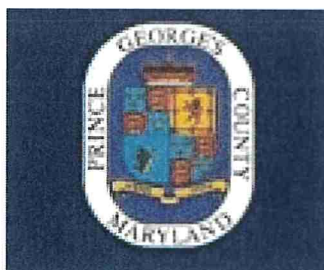


**TELECOMMUNICATIONS TRANSMISSION FACILITY
COORDINATING COMMITTEE
2023 TTFCC ANNUAL REPORT**



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



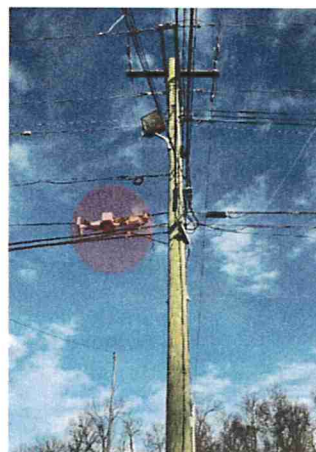
**Cover Photo: Verizon Small Wireless Facility on Pepco Utility Pole
(Public Right-of-Way – adjacent to 8300 Adelphi Road, Hyattsville)**

The Prince George’s County Telecommunications Transmission Facility Coordinating Committee (TTFCC) received 475 total applications in calendar year 2022, an increase of 39 percent over calendar year 2021.

Applications for Small Wireless Facilities (SWF), commonly referred to as small cells, continued in calendar year 2022, with Prince George’s County receiving 44 applications for SWF proposals in the public right-of-way. An additional six SWF applications for light poles were received in the area of the Washington Commanders football stadium (FedEx Field). The placement of these wireless facilities was outside the public right-of-way but subject to a Public Utility Easement (PUE) requiring a signed agreement between Prince George’s County, the carrier (Verizon Wireless), and the stadium owner.

The total number of 50 SWF applications was statistically similar to calendar year 2021, in which Prince George’s County received 51 applications for SWFs, all in the public right-of-way.

42 of the SWF colocation applications in the public right-of-way were for strand-mounted antennas on Pepco utility poles, 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 colocated 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 remaining two applications in the public right-of-way were for County-owned light poles. While these two sites were in the area of FedEx Field, they were not subject to the PUE impacting the other six light poles.

Fewer new macro site applications were received, with only two proposals for new macro structures on private property, compared to 11 in 2021.

In addition to reviewing a proposal's structural and radio frequency information, zoning considerations are paramount. For example, if an applicant's proposal will impact the size of an equipment compound or other ground-related area and the site is subject to a Detailed Site Plan (DSP), the applicant must file an amendment to the DSP with the Maryland-National Capital Park and Planning Commission (M-NCPPC). This is a parallel and separate process from the TTFCC review and the TTFCC will advise the applicant if they are not aware.

A significant zoning development impacting macro site applications has been the updated Prince George's County Code of Ordinance that went into effect on April 1, 2022, which requires a special exception for all new towers and monopoles. Special exceptions are determined by the County Council through a public hearing process.

However, until March 31, 2024, applicants may choose the option of having their application reviewed per the prior ordinance, which may not require a special exception if the proposed site meets zoning, height, and acreage requirements.

The M-NCPPC representative on the committee is notified of all new macro structure applications upon receipt and is consulted on the appropriate requirements during the review process.

The TTFCC's review of all applications—whether for significant new macro sites or any type of SWF—continues to follow existing guidelines, including the Prince George's County 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 Federal Communications Commission (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 2022

The TTFCC received 475 applications in calendar year 2022 (CY22)—a 39 percent increase over the 327 applications received in CY21.

Minor modifications applications, in which a carrier upgrades and replaces equipment at existing sites, received the largest increase at 44 percent, with 354 applications in 2023 compared to 195 the previous year.

A continuing trend from last year in minor modifications were applications reflecting T-Mobile's acquisition of Sprint, which sought either permitting for the replacement of Sprint's equipment at many sites or the complete decommission of some legacy Sprint sites.

A new trend in minor modifications was the deployment by Verizon of microwave dish antennas at low elevations within equipment compounds at monopole and tower sites. The purpose is for point-to-point communication links to help assist with backhaul and offloading non-critical alarm traffic that occurs during service problems.

These microwave dishes need to be at least 15 feet apart to properly communicate with each other, so installing at higher elevations is not feasible as a carrier's space on a macro site is controlled by its existing attachments which are at the same height. Because these antennas are being placed at lower elevations compared to usual attachments on the macro structures, radio frequency electromagnetic energy (RF EME) Reports are also required.

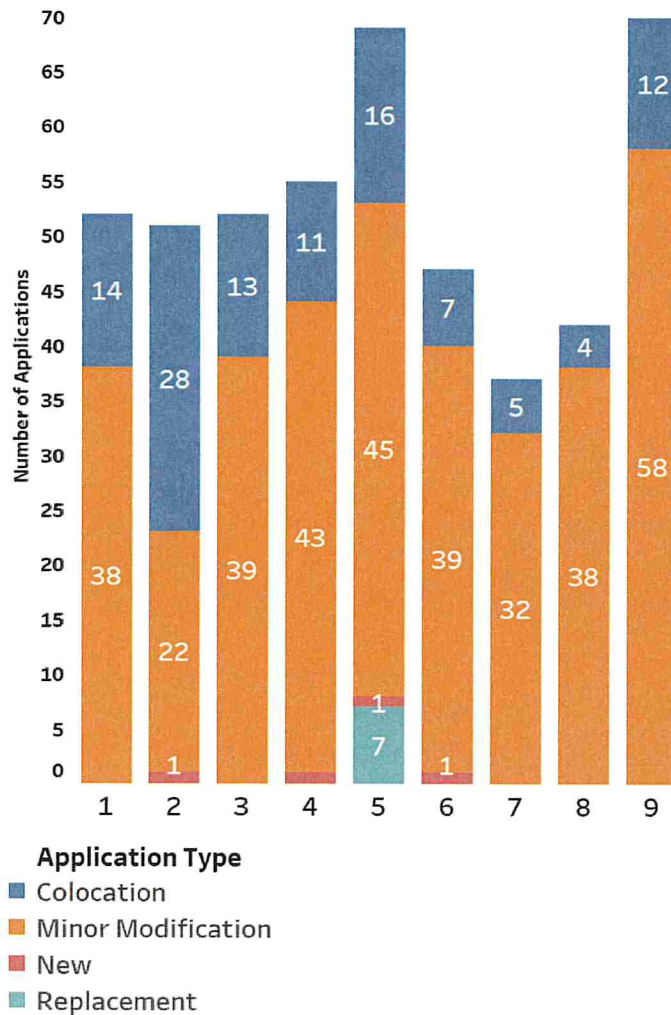
119 applications were for colocations on an existing structure. While 50 of these colocations represented SWF applications, the remaining were for carriers seeking to locate on existing macro sites. Dish Wireless accounted for 59 of these applications as it is continuing to increase its coverage in the National Capital Region and is seeking established sites for colocation. The remaining 10 colocations were divided between commercial carriers and an application by the Washington Metropolitan Area Transit Authority (WMATA) to increase deployment of antennas on one of its building sites for internal communications.

Table 1: Applications Received by Type (2022)

Type	Number of Applications
Minor Modification	354
Colocation	119
New	2
Total	475

The chart in Figure 1 below shows the application types received in CY22 per Council District. The applications noted as Replacement in Figure 1 were SWFs that were processed as colocation applications due to County intake procedures.

Figure 1: Applications Received by Council District (2022)



The TTFCC collected approximately \$319,250 in application, resubmittal, and annual report fees from carriers during CY22. The County’s costs for TTFCC activities, excluding indirect County staff time, were \$446,767. These costs were expenditures for outside services provided at the County’s request by the designated Telecommunications Transmission Facility Technical Consultant, which presently is CTC Technology & Energy (CTC).

Distribution of Wireless Sites Across the County

The level of application activity reflects the wireless carriers’ continued efforts to upgrade their networks for service. 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	23	28	6		79
2	30		9	17	74	1	131
3	28		17	4	27		76
4	20		33	20		3	76
5	23	13	45	11	6	2	100
6	9	3	24	29			65
7	23		16	7	4		50
8	21	7	21	12	2	5	68
9	10		48	54		3	115
Total	183	26	236	182	119	14	760

Carriers’ Plans for Future Wireless Sites

The Annual Plan updates that carriers filed with the County in August 2022 indicate a potential for a significant number of incoming applications as 712 potential future sites were identified— 93 macro sites and 619 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. Regarding macro sites, the carriers identify potential new builds as well as existing sites with the potential for colocation.

Table 3: Annual Plan Projections by Carrier

Carrier	Macro Sites	SWF
AT&T	14	22
Crown Castle	0	299
Dish Wireless	49	0
T-Mobile	16	0
Verizon	14	298
Total	93	619

The majority of sites noted in Crown Castle's plan are expected to be for SWFs 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 yet proposed constructing new sites; Dish's plan only included collocating at existing sites.

2. Background and Current State

Since the TTFCC’s inception in 2000, the Committee has received 5,062 applications and processed 4,873 applications. The graph on the following page (Figure 2) shows the application types (i.e., new site, colocation, or minor modification) processed between 2005 and 2022.

Antennas currently are mounted at 760 locations in the County, distributed among six types of structures—monopoles, buildings, lattice towers, water towers, and light or utility poles (Table 4). Most macro 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 (2021 – 2022)

Type	Total	
	2021	2022
Monopole	236	236
Tower	182	182
Building	182	183
Water Tower	14	14
Light Pole	18	26
Utility Pole	73	119
Total	703	760

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 – 2022)

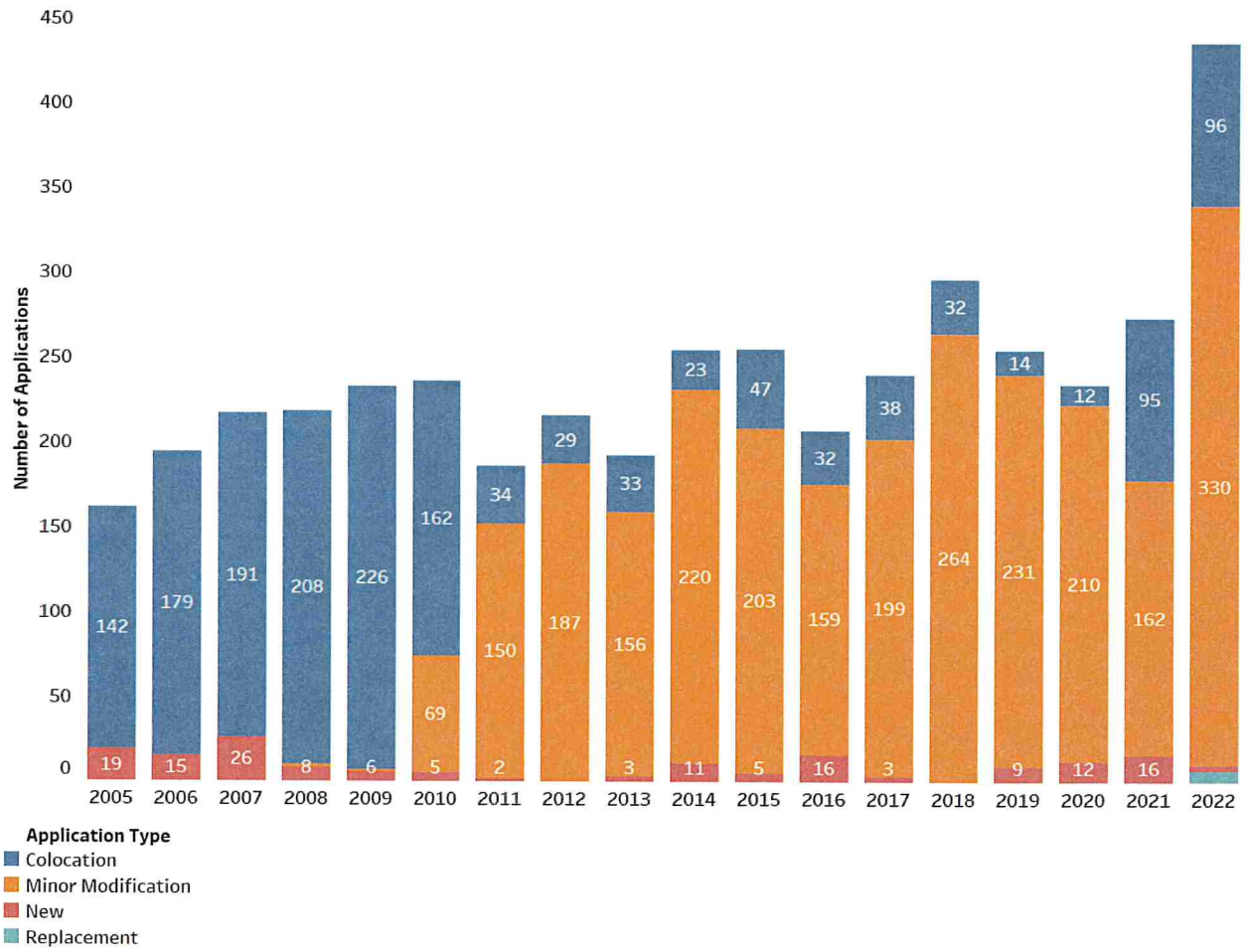
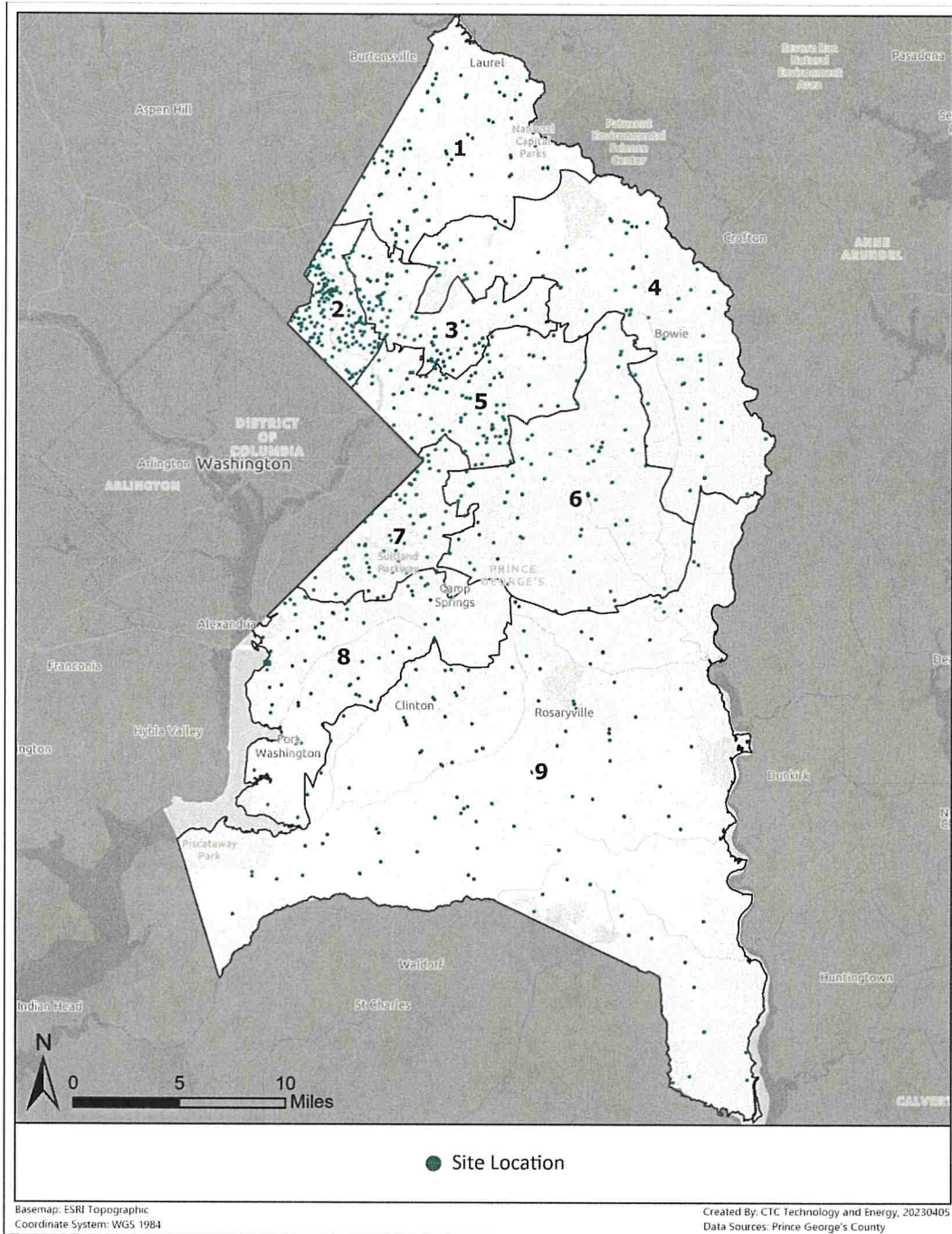


Figure 3: Map of Wireless Sites by Council District



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 2022.

Figure 4: Structures Supporting Multiple Antennas (2005)

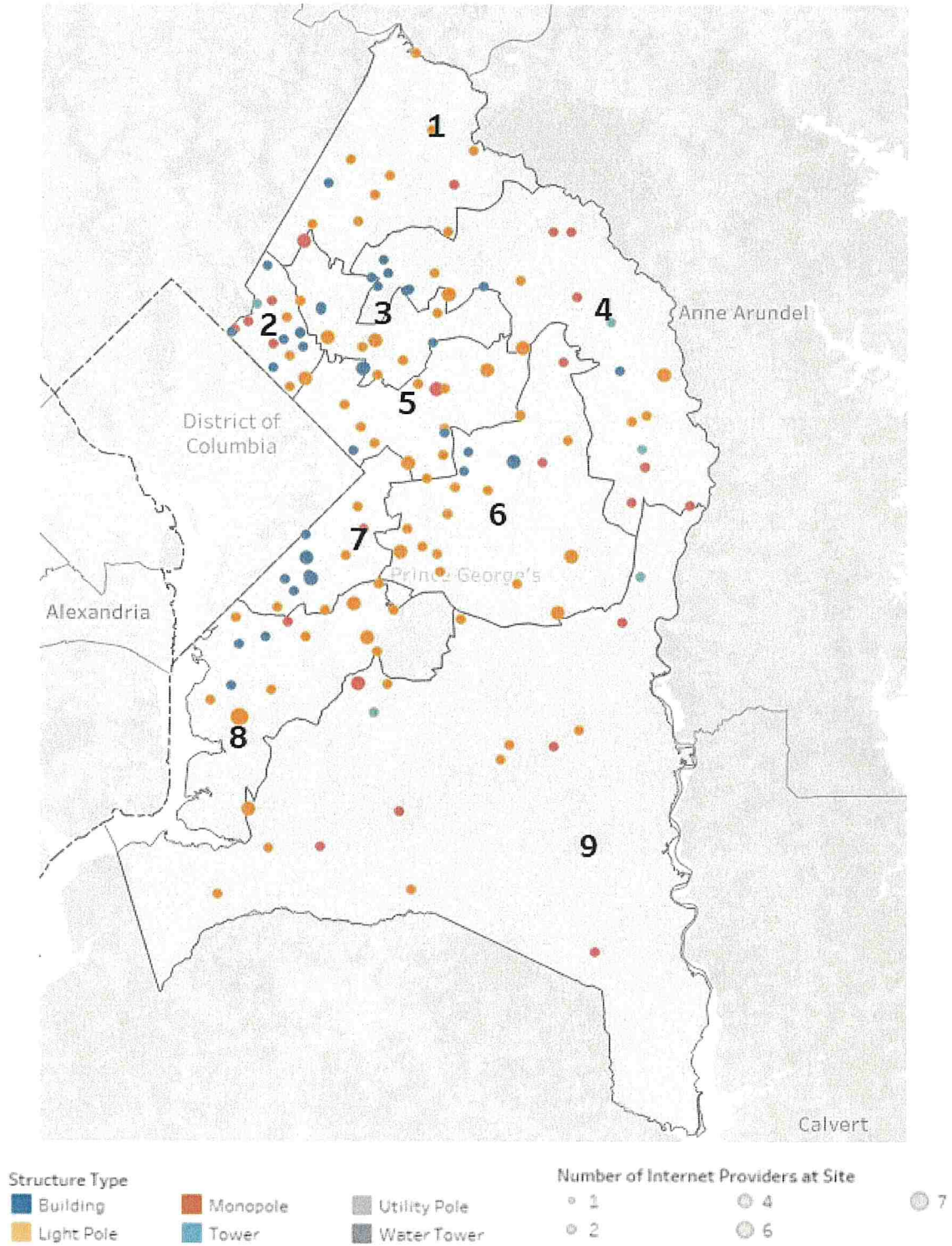


Figure 5: Structures Supporting Multiple Antennas (2010)

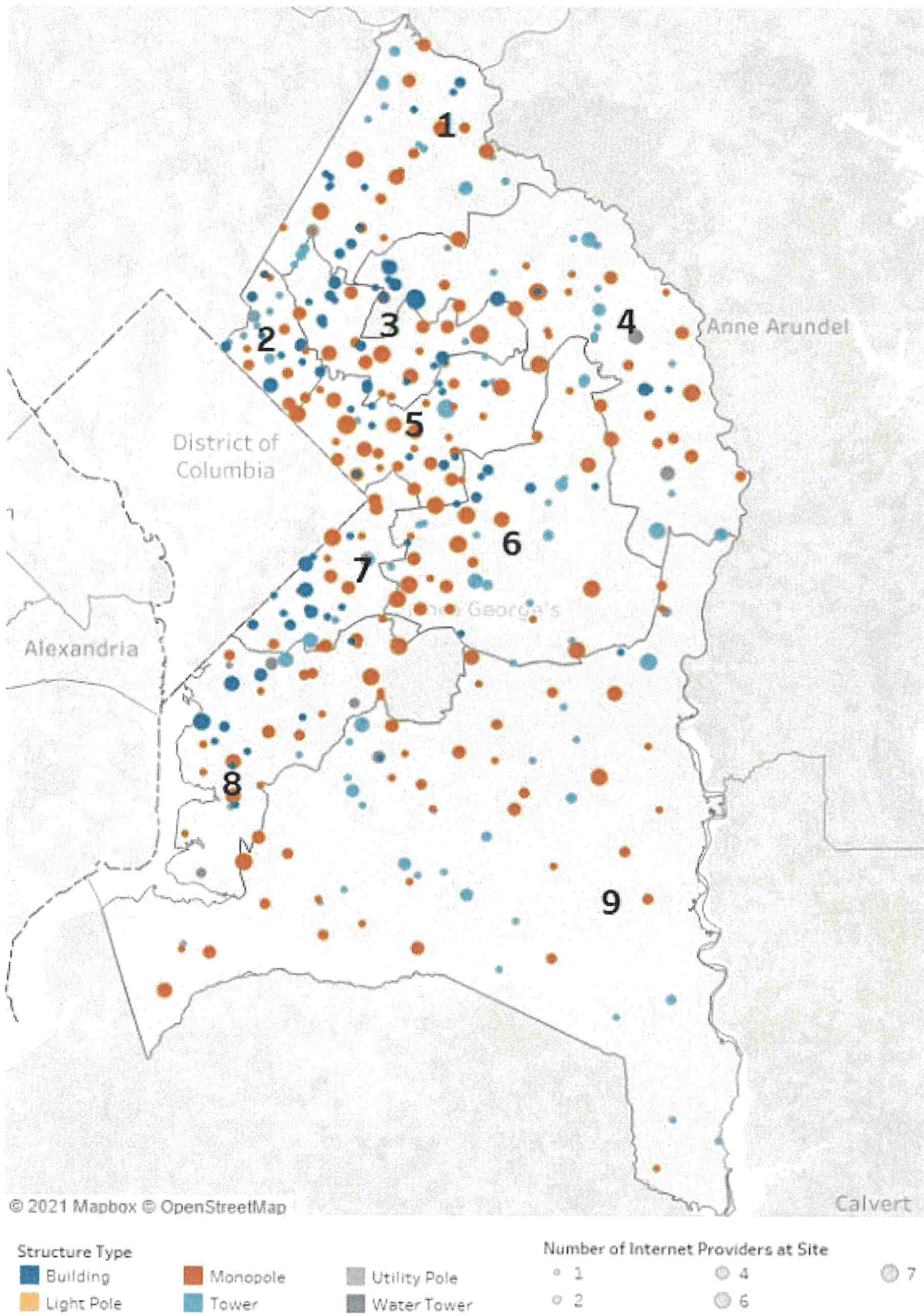
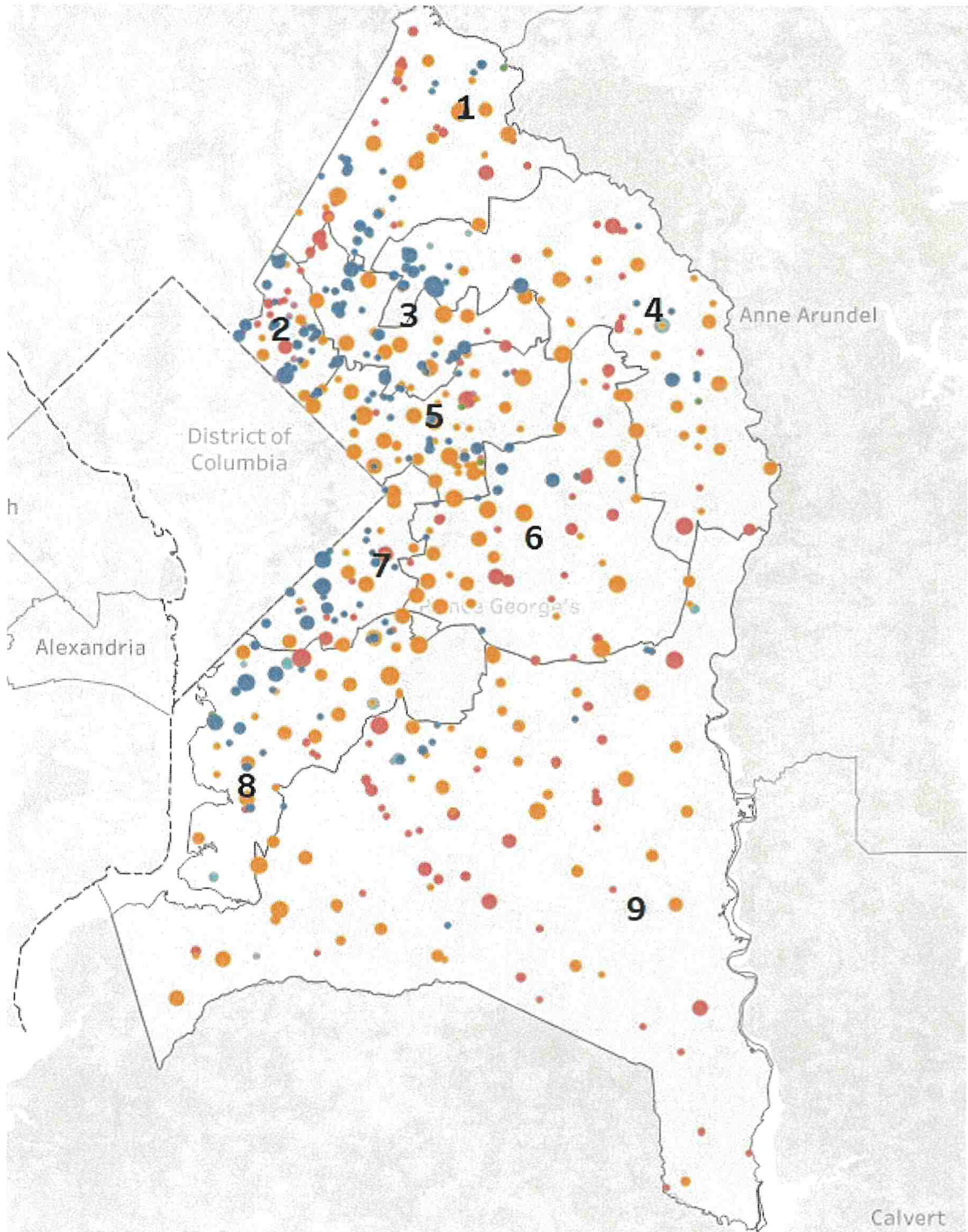


Figure 6: Structures Supporting Multiple Antennas (2022)

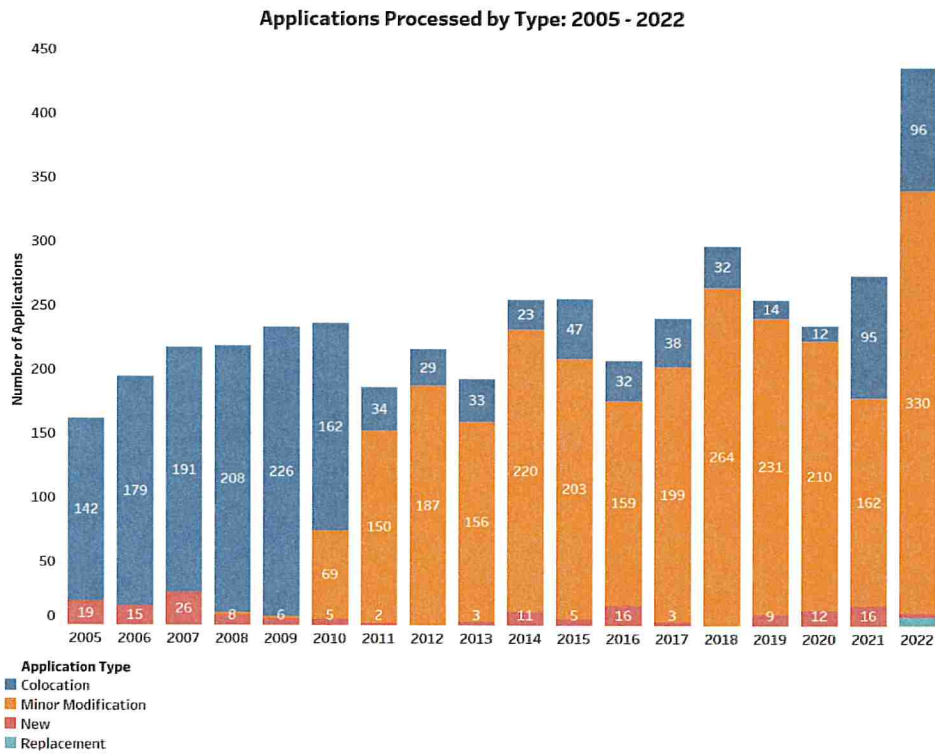


3. Calendar Year 2022 TTFCC Activities

In CY22, carriers and infrastructure companies filed 475 applications for TTFCC review. The TTFCC reviewed most of those applications, as well as applications carried over from 2021.¹

The following chart compares the types of applications processed between 2005 and 2022.

Figure 7: Applications Processed by Type (2005 – 2022)



The charts below illustrate the applications that received a disposition following submission to the TTFCC in 2022 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.

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

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 2022 were filed in 2021; similarly, some of the applications filed in 2023 will be reviewed in 2024.

requests for information (RFI) sent by the TTFCC in response to an incomplete or inaccurate application.

Any discrepancies found in an initial submission and sometimes resubmissions are returned to the applicant for correction. Therefore, the process has seen the majority of applications recommended if found to meet requirements.

Figure 8: Applications Processed by Type of Outcome (2022)

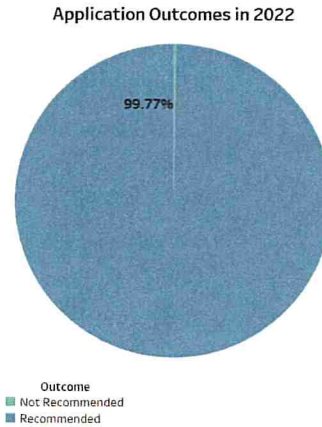
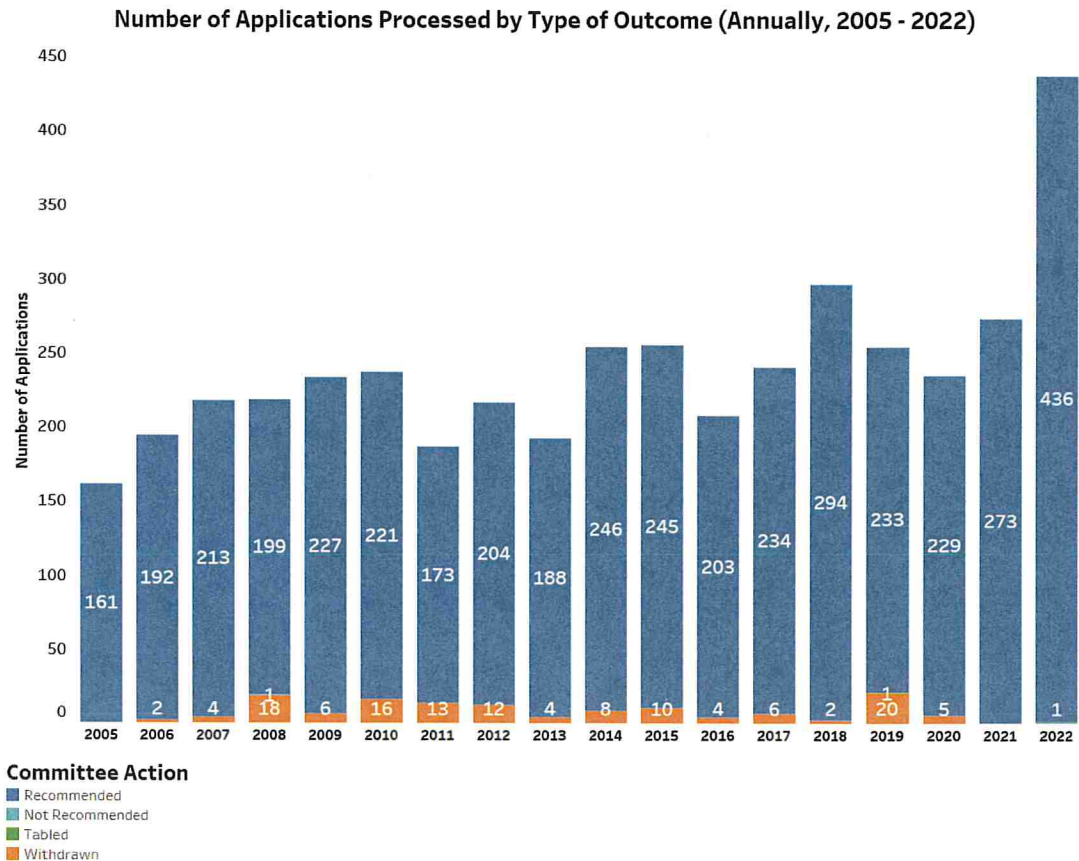


Figure 9: Number of Applications Processed by Type of Outcome (2005 – 2022)



Minor Modification Applications

Of the 475 applications received by the TTFCC in 2022, the majority—354—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 and other ground equipment.

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 (COW).

Colocation Applications

In 2022, the TTFCC received 119 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 networks. 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.

42 colocation applications were received to colocate SWFs on utility poles in the public right-of-way, six colocation applications were submitted for SWFs on light poles in a PUE adjacent to FedEx Field, and two colocation applications were received for County-owned light poles in the FedEx Field area in the public right-of-way:

- All of the SWF colocations on utility poles were strand mount proposals submitted by Crown Castle on behalf of T-Mobile. These were recommended with the exception of one application that did not meet the public park setback requirement as defined in the County Code.
- The remaining eight applications in the area of FedEx Field were submitted by Crown Castle on behalf of Verizon and were recommended.

Fifty-nine of the colocation applications were from Dish Wireless for macro sites. All were recommended.

The remaining colocation applications were all for macro sites and included five from AT&T, four from T-Mobile, and one from WMATA. All were recommended.

New Facility Applications

The TTFCC received two applications to construct new macro sites—one monopole and one tower.

An application from Pepco for a 200-foot replacement tower at the Ritchie substation was recommended by the committee. The new structure will be available for commercial collocation in addition to supporting Pepco internal communications.

A proposal was received from Verizon for a 99-foot monopole in the High Bridge neighborhood of Bowie. It is pending revisions from the applicant.

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 duties, “evaluate the esthetic effects of locating multiple telecommunications transmission facilities in a single location or on a single structure.” [County Code Section 5A.153]

As part of the TTFCC’s responsibilities, the County Code requires that it shall:

1. Serve as a central source of information and provide technical advice on the siting of telecommunications transmission facilities for the County, the Maryland National Capital Park and Planning Commission, the Board of Education and other public landowners, private landowners, licensed telecommunication carriers, and the general public
2. Promote the appropriate and efficient location and co-location of telecommunications transmission facilities to minimize adverse impacts on other land uses in the County
3. Evaluate the esthetic effects of locating multiple telecommunications transmission facilities in a single location or on a single structure
4. 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 and any at-large Council members
5. 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
6. Facilitate public participation in the telecommunications transmission facility siting process
7. Report annually to the County Executive 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:

1. Prepare a master plan of existing and planned Telecommunications Transmission Facilities in the County

2. Maintain a database of telecommunications facilities reviewed by the TTFCC and those facilities proposed to be located in the County
3. Advise the County on telecommunications matters as requested
4. Review the siting of each proposed Telecommunications Transmission Facility
5. Serve as a technical resource to the public and interested carriers and agencies
6. Evaluate the technical rationale of the proposed locations
7. Evaluate alternative sites and techniques where appropriate to mitigate the visual impact of the proposed and alternative sites and report the findings to the TTFCC

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 collocate 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 collocation 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 \$319,250 in application and annual plan fees during 2022. The County's costs for TTFCC activities, excluding indirect County staff time, were \$446,767. These costs were expenditures for outside services provided at the County's request by the designated Telecommunications Transmission Facility Technical Consultant (CTC Technology & Energy). 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 on a regular basis. To track the progress of each of the ongoing submissions and the status of the site surveys, CTC Technology & Energy 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 the Prince George's County 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 siting 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

² <https://dpielpermits.princegeorgescountymd.gov/>

- 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
- Sherif Elkabbani, Chief, Street Lights and Signal Section,
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
- CTC Technology & Energy, 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, extend the height of a structure, or locate a wireless facility in the public-right-of-way 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.

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. A meeting was held in each month of Calendar Year 2022.

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 2022. Cumulatively, there are a total of 712 future sites listed by all carriers. As the map illustrates, the possibility exists for the TTFCC to receive a significant number of applications in the future.

Given the County's growing population³ 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:

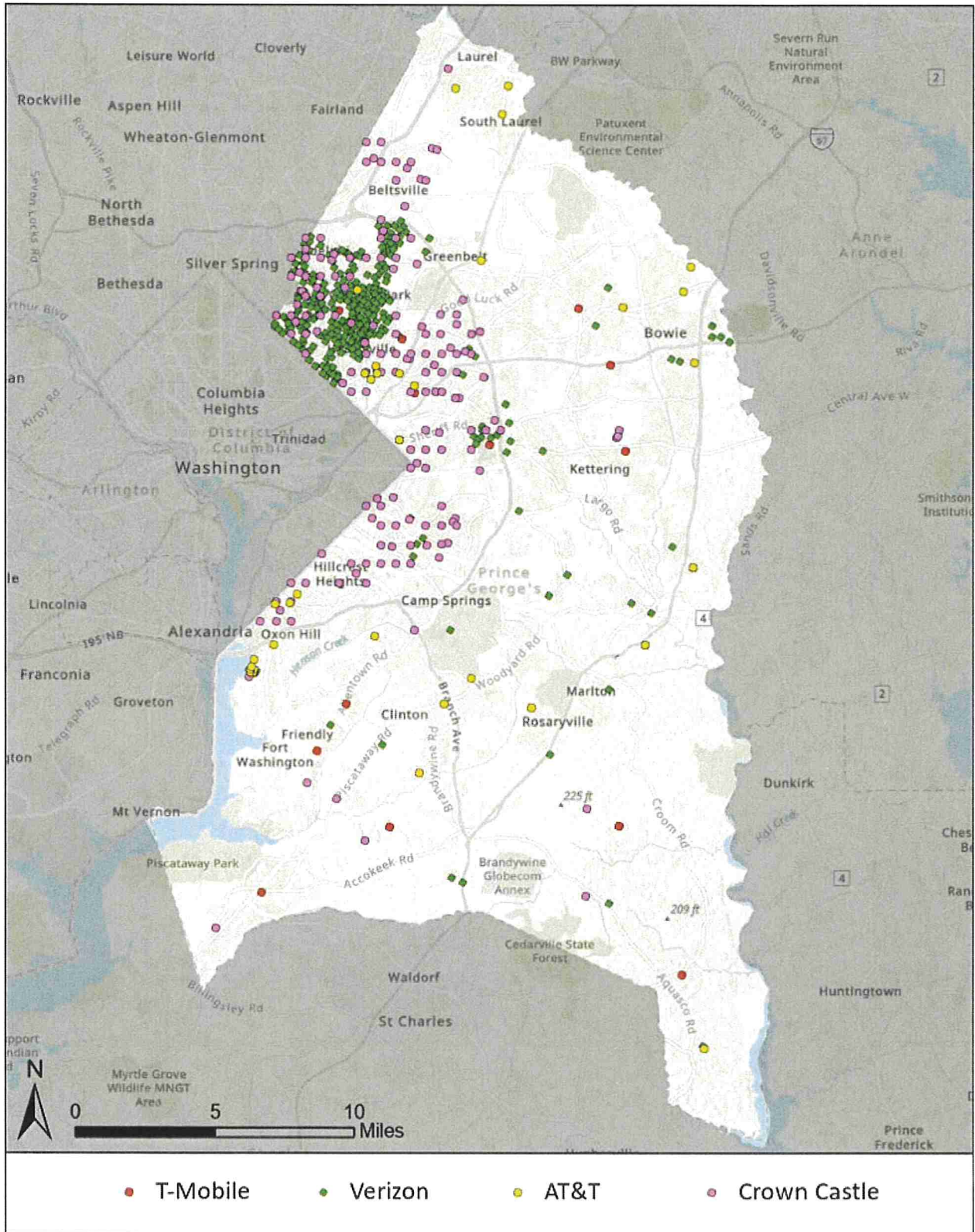
- Minor modifications
 - Age, obsolescence, and development of new types of antennas lead carriers to modify their equipment on existing sites; this includes initiatives by the major carriers to develop dedicated data networks for public safety such as the First Responders Network Authority (FirstNet)
 - 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
- 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 be submitted, 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 and continued at the same pace in 2022.

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 SWFs while applying the FCC requirements unique to SWFs.

³ See, 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 (2022 and beyond)



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