TELECOMMUNICATIONS TRANSMISSION FACILITY COORDINATING COMMITTEE

2022 TTFCC ANNUAL REPORT

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

Cover Photo: Prince George's County Public Safety Communications Tower (17433 Aquasco Road, Brandywine)

Applications for new facilities represented a small portion of the TTFCC's activity this year, but those projects are among the most visible. For example, Prince George's County's Office of Homeland Security (OHS) has completed construction of a 499-foot tower that will serve the communications needs of public safety agencies and enable colocation by commercial carriers and broadcasters. The tower is located on a 42.8-acre parcel owned by Prince George's County.

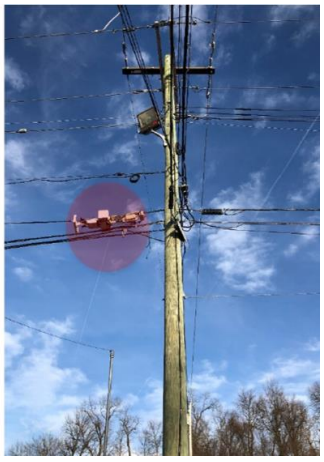
OHS is also awaiting final construction plans and Federal Aviation Administration (FAA) approval on a second, 330-foot tower, to be located in the 17000 block of Missouri Avenue in Brandywine.

In addition, Pepco submitted nine applications to replace towers located at existing substations within the County due to age and obsolescence. The new structures will be available for commercial colocation in addition to supporting Pepco internal communications.

These cases were among the relatively few new macro site applications received in calendar year 2021 (CY21). Commercial carriers continued to concentrate deployment on "small cell" antennas less than 4 feet in height—what the FCC calls Small Wireless Facilities (SWF).

The majority of SWF applications were colocations on Pepco-owned utility poles in the public right-of-way. The TTFCC received seven applications to colocate on County-owned light poles, also in the right-of-way. The applicants are responsible for replacing the poles in order to accommodate their equipment; the County will continue to own the poles.

The County also received its first SWF application for a strand-mounted antenna on a utility pole, which involves colocating equipment without replacing the existing structure. Strand refers to the communications cables hung from utility poles. As the name implies, the strand-mounted SWFs are attached to the cable, typically close to the pole. To the casual observer, the strand-mounted antenna may look similar to other infrastructure mounted on cables, including cable companies' fiber splice boxes and amplifiers. Two examples are shown in the photos below:



From the carriers' perspective strand-mounted SWFs allow the reuse of existing infrastructure. In addition, because the new attachments hang horizontally in the active communications space along existing aerial strands or on a newly added cable strand; the attachments are camouflaged among devices already located within that space (such as cable and fiber splice cases). Most of these devices have built-in or integrated antennas; some include small external antennas.

The TTFCC's review of applications—whether for significant new macro sites or any type of SWF—continues to follow existing guidelines, including the Prince George's County's Design Manual for Small Wireless Facilities, and all applicable health, safety, and welfare sections of the Prince George's County Code and federal or state regulations and law. This includes FCC rules and regulations regarding occupational and public limits for human exposure to radio frequency electromagnetic fields.

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1. Executive Summary

Applications Received in Calendar Year 2021

The Telecommunications Transmission Facility Coordinating Committee (TTFCC) received 327 applications in calendar year 2021 (CY21)—a 23 percent increase over the 266 applications received in CY20.

One reason for the increase in applications was T-Mobile's acquisition of Sprint; T-Mobile has requested permits for the replacement of Sprint's equipment at many sites. Applications also increased overall for "small cells"—what the Federal Communications Commission (FCC) calls Small Wireless Facilities (SWF); the majority of SWF applications received were for colocations on utility poles.

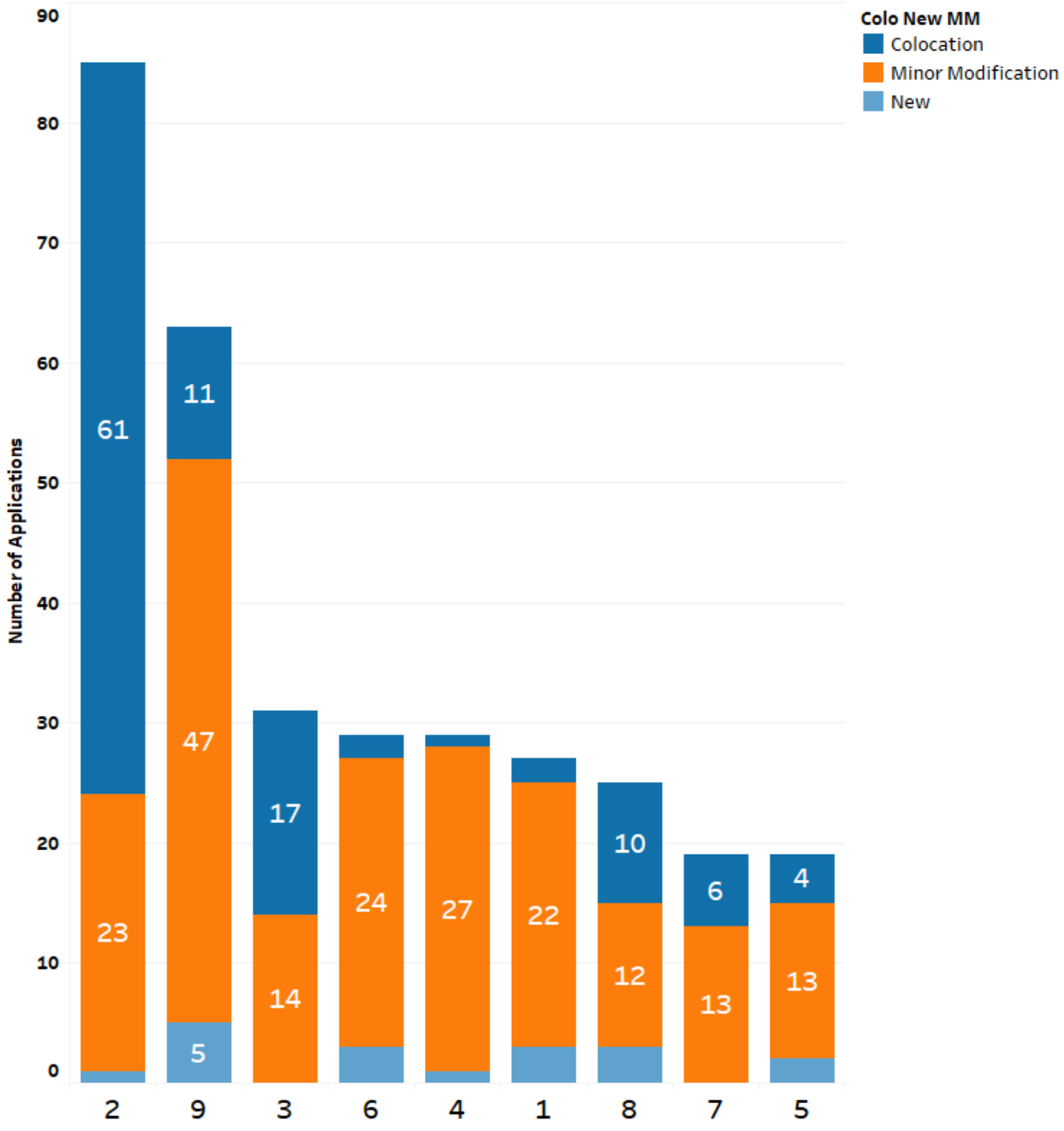
Of the 327 applications received in CY21 (Table 1), 18 were for new structures and 114 were for colocations on an existing structure. The majority of the applications received—195—were minor modification applications to add antennas or otherwise change existing equipment at existing sites; most of those were administratively approved by the TTFCC Chair as permitted in the County Code. In total, the Committee took action on 276 applications in CY21.

Table 1: Applications Received by Type (2021)

Type	Number of Applications
Minor Modification	195
Colocation	114
New	18
Total	327

The chart in Figure 1 below shows the application types received in CY21 per Council District.

Figure 1: Applications Received by Council District (2021)



The TTFCC collected approximately $132,500 in application, resubmittal, and annual report fees from carriers during CY21. The County's costs for TTFCC activities, excluding indirect County staff time, were $242,660. 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.

Distribution of Wireless Sites Across the County

The level of application activity reflects 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 current number of wireless sites in the County (by type of support structure and Council District).

Table 2: Current Wireless Sites by Support Structure and Council District

Council District	Building	Light Pole	Monopole	Tower	Utility Pole	Water Tower	Total
1	19	3	22	30	2		76
2	30		9	12	50	1	102
3	28		18	6	15		67
4	21		30	19		3	73
5	21	6	43	10	2	2	84
6	9	3	25	30			67
7	23		15	7	2		47
8	20	7	22	12	2	5	68
9	11		49	56		3	119
Total	*182*	*19*	*233*	*182*	*73*	*14*	*703*

Carriers' Plans for Future Wireless Sites

Based on the Annual Plan updates that carriers filed with the County in August 2021, the TTFCC expects to receive a significant number of applications in the future; the carriers identified 832 potential future sites—171 macro sites and 661 SWFs (Table 3). The carriers are not obligated to apply for all these sites, but applications cannot be accepted unless they are noted in the plans.

Table 3: Annual Plan Projections by Carrier

Carrier	Macro Sites	SWF
AT&T	10	145
Crown Castle	0	118
Dish Wireless	105	0
T-Mobile	41	0
Verizon	15	398
Total	*171*	*661*

The majority of sites noted in Crown Castle's plan are expected to be on behalf of T-Mobile.

While Dish Wireless has indicated that it is seeking to expand its coverage and capacity in the National Capital Area, it has not proposed constructing new sites; Dish's plan only included colocating at existing sites.

2. Background and Current State

Since the TTFCC's inception in 2000, the Committee has received 4,587 applications and processed 4,436 applications. The chart on the following page (Figure 2) shows the application types (i.e., new site, colocation, or minor modification) processed between 2005 and 2021.

Antennas currently are mounted at 703 locations in the County, distributed among six types of structures—monopoles, buildings, lattice towers, water towers, and light or utility poles (Table 4). Most locations support multiple antennas. The greatest increases from the previous year were in sitings on light and utility poles in the public right-of-way due to the increase in SWF applications.

Table 4: Wireless Sites by Type of Support Structure (2020 – 2021)

Type	Total	
	2020	**2021**
Monopole	230	233
Building	180	182
Tower	169	182
Water Tower	14	14
Light Pole	2	19
Utility Pole	1	73
Total	***596***	***703***

The map in Figure 3, below, illustrates the locations of wireless sites in the County by Council District.

Figure 2: Applications Processed by Type (2005 – 2021)

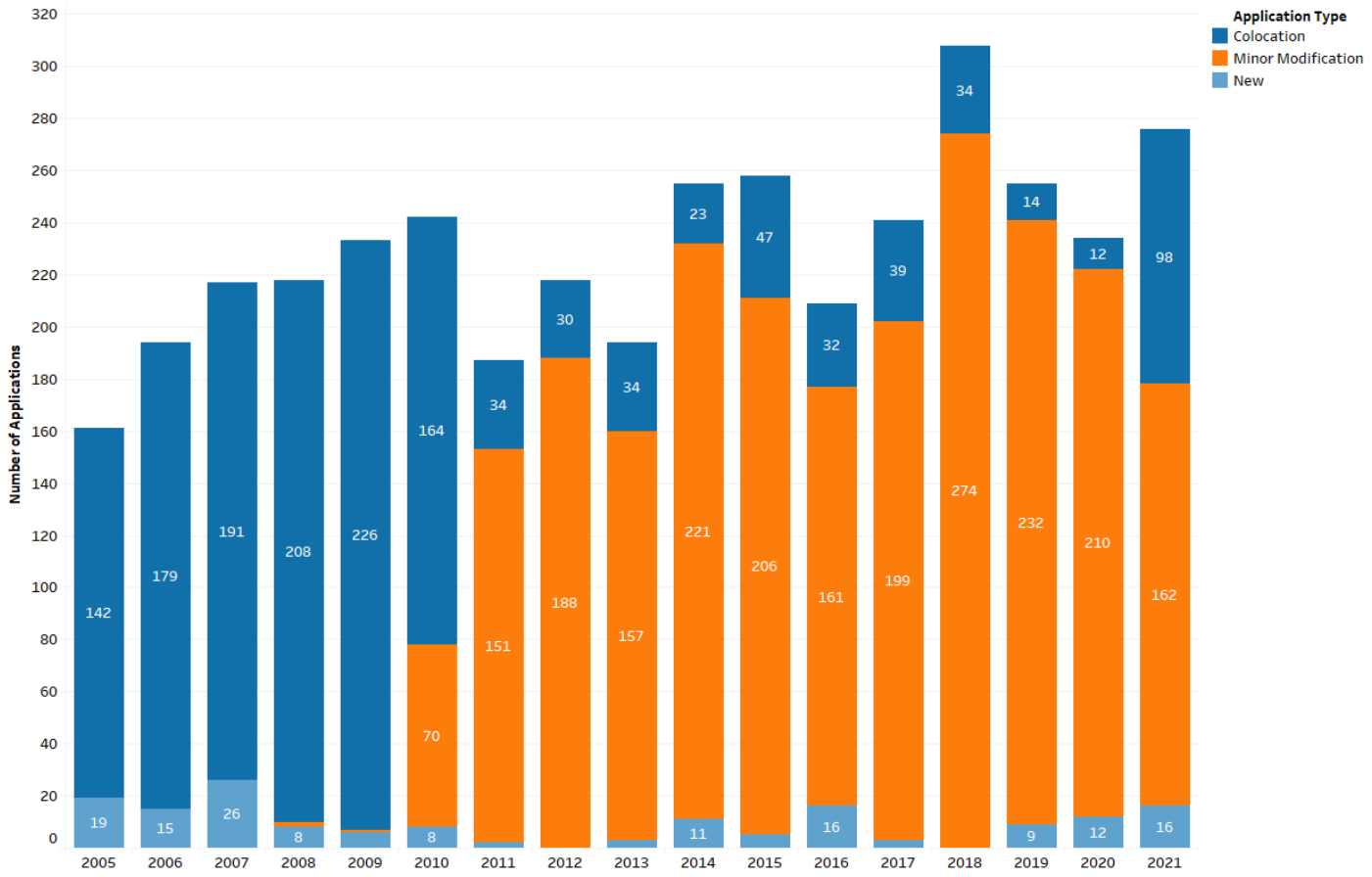
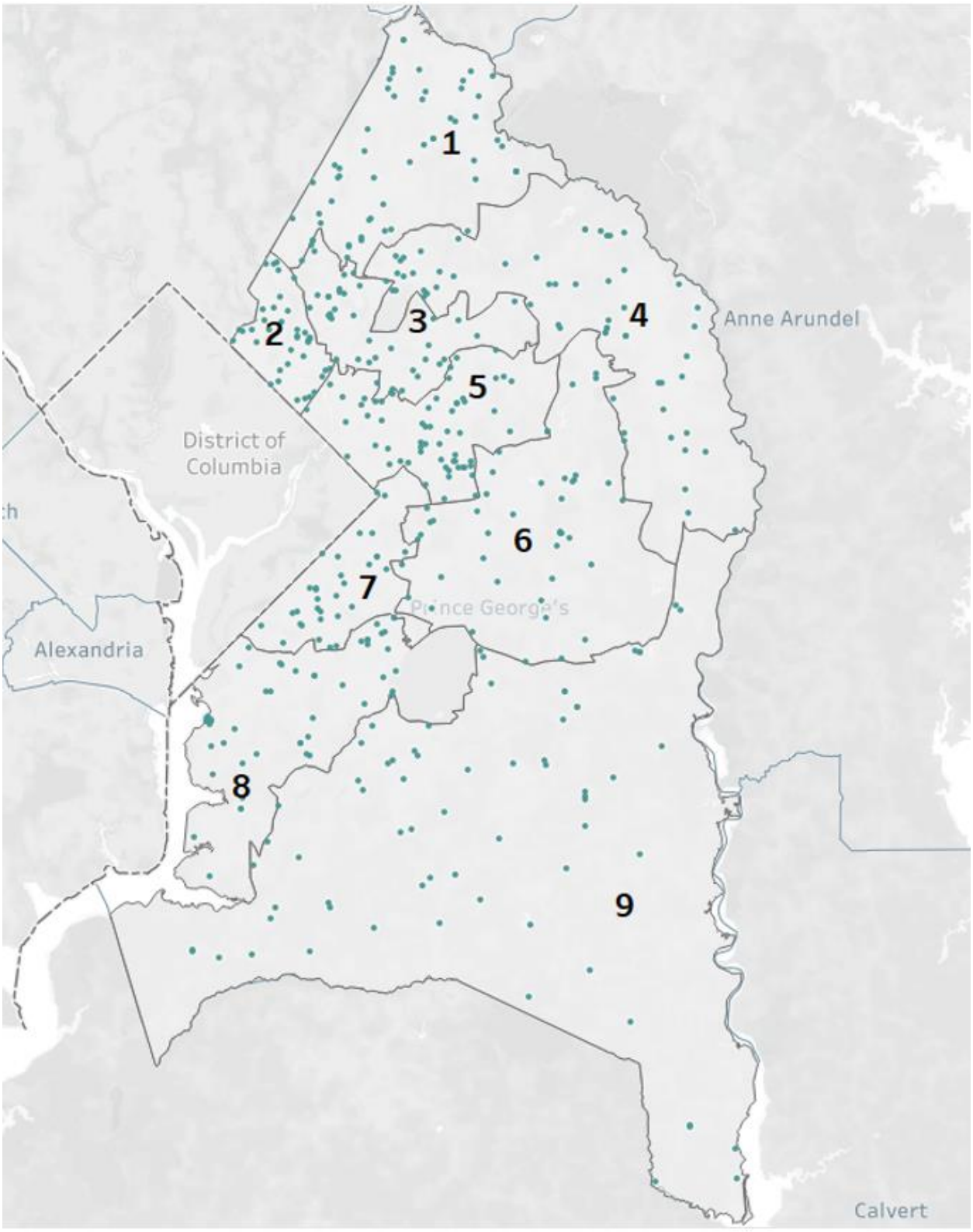


Figure 3: Map of Wireless Sites by Council District



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 colocating carriers in 2005, 2010, and presently.

Figure 4: Growth Over Time of Structures Supporting Multiple Antennas (2005)

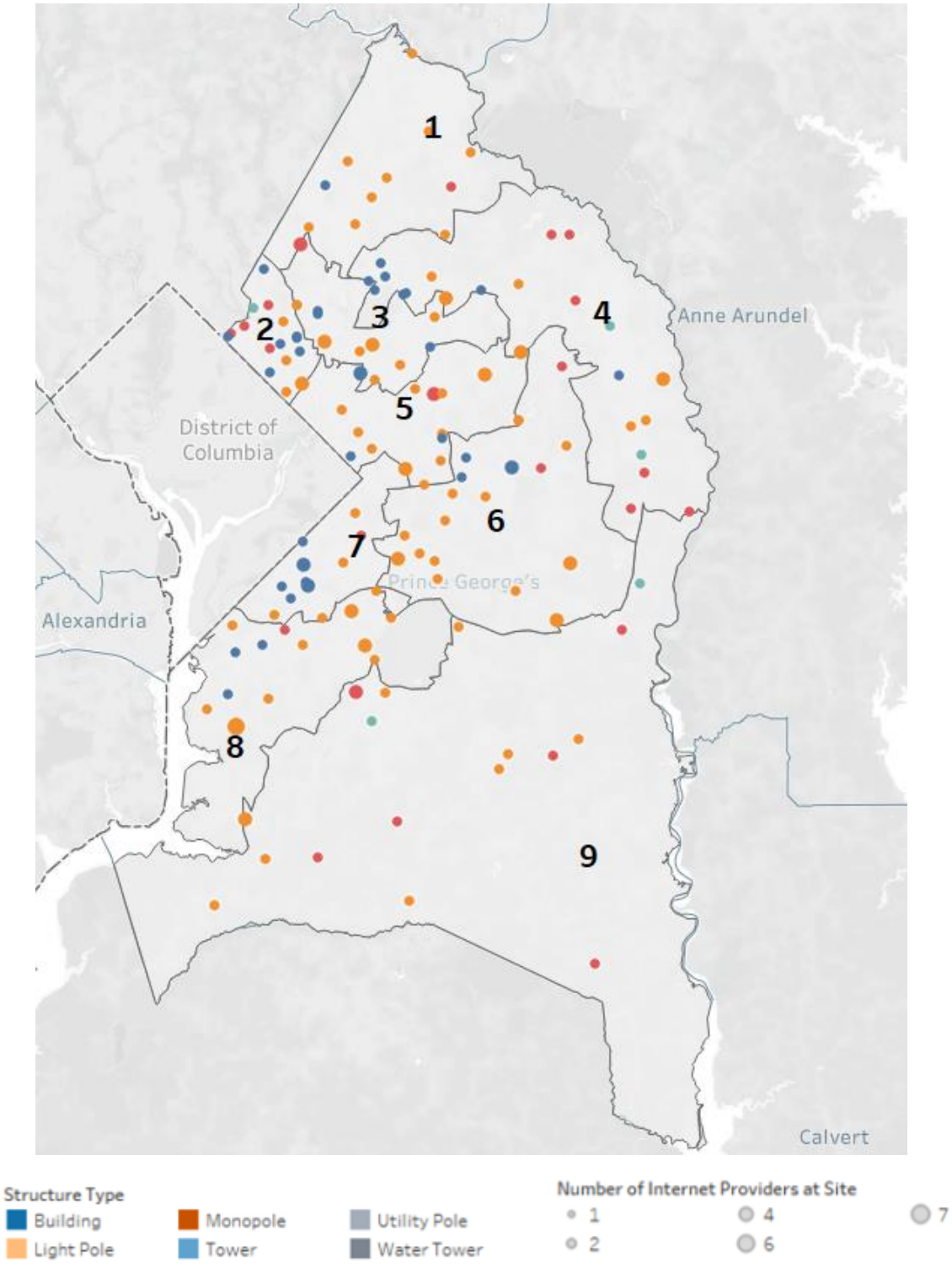


Figure 5: Growth Over Time of Structures Supporting Multiple Antennas (2010)

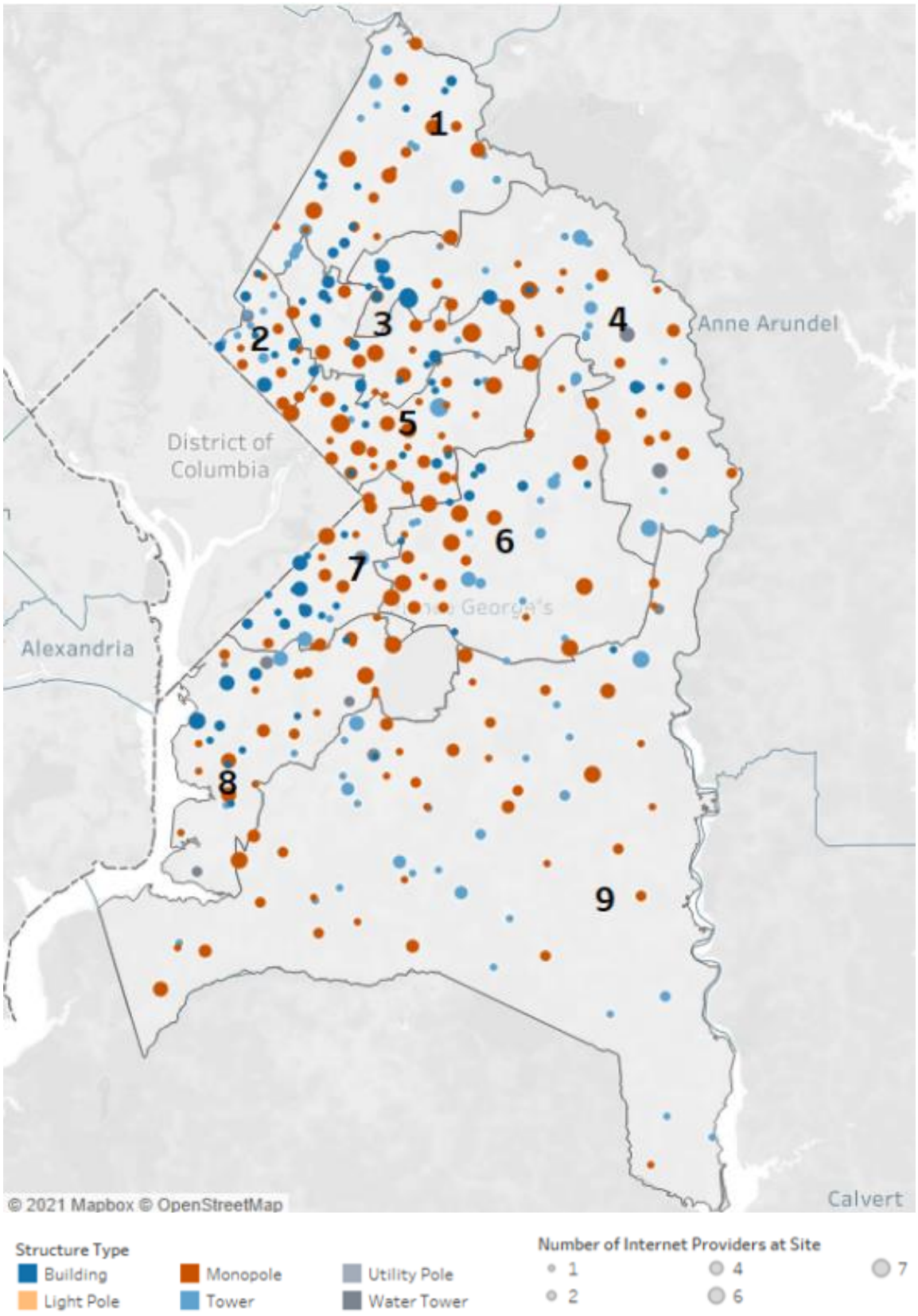
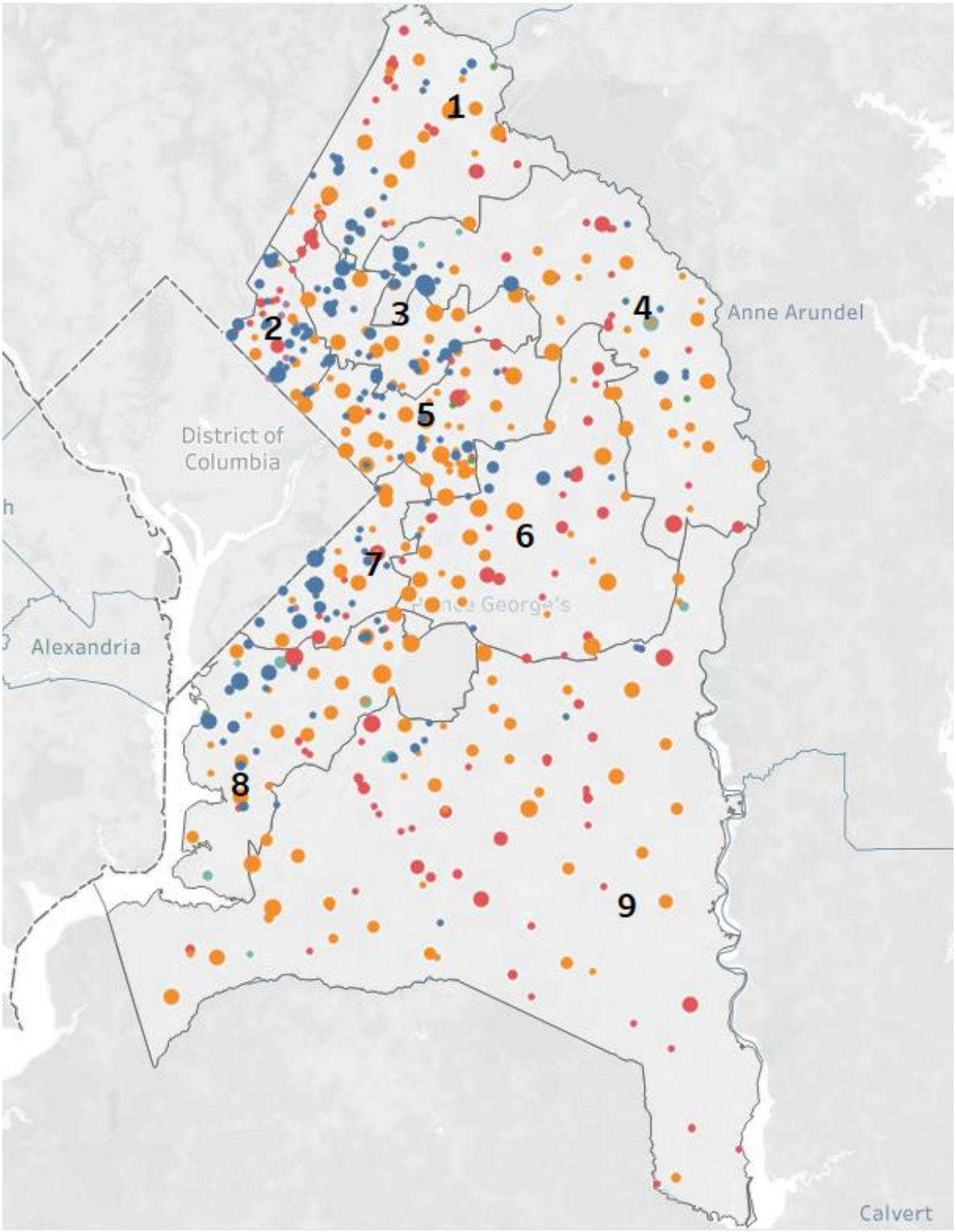


Figure 6: Growth Over Time of Structures Supporting Multiple Antennas (2021)

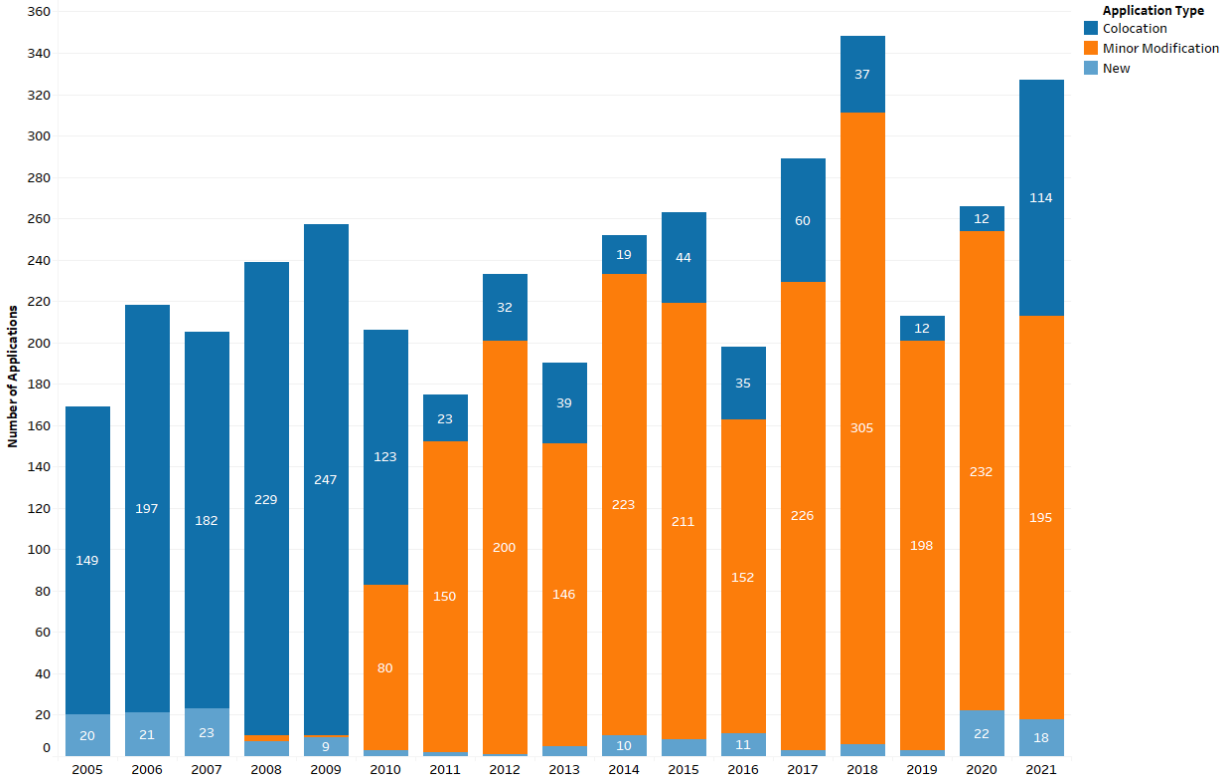


3. Calendar Year 2021 TTFCC Activities

In CY21, carriers and infrastructure companies filed 327 applications for TTFCC review. The TTFCC reviewed most of those applications, as well as applications carried over from 2020.[1]

The following chart compares the types of applications received between 2005 and 2021.

Figure 7: Applications Received by Type (2005 – 2021)



The charts below illustrate the applications that received a disposition following submission to the TTFCC in 2021 and the prior 16 years. The potential outcomes for an application are:

1. Recommended by the TTFCC,
2. Not recommended by the TTFCC,
3. Subsequently withdrawn by the applicant, or
4. Tabled due to administrative issues.

[1] For a variety of reasons, applications are not always reviewed in the year in which they are filed. Some of the applications reviewed in 2021 were filed in 2020; similarly, some of the applications filed in 2021 will be reviewed in 2022.

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) sent by the TTFCC in response to an incomplete or inaccurate application.

While it is not uncommon for an application to be tabled or not recommended, the process over the last 16 years has seen the majority of applications recommended. The review process does highlight any discrepancies in the initial submission, and these are returned to the applicant for correction.

Figure 8: Applications Processed by Type of Outcome (Total, 2005 – 2021)

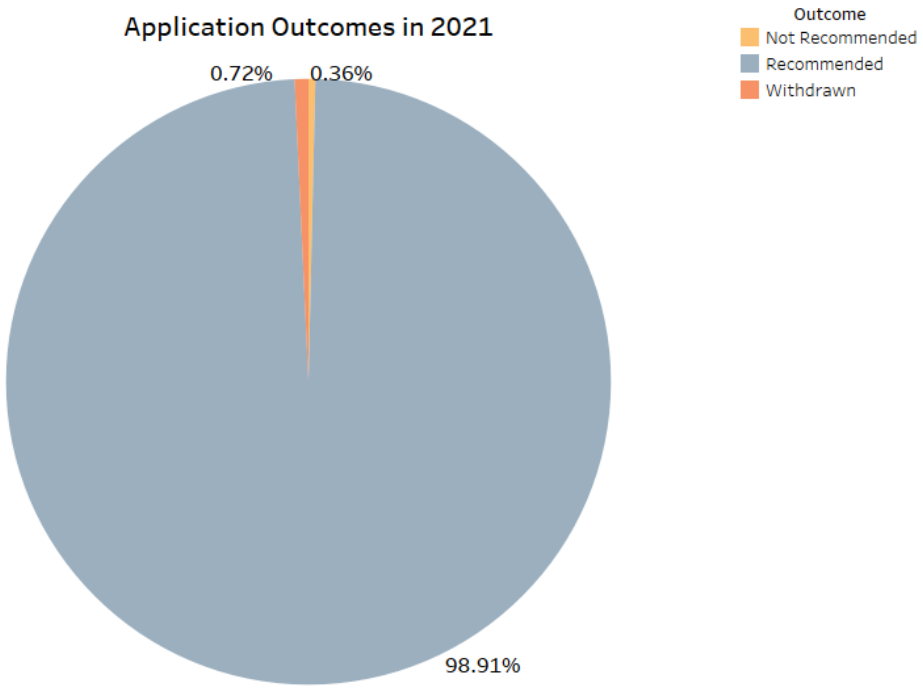
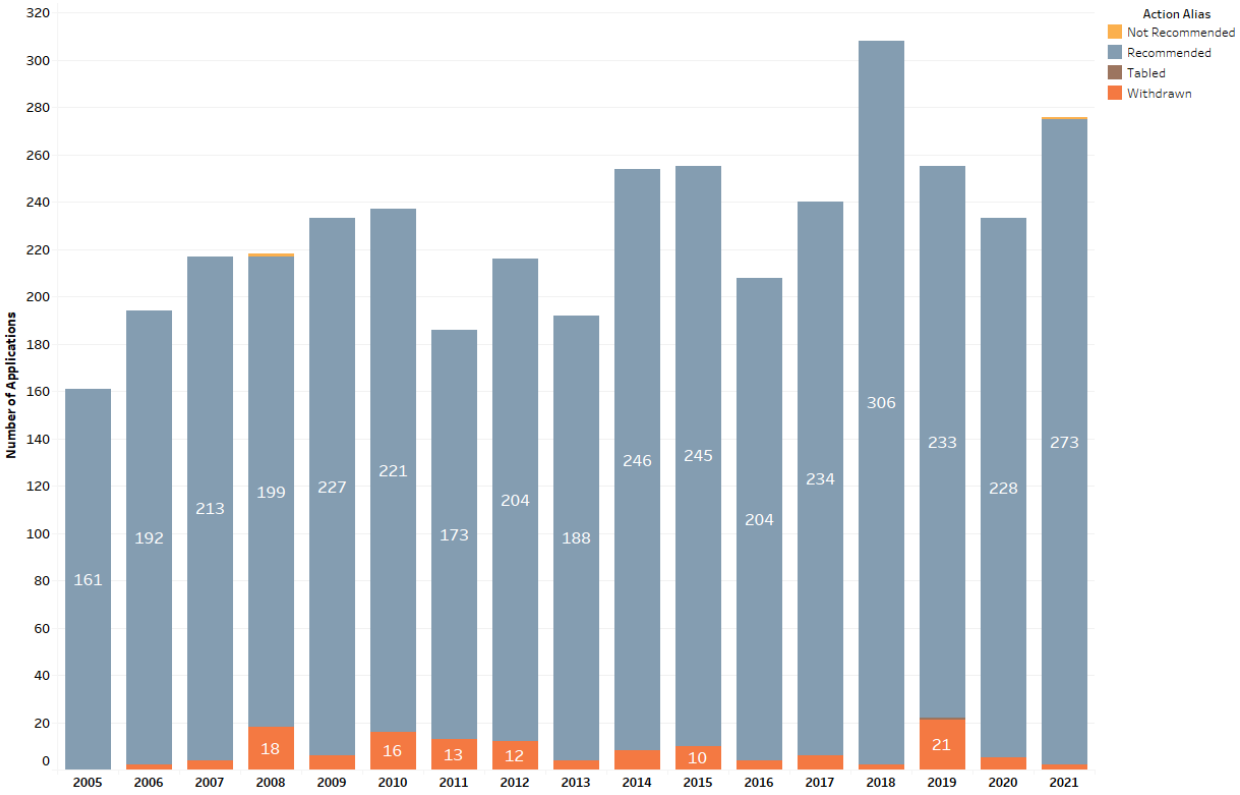


Figure 9: Number of Applications Processed by Type of Outcome (Annually, 2005 – 2021)



Minor Modification Applications

Of the 327 applications received by the TTFCC in 2021, the majority—195—were to modify an existing wireless siting location. These included applications to replace existing antennas, add new antennas to an existing array, add additional transmitting equipment, or 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, which allows the applicant to apply for a building permit without having to wait for the next scheduled TTFCC meeting (i.e., at which the full Committee makes a recommendation on each application). This procedure was updated with new legislation in February 2020, which allowed the same administrative approval for non-SWF micro-wireless facilities and cells on wheels (COWS).

Colocation Applications

In 2021, the TTFCC received 114 colocation applications seeking to place antennas on existing structures where the carrier did not currently have antennas. 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 current 4G

networks and enabling future 5G deployment. In some cases, carriers apply to colocate because an existing nearby wireless site such as a building is being decommissioned or demolished and the carrier is relocating.

Seventy-six applications were received to colocate SWFs on utility poles in the public right-of-way:

- The majority of SWF colocations on utility poles were submitted by Verizon with 68 applications, while AT&T submitted five. These were recommended with the exception of one AT&T application that did not meet the school setback requirement as defined in the County Code.
- T-Mobile submitted three colocation applications for strand mounts on utility poles in the right-of-way. One has been recommended, while the remainder are pending corrections.
- Thirty-two of the colocation applications were from Dish Wireless for macro sites.

The remaining colocation applications included two from the United States Secret Service, one from Urban One, one from AT&T, and two from T-Mobile on existing macro sites.

New Facility Applications

Between January 1, 2021, and December 31, 2021, the TTFCC received 18 applications to construct new light poles and towers. Two were for Prince George's County Office of Homeland Security (OHS) towers, nine were for Pepco-owned towers, and seven were for light poles in the public right-of-way.

4. Administration of the Wireless Facility Siting Review Process

The TTFCC was created in 2000 to "promote the appropriate and efficient location and colocation 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 Technical Consultant role 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 and revised in 2020 to include SWF applications. Those fees are as follows:

$3,000	TTFCC Application to install or mount one SWF on a new pole
$1,800	TTFCC Application to install or mount one SWF on a replacement pole
$1,500	TTFCC Application to colocate one SWF on an existing structure
$800	TTFCC Application for a minor modification to one SWF
$2,500	TTFCC Application (excluding SWF) for a new tower, monopole, or support structure located outside the public right-of-way
$1,500	TTFCC Application (excluding SWF) for a colocation on an existing structure located outside the public right-of-way
$500	TTFCC Application for a minor modification to an existing facility (excluding SWF) located outside the public right-of-way
$250	Modification or revision to a TTFCC Application
$500	Annual Master Plan update

The TTFCC collected approximately $132,500 in application and annual plan fees during 2021. The County's costs for TTFCC activities, excluding indirect County staff time, were $242,660. 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. The majority of 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's Department of Permitting, Inspections and Enforcement's (DPIE) existing online Permitting and Licensing System.[2] The development of this process was 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.

The change from a paper to electronic system benefits both the applicants and the TTFCC as it allows for timely tracking of fees, deadlines, and the disposition of individual applications.

TTFCC Membership

The current TTFCC members are:

TTFCC Chair/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, Planning Technician III, Development Review Division

  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

[2] https://dpiepermits.princegeorgescountymd.gov/

- Yaguba Jalloh, Engineer I/II, Division of Site/Road Plan SWF Plan Review Section

  Prince George's County Department of Permitting, Inspections and Enforcement

- Hadi Quiayum, Chief, Traffic Engineering & Safety Division,

  OEPM/Department of Public Works & Transportation

Additional support to the TTFCC is provided by:

- Tracy M. Benjamin, Principal 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 is approved by the County Council) a Master Plan map illustrating carriers' proposed locations for new antennas based on the annual information the carriers provide the County.

In addition, the County has required that a carrier seeking to construct a new tower or monopole in the County or extend the height of a structure send a public notice to property owners and community organizations within one mile of the location proposed for the structure. The carriers are also obligated to notify the TTFCC Chair of any meetings that are subsequently held in response to those notices.

The legislation passed in February 2020 also requires this public notification procedure for applicants seeking to construct SWFs in the right-of-way.

TTFCC meetings are generally held on the third Wednesday of each month. All meetings are open to the public. However, in the event that all applications in a given month have been administratively approved, the Chair may choose not to hold a meeting. There was one such month in 2021. Beginning in March 2020, the TTFCC meetings have been held remotely due to Covid-19 procedures.

5. Future Expectations for Wireless Siting in the County

The map below (Figure 10) 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 2021 and the preceding year. Cumulatively, there are a total of 832 future sites listed by all carriers. As the map illustrates, the TTFCC expects to receive a significant number of applications in the future.

Given the County's growing population[3] 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:

- Minor modifications
    - Age, obsolescence, and development of new types of antennas lead carriers to modify their equipment on existing sites; this includes initiatives by the major carriers to develop dedicated data networks for public safety
    - The ongoing goal to increase capacity is expected to lead carriers to seek relatively low-height mounting sites for 5G deployment 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; this was evident in Pepco's initiative to replace its communications towers
- Colocations
    - New colocations on existing macro sites, including 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 SWFs under the FCC's definition will continue to increase, reflecting the above-stated trends. Until 2020, Prince George's County had permitted a relatively small number of SWFs on private property. The trend toward applications in the public right-of-way increased greatly in 2021.

The legislation passed in February 2020, as well as the County's Design Manual, provide applicants with the guidelines and procedures to successfully site their desired 5G SWFs while considering FCC requirements unique to SWFs.

[3] State of Maryland Population Growth Rates; https://msa.maryland.gov/msa/mdmanual/01glance/html/pop.html#county (accessed December 2020).

Figure 10: Sites Proposed in Carriers' Annual Plans (2021 and Beyond)