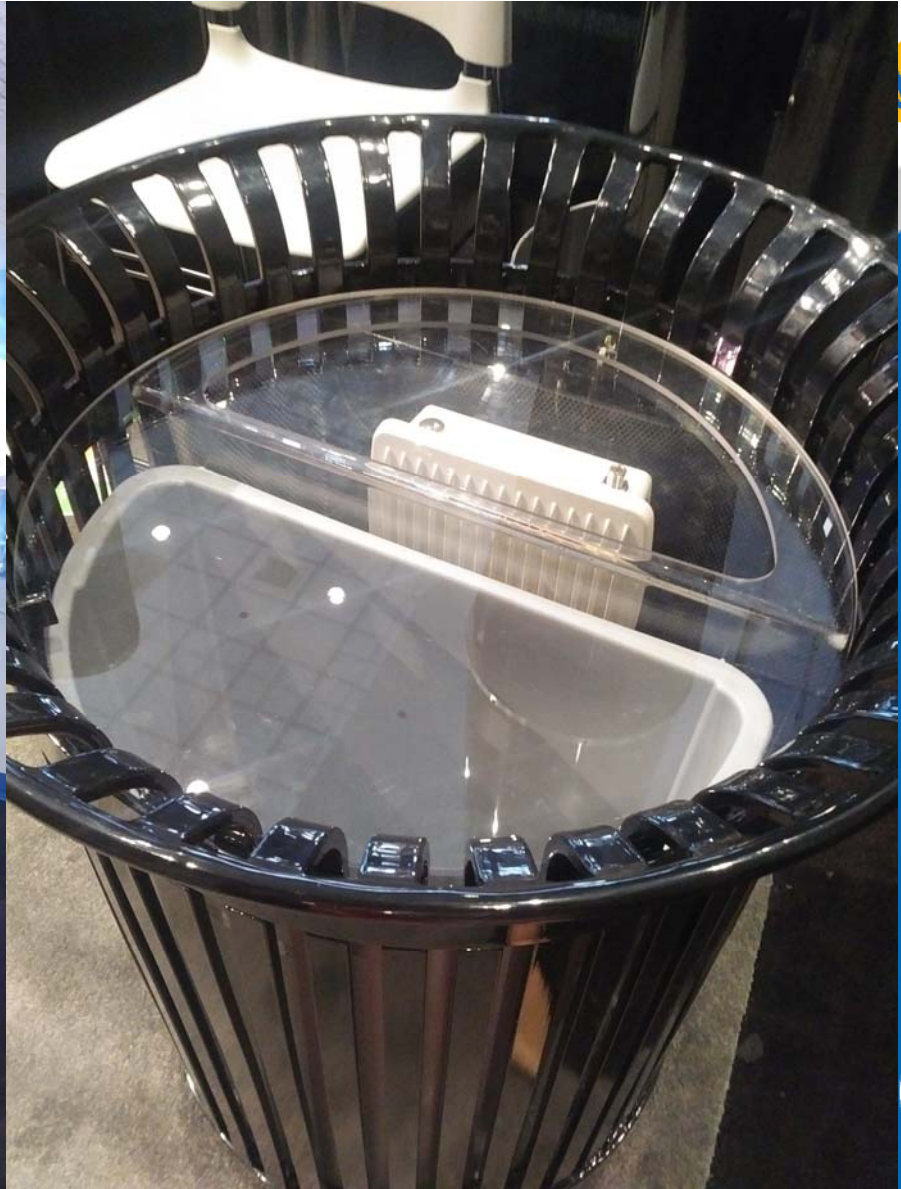
14' to 16' Colonial Streetlight Replaced with 19' to 20' side mounted or ground cabinet





27' Cobrahead-Style Pole with Panel Antennas & Equipment









Summary of Building Changes

| Antenna Type | Antenna Size | Camouflage | Residential Bldg Ht | Commercial Retail Bldg Ht | Cabinet Size | Ht Off Ground |
|------------------------------|--------------|------------|---------------------|---------------------------|----------------------------|---------------|
| Panel | 9' x 2' | X | 35' | 30' | 50"x32"x1" 6' x 2' x 1' | 15' |
| Cube | No side >4' | Screened | | 20' | | |
| Small Cell Residential | 4' x 16" | Screened | | X | | |
| Small Cell Commercial Retail | | Painted | X | 20' | | |
| | | Screened | X | 13' | | |





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www.MontgomeryCountyMD.gov/Towers

