



PRINCE GEORGE'S COUNTY GOVERNMENT

Office of the County Executive

Angela D. Alsobrooks
County Executive

October 15, 2019

The Honorable Todd M. Turner
Chair, Prince George's County Council
County Administration Building
14741 Governor Oden Bowie Drive
Upper Marlboro, Maryland 20772

Dear Chair Turner:

I am pleased to present for your consideration Prince George's County's Telecommunications Transmission Facilities Coordinating Committee (TTFCC) 2019 Master Plan and Fiscal Year 2019 Annual Report. The Master Plan provides locations where one or more wireless service providers have sited telecommunications antennas or may site antennas in the future. The Annual Report informs the County Executive, the County Council, and our citizens of the TTFCC activities during Fiscal Year 2019.

The symbols shown on the Plan indicate existing antenna sites where an application to site antennas has been reviewed and recommended by the TTFCC. Some sites may not have been built yet due to the carrier's schedule. Locations include buildings, monopoles, electric utility transmission line towers, and water tanks. The search rings identify areas where the telecommunication carriers (T-Mobile, Cingular/AT&T, Verizon, Sprint-Nextel and others) intend to site antennas in the future. The identification of these sites is an important part of the TTFCC's promotion of the use of co-location sites to limit the need to build new structures throughout the County.

The Plan is based on information provided to us as part of the telecommunications carriers' required Annual Plan updates. The specific locations of future antenna sites are provided to the TTFCC as proprietary information and are incorporated into a confidential TTFCC database that the County's Telecommunications Transmission Facility Coordinator maintains. As the TTFCC has directed, these confidential future search rings are shown on the Plan in areas approximately one-mile in diameter. They do not identify the carrier or the specific site in order to maintain the carriers' confidentiality, yet still meet the intent of the County Code requirements for the Master Plan and address identified Homeland Security concerns.

The Plan will provide public information to County citizens, elected officials, and the telecommunications carriers. The Plan will facilitate public participation in the telecommunications siting process.

The Annual Report summarizes the purpose, procedures, activities and history of the TTFCC. The Report offers a summary of the accomplishments and strategies that are recommended for further improving the TTFCC's activities.

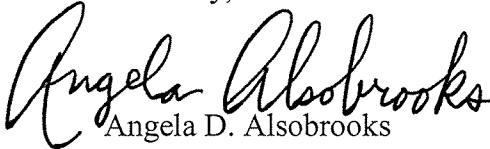
Highlights of the Report are:

- The TTFCC reviewed 345 applications to place antennas in the County during FY 19.
- Nine of the 345 applications were to construct new support structures.
- 95% of applications were to add or replace antennas at existing locations and were approved administratively.
- The TTFCC has reviewed 3799 applications since its inception in 2000.

The TTFCC is very proud of the 2019 Master Plan and Fiscal Year 2019 Annual Report. Together, they provide essential public information and facilitate public participation in the telecommunications siting process.

Should you have any questions or concerns, please do not hesitate to contact Ms. Michelle D. Lyons, TTFCC Chair. Ms. Lyons and the TTFCC's Technical Consultant, James Crane, are available to provide a briefing on the Master Plan and Annual Report if you so desire.

Sincerely,



Angela D. Alsobrooks
County Executive

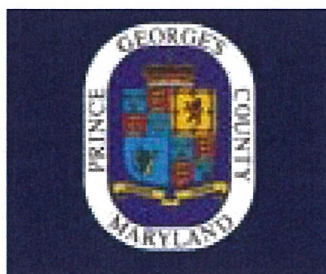
Enclosure

cc: The Honorable Rodney Streeter, Vice Chair, County Council, District 7
The Honorable Thomas Dernoga, County Council, District 1
The Honorable Deni Taveras, County Council, District 2
The Honorable Dannielle Glaros, County Council, District 3
The Honorable Jolene Ivey, County Council, District 5
The Honorable Derrick Davis, County Council, District 6
The Honorable Monique Anderson-Walker, County Council, District 8
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Michelle D. Lyons, TTFCC Chair, Department of Permitting, Inspections and Enforcement
James Crane, CTC, TTFCC Technical Consultant

TELECOMMUNICATIONS TRANSMISSION FACILITY COORDINATING COMMITTEE 2019 ANNUAL REPORT



**PRINCE GEORGE'S COUNTY, MARYLAND
ANGELA D. ALSOBROOKS, COUNTY EXECUTIVE**



Cover Photo

Small Cell Technology in the Public Right-of-Way

The cover photo shows an existing Verizon small cell installation on privately owned commercial property in Bowie. The two photos below offer a closer look at the 27-inch-high antenna that has been attached to the 42-foot light pole.



In early 2019, a Federal Communications Commission (FCC) Order preempted state and local authority and mandated that wireless companies be granted low-cost, streamlined access to public property to install small wireless facilities (SWF, or “small cells”). The Order also created new time limits for local governments to act on applications (“shot clocks”), limited the application fees that local governments can charge, and established other rules that govern the placement of small cells in the public right-of-way (ROW).

The Order did not remove all local control; for example, there is leeway for establishing local aesthetic standards and for charging fees higher than the Order’s “safe harbor” levels (e.g., \$500 for a single application that includes up to five SWFs and \$270 per facility per year for all recurring fees) if the locality can document its higher costs.

The Order was nominally about 5G and enabling the wireless industry to install the huge number of new antennas it will need to deliver future 5G services. (The 5G wireless bands can support many users but propagate over relatively short distances—so carriers need to densify their existing networks to bring antennas closer to users.) But 5G technical standards—which are still under development—are enhancements to existing 4G services. So as a more practical and immediate matter, the Order is enabling carriers to deploy new antennas for their existing 4G services.

A number of 5G pilot projects have appeared in parts of the United States—and some applications for installing 5G facilities have been made in Prince George’s County. The future 5G

networks are envisioned as a means of delivering the next generations of mobile broadband applications with faster speeds and, in particular, low-latency communications for machine-to-machine communications and the Internet of Things.

Once the 5G standard is approved, the migration from 4G to 5G service should be invisible to the County's residents. In the interim, the main issue facing the TTFCC, the County, and its residents remains the same: Deployment of small cells will be accelerating in the County—particularly in the more densely populated neighborhoods inside the Beltway.

While there have been successful small cell colocations within Prince George's County on existing privately owned structures, including commercial buildings, the projected increase in applications is for colocations on structures located in the public ROW. Any installations on these structures must abide by the County's permitting process and not conflict with any existing franchise, license, or contracting agreements related to the ROW.

Prince George's County has experience reviewing applications and issuing permits for siting in the ROW, including by entities such as cable and telephone companies, traditional utilities, and governmental users (e.g., traffic lights, traffic signs, fire hydrants, sidewalks, and trails). Evaluating small cell applications will require extensive engineering review and ongoing analysis of relevant FCC regulations and state legislation; indeed, the anticipated increase of applications to deploy small cells in ROWs has made the enactment of effective siting policies a priority for many local governments nationwide.

Legislation regarding the process for small cell applications in the ROW is being formalized and should be available in the near future. In the meantime, Prince George's County continues to accept small cell applications for installation on privately owned structures.

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1. Executive Summary

The Telecommunications Transmission Facility Coordinating Committee (TTFCC) received 345 applications in FY19—a 19 percent increase from the 289 applications received in FY18, and the most applications received since at least 2005.

Of the 345 applications received, only nine were for new structures. The majority of the applications received—308—were minor modification applications to add antennas or otherwise change existing antenna arrays; most of those were administratively approved by the TTFCC Chair as permitted in the County Code.

The increased application levels reflect the wireless carriers' continued efforts to upgrade their networks for service—primarily in areas inside the Beltway, where higher concentrations of antennas are located to serve residents, travelers, and businesses. The table below shows the number of antenna sites and monopoles (permitted by the Zoning Code up to 100 feet high in residential areas) in the County by Council District.

Table 1: Number of Antenna Sites and Monopoles by Council District

| Council | Building | Light Pole | Monopole | Tower | Water Tank | Total |
|----------------|-----------------|-------------------|-----------------|--------------|-------------------|--------------|
| 1 | 20 | | 23 | 31 | | 74 |
| 2 | 30 | | 9 | 11 | 1 | 51 |
| 3 | 27 | | 18 | 5 | | 50 |
| 4 | 22 | 1 | 29 | 21 | 4 | 77 |
| 5 | 22 | | 49 | 12 | 2 | 85 |
| 6 | 9 | | 26 | 30 | 1 | 66 |
| 7 | 22 | | 14 | 7 | | 43 |
| 8 | 21 | | 22 | 17 | 6 | 66 |
| 9 | 13 | | 48 | 46 | 2 | 109 |
| <i>Total</i> | <i>186</i> | <i>1</i> | <i>238</i> | <i>180</i> | <i>16</i> | <i>621</i> |

The TTFCC collected approximately \$329,250 in application, annual report, and resubmittal fees during FY19. The County's costs for TTFCC activities, excluding indirect County staff time, were \$313,621. These costs were expenditures for outside services provided at the County's request by the designated Telecommunications Transmission Facility Technical Consultant, which presently is Columbia Telecommunications Corporation.

2. Background

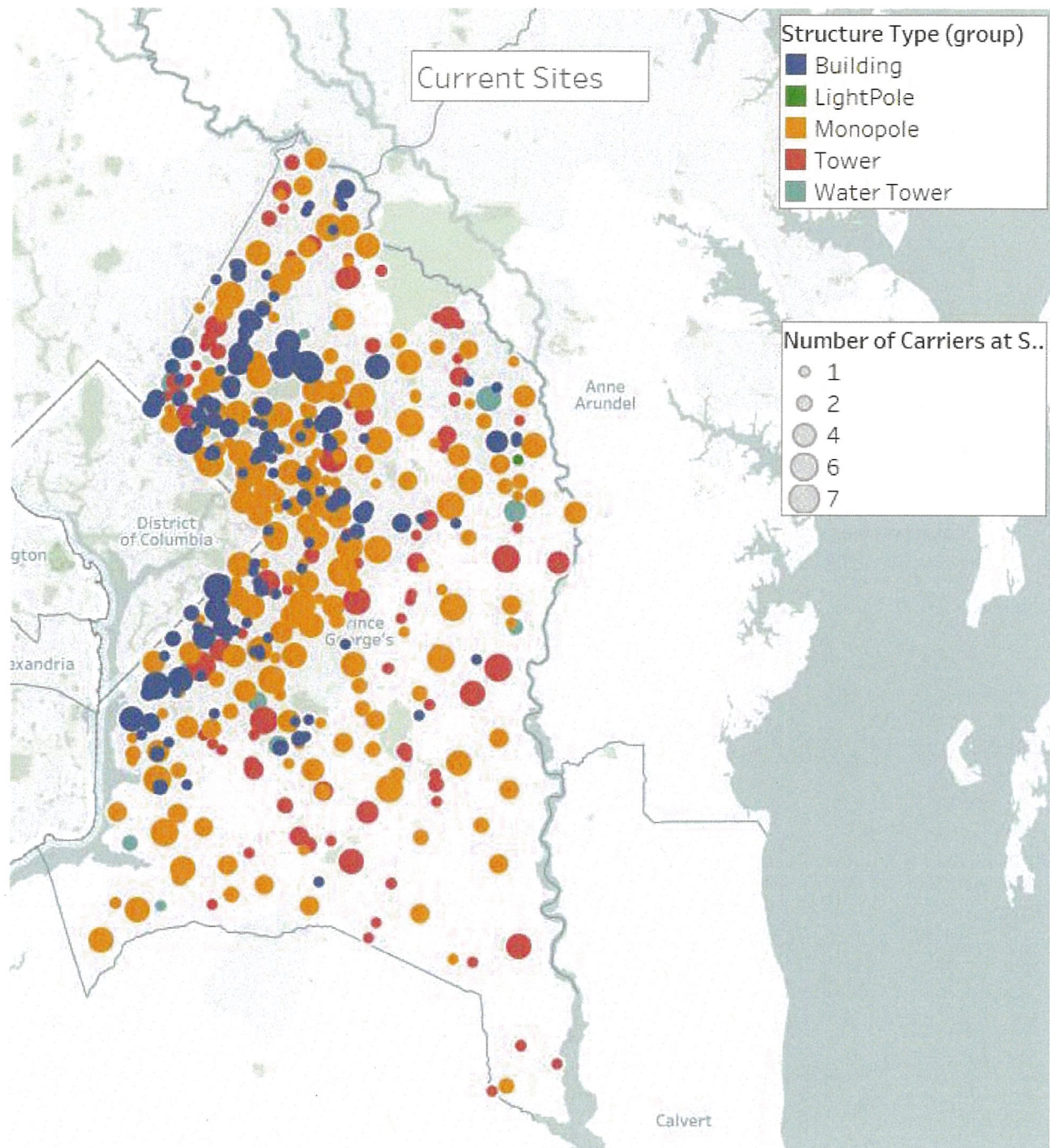
Since the TTFCC's inception in 2000, the Committee has received 3,799 applications and carriers have placed antennas at 621 locations in the County. (Most locations support multiple antennas.) Generally, antennas are mounted on four types of structures in the County—monopoles, buildings, lattice towers, and water towers. The following table shows the number of each type of antenna siting:

Table 2: Antenna Sitings by Type of Support Structure

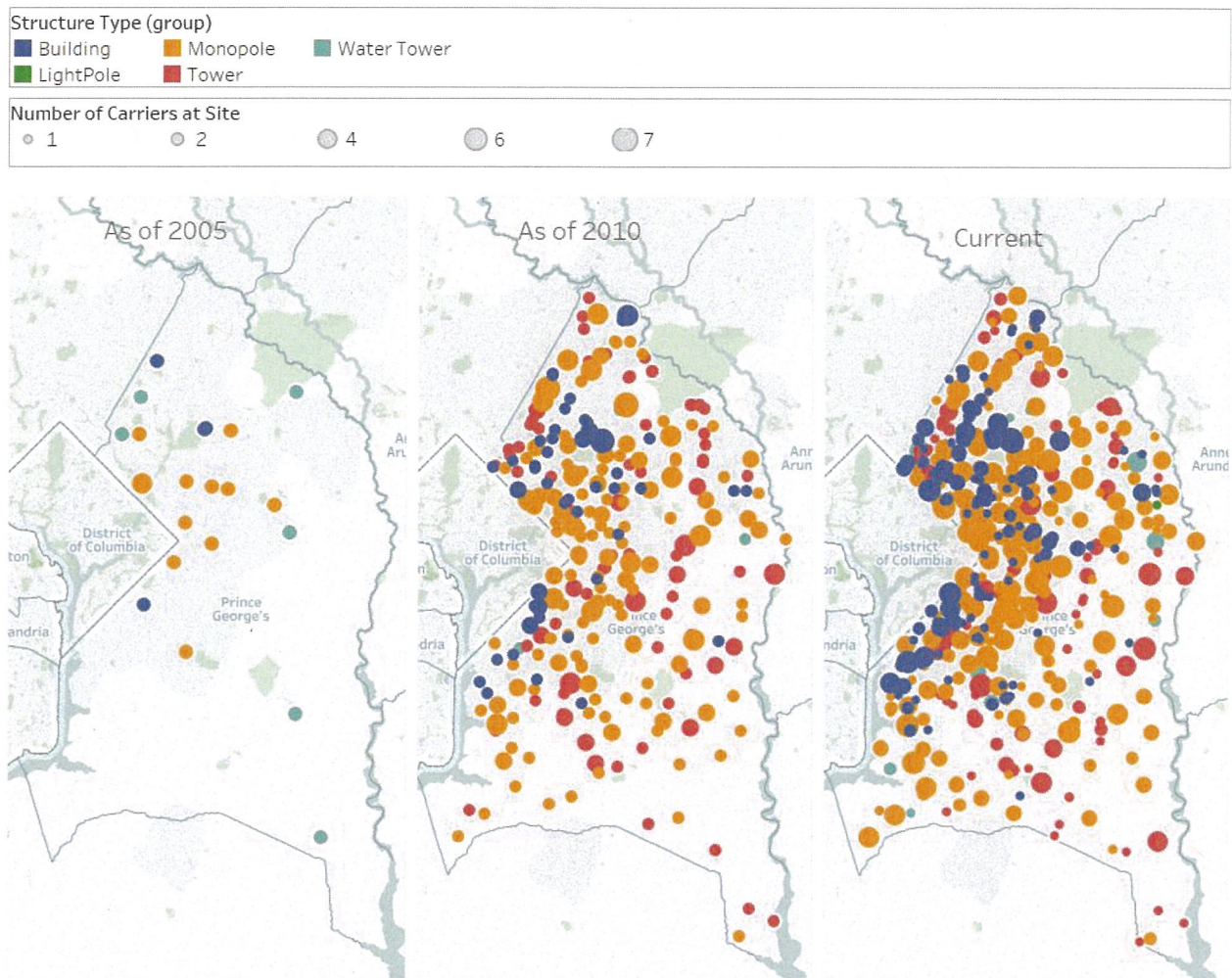
| Type | Number |
|--------------|------------|
| Monopole | 238 |
| Building | 186 |
| Tower | 180 |
| Water Tower | 16 |
| Light Pole | 1 |
| <i>Total</i> | 621 |

The map on the page below illustrates the locations of antenna sites by type of support structure.

Figure 1: Map of Antenna Sites by Type of Support Structure



Over time, the number of structures supporting multiple carriers' wireless facilities has grown. The maps below show the number of locations as well as the number of collocating carriers in 2005, 2010, and presently.

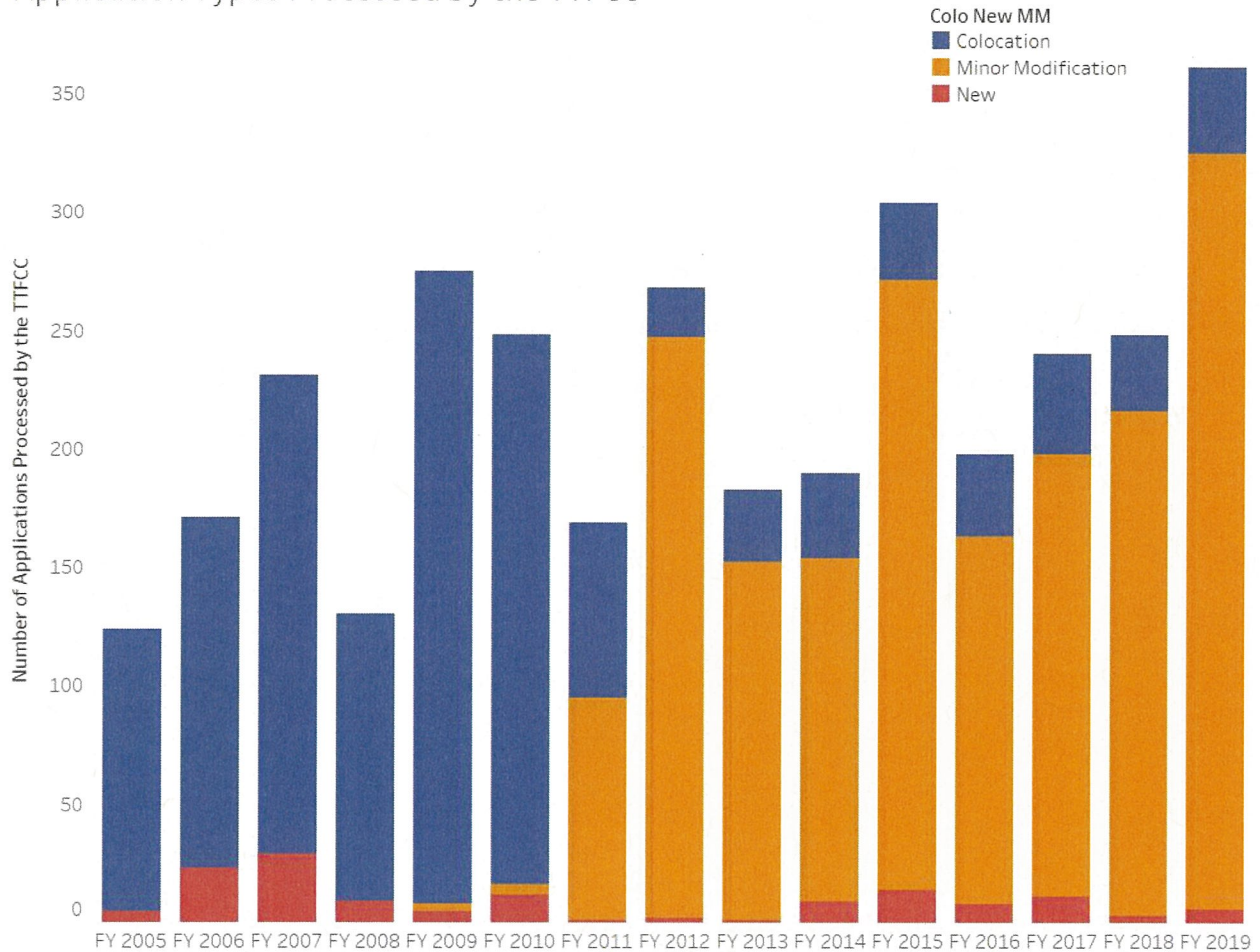
Figure 2: Growth Over Time of Structures Supporting Multiple Antennas

Over time, too, the nature of applications filed with the TTFCC has changed; in recent years, carriers overwhelmingly have been upgrading existing antenna arrays to add capacity in their existing service areas—not expanding their coverage areas with new antenna sites (either through colocation or by building new towers). Consequently, for the past few years, the majority of TTFCC applications have been for minor modifications to existing sites.

The Committee took action on 361 applications in FY19, far more than in any prior year. The chart below shows the application types (i.e., new site, colocation, or minor modification) for FY19 and the prior 14 years.

Figure 3: Applications Processed by Type (FY05 – FY19)

Application Types Processed by the TTFCC



While successful siting is a goal shared by Prince George's County and the wireless providers, there will always be the possibility that, following installation, the County may require the removal or relocation of a wireless facility within the ROW due to conflicts with ongoing County ROW improvement projects, the abandonment of the permitted facilities by the owner, or a support structure owner other than the County revoking permission for an attachment. Presently, Prince George's County does not accept applications for wireless siting in the public ROW. In anticipation of legislation that will allow the ROW to be used, the TTFCC has engaged with its partners within the Department of Permitting, Inspections and Enforcement (DPIE) who handle review and permitting of building and roadway projects to develop an application process that will prevent conflicts that might impact SWF proposals within the ROW. This process will seek to ensure that wireless siting within the ROW will comply with federal and local regulations.

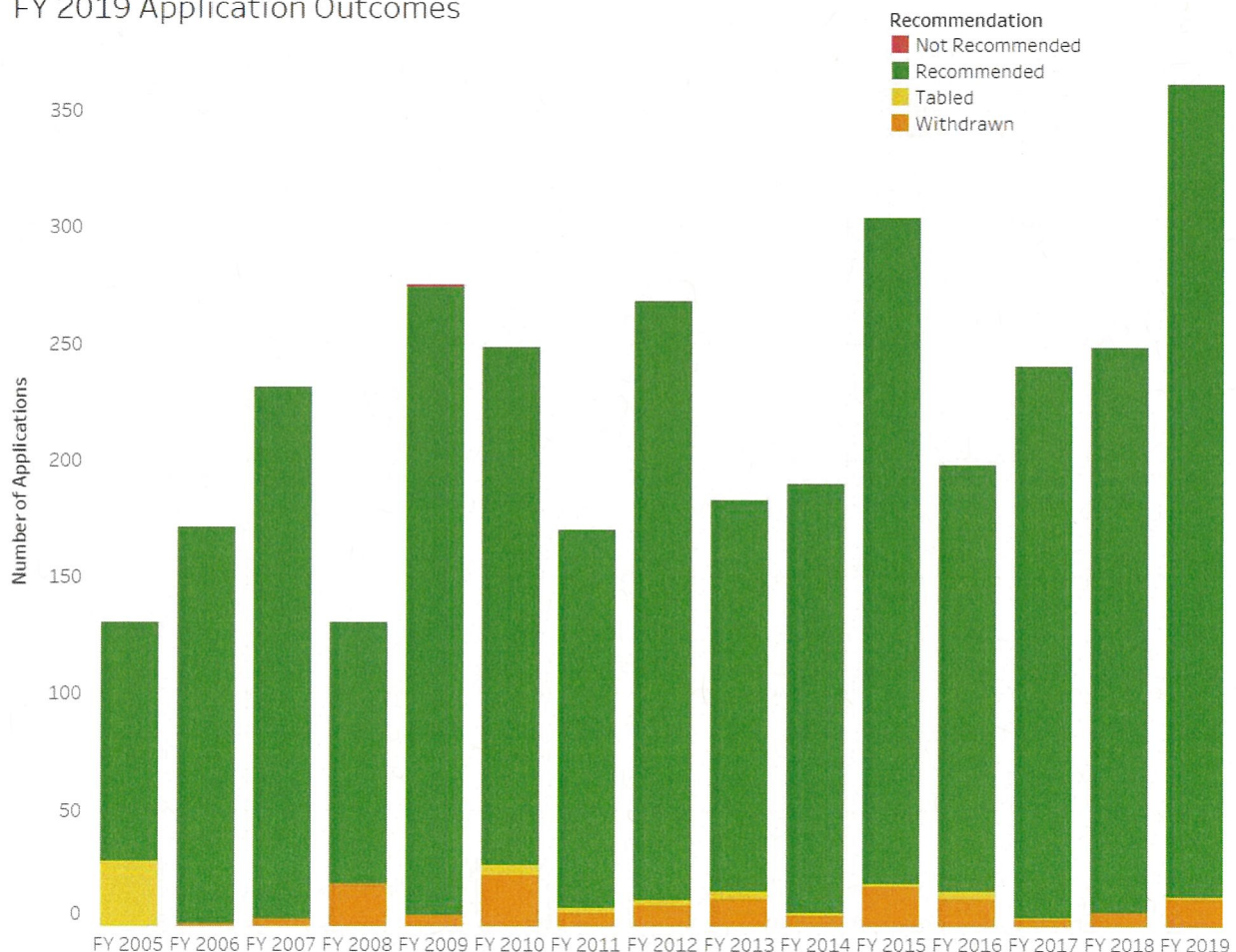
3. FY19 TTFCC Activities

In FY19, carriers filed 345 applications for TTFCC review. The TTFCC reviewed most of those applications, as well as applications carried over from FY18.¹

The chart below illustrates the applications that received a disposition following submission to the TTFCC in FY19 and the prior 14 years. The potential outcomes for an application are: recommended by the TTFCC, not recommended by the TTFCC, subsequently withdrawn by the applicant, or tabled due to administrative issues. Circumstances leading to a withdrawal may include the applicant filing in the wrong jurisdiction, submitting the wrong type of application for the proposed scope of work, or not responding to Requests for Information (RFI) submitted by the TTFCC in response to an incomplete or inaccurate application.

Figure 4: Applications Processed by Type of Outcome (FY05 – FY19)

FY 2019 Application Outcomes



¹ For a variety of reasons, applications are not always reviewed in the fiscal year in which they are filed. Some of the applications reviewed in FY19 were filed in FY18; similarly, some of the applications filed in FY19 will be reviewed in FY20.

Minor Modification Applications

Of the 345 applications received by the TTFCC in FY19, the vast majority—308—were to modify an existing antenna array. These included applications to replace existing antennas, add new antennas to an existing array, add additional transmitting equipment, and add electrical generators.

Revisions were made to the County Code in 2008 to permit the Chair of the TTFCC to administratively approve minor modification applications. This process permits the applicant to apply for a building permit without having to wait for the next TTFCC meeting, at which the full Committee makes a recommendation on each application.

Colocation Applications

In FY19, the TTFCC received 28 colocation applications seeking to place antennas on existing structures. Like minor modification applications (which are to upgrade a carrier's existing antenna arrays), these colocation applications represent the carriers' ongoing focus on adding capacity to their networks to support LTE technology (i.e., the technology needed to support the high-bandwidth applications used on smartphones and other wireless devices).

New Facility Applications

The TTFCC received nine applications to construct new monopoles or towers in FY19.

An application was received on behalf of Verizon for a 130-foot monopole on the property of the Open Heart Church of Christ in the 5700 block of Walker Mill Road, Capitol Heights. However, the proposal conflicted with setback regulations in the R-55 zoning area—and monopoles over 100 feet are prohibited in residentially zoned areas. Following discussions between the applicant and the TTFCC Chair, the application has been tabled pending the applicant's exploration of obtaining a Special Exception.

An application was submitted to remove a decommissioned 98-foot monopole and construct a 100-foot monopole in a commercially zoned area at 5705 Old Silver Hill Road, District Heights. While the site is owned by Verizon, the application was made on behalf of T-Mobile. The site is adjacent to a group of single-family homes but meets setback requirements. It was recommended by the TTFCC at the February 27, 2019, meeting.

AT&T proposed to construct a 175-foot monopole in an industrial zoned area at 16010 SE Robert Crain Highway, Brandywine, approximately 0.75 miles north of the Prince George's–Charles County border. When initially presented at the beginning of the year, the TTFCC asked AT&T to present more justification due to the existence of other wireless sites in the area. At the April 17, 2019, TTFCC meeting, AT&T presented documentation of coverage gaps that a new structure would fill, and the application was recommended.

Four applications were received on behalf of Baltimore Gas and Electric (BGE) for new monopoles ranging from 80 to 110 feet in height. These monopoles were proposed to support antennas for internal communications and all were to be located at BGE-owned sites. However, each of the monopoles had conflicts with zoning and setback regulations at their respective locations. BGE and its representatives met with the TTFCC on February 27, 2019. It was determined that BGE could achieve its goals by lowering the monopole heights where appropriate and seeking Mandatory Referrals from the Maryland-National Capital Park and Planning Commission (M-NCPPC). At the May 15, 2019 meeting, the TTFCC recommended BGE's application for a new monopole at 7098 NW Robert Crain Highway, Bowie, subject to BGE seeking a Mandatory Referral during the building permit process. The three remaining BGE applications for new monopoles are pending their resubmission.

Two applications were filed on behalf of the Washington Metropolitan Area Transit Authority (WMATA) for new towers, both on WMATA-owned sites. A 208-foot tower was proposed in the area of Auth Way and Capital Gateway Drive, Suitland, and a 200-foot tower was proposed at 5701 Sunnyside Avenue, Beltsville. Both structures are intended for WMATA's use—specifically, to upgrade its 490 MHz Land Mobile Radio (LMR) system to a 700 MHz P-25 trunked public safety-grade LMR. The upgrade follows best practice for public safety agencies by improving intra-agency communications and increasing interoperability with other entities and jurisdictions. Both applications were recommended at the June 19, 2019, TTFCC meeting.

4. Administration of the Wireless Facility Siting Review Process

The TTFCC was created in 2000 to “promote the appropriate and efficient location and co-location of telecommunications transmission facilities to minimize adverse impacts on other land uses in the County. The Telecommunications Transmission Facility Coordinating Committee shall, among other things, evaluate the esthetic effects of locating multiple telecommunications transmission facilities in a single location or on a single structure.” [County Code Section 5A.161]

The County Code requires that the TTFCC shall:

- (1) “Review the siting of each proposed telecommunications transmission facility;
- (2) Evaluate the technical rationale of proposed locations;
- (3) Recommend alternative sites and techniques where appropriate to mitigate the visual impact of the proposed and alternative site and provide a copy of the recommendation to the council member in whose district the telecommunications transmission facility is to be located;
- (4) Recommend provisions governing removal of the proposed telecommunications transmission facility at the end of its useful life, including the posting of a bond or other financial guarantee;
- (5) Facilitate public participation in the telecommunications transmission facility siting process; [and]
- (6) Report annually to the County Executive and/or the County Council [or] and as requested on siting policy issues.”

To assist the TTFCC in its review of applications to place wireless telecommunications facilities in the County, a Telecommunications Transmission Facility Coordinator was established to:

- Maintain a database of telecommunications facilities
- Provide information
- Serve as a technical resource to the public and interested carriers and agencies
- Review applications
- Evaluate the technical need for the facility
- Recommend alternative locations where appropriate

Fees Collected

Costs for the work of the TTFCC are funded in part by TTFCC application fees established in 2008. Those fees are as follows:

| | |
|---------|--|
| \$2,500 | TTFCC Application for a new tower, monopole, or support structure |
| \$1,500 | TTFCC Application for a colocation on an existing structure |
| \$500 | TTFCC Application for a minor modification to an existing facility |
| \$250 | Modification or revision to a TTFCC Application |
| \$500 | Annual Master Plan update |

The TTFCC collected approximately \$329,250 in application fees during FY19. The County's costs for TTFCC activities, excluding indirect County staff time, were \$313,621. These costs were expenditures for outside services provided at the County's request by the designated Telecommunications Transmission Facility Technical Consultant (Columbia Telecommunications Corporation). These services included an engineering review of each submission for compliance with County and FCC regulations. Many applications required multiple submissions due to errors by the applicants.

Site Visits

While an application for a new site requires a site survey by the Technical Consultant, it is the County's policy that all existing sites also be visited and photographed once per year. To track the progress of each of the hundreds of submissions and the status of the site surveys, Columbia Telecommunications Corporation developed and populated a database that captures updates regarding sites and applications in real time.

Electronic Applications

On August 1, 2019, the TTFCC began requiring applications to be submitted electronically using Prince George's County existing online Permitting and Licensing System. Prior to implementation, the TTFCC offered in-person training for applicants. The development of this new process has been part of an effort within DPIE to accurately track each type of wireless sting application and ensure that FCC shot clock requirements are met by all responsible parties.

TTFCC Membership

The current TTFCC members are:

TTFCC Chair/Facility Coordinator

- Michelle Lyons, Administrator of Boards and Commissions,
Prince George's County Department of Permits, Inspections and Enforcement

TTFCC Vice-Chair

- Clarence Moseley, Permits Supervisor, Permits and Licensing Division,
Prince George's County Department of Permits, Inspections and Enforcement

TTFCC Members

- Lakisha Pingshaw, Broadband Manager,
Prince George's County Office of Information Technology
- James Stepowany, Acting Planning Coordinator, Permit Review Section,
Maryland National Capital Parks and Planning Commission
- Nathaniel K. Tutt III, Administration,
Prince George's County Council
- Vincent Curl, Facility Supervisor, Maintenance Department,
Prince George's County Public Schools
- Mary Rea, Planner III, Site/Road Permit Section,
Prince George's County Department of Permits, Inspections and Enforcement

Additional support to the TTFCC is provided by:

- Joseph C. Rudy, Associate County Attorney,
Prince George's County Office of Law
- Columbia Telecommunications Corporation, TTFCC Technical Consultant

Public Information

The Committee's website (<http://www.princegeorgescountymd.gov/693/Telecommunications-Transmission-Facility>) features public information about the TTFCC, including (once the material

5. Future Expectations for Wireless Siting in the County

The map below illustrates the location and number of future antenna sites planned by the carriers based on the Annual Plan updates they filed with the County in August 2019 and the preceding year. (At the time of this report's publishing, T-Mobile has not yet submitted a plan to the County.) Cumulatively, there are a total of 850 future sites listed by all carriers for FY19 and beyond. As the map illustrates, the TTFCC expects to receive a significant number of applications in the future.

Given the County's growing population² and a range of industry trends (including increased capacity demand for machine-to-machine communications), Prince George's County will likely see an increase in all types of carrier applications:

- Modifications and additions
 - Age, obsolescence, and development of new types of antennas lead carriers to modify their equipment on existing sites
 - The ongoing goal to increase capacity is expected to lead carriers to seek relatively low-height mounting sites for distributed antenna system (DAS) and small cell antennas in a variety of areas
- New and/or replacement towers and monopoles
 - As carriers adapt to emerging technologies and strategies, it is expected that some older structures will be replaced and new locations sought
- Existing structures
 - New colocations on existing buildings will continue to be encouraged as a reasonable strategy to meet carriers' coverage and capacity needs

It is expected that applications that qualify as Small Wireless Facilities (SWF) under the FCC's definition will also increase, reflecting the above-stated trends. While Prince George's County has permitted a relatively small number of SWFs, they have all been on private property. As the County Council contemplates future legislation allowing SWFs to be placed in the public ROW, the TTFCC has begun to develop a dedicated application and a process to ensure the online process takes into account FCC requirements unique to SWFs; the process will also include DPIE divisions such as the Site/Road Plan Review Division.

² State of Maryland Population Growth Rates, <http://msa.maryland.gov/msa/mdmanual/01glance/html/pop.html> (accessed September 2019).

Figure 5: Sites Proposed in Carriers' Annual Plans (FY20 and Beyond)

