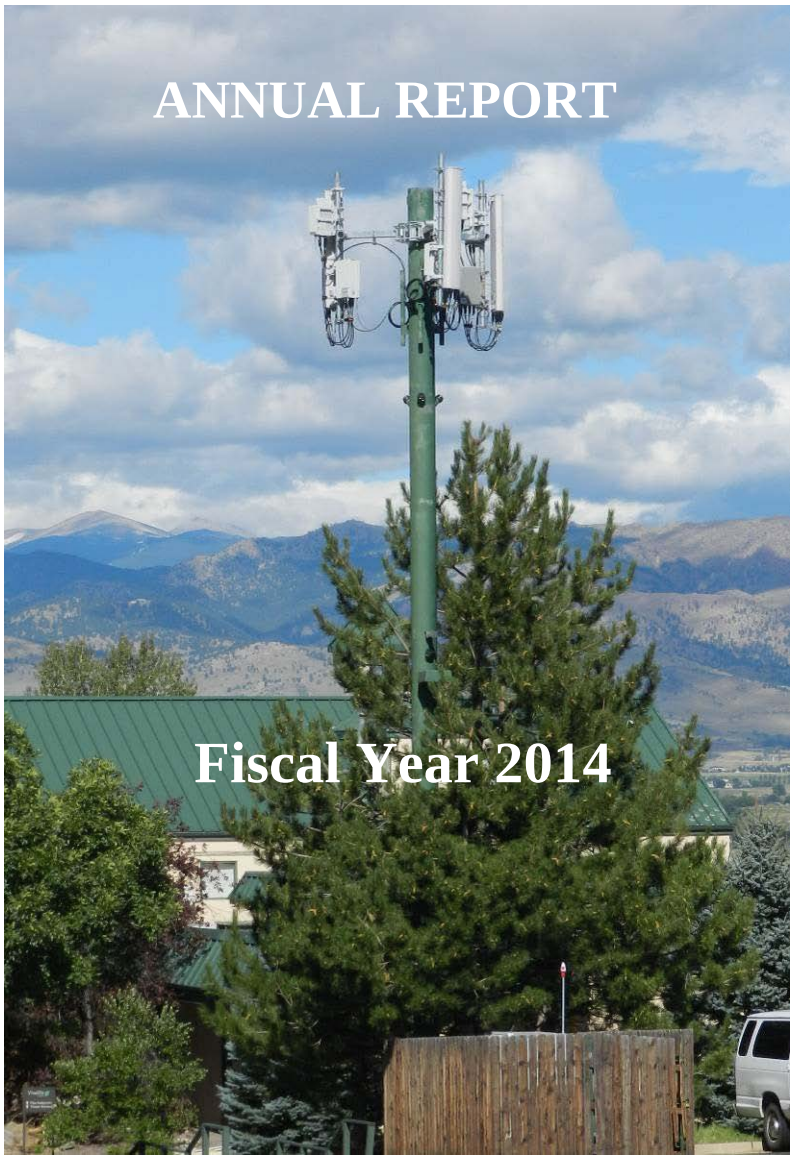
TELECOMMUNICATIONS TRANSMISSION FACILITY COORDINATING COMMITTEE



PRINCE GEORGE'S COUNTY
RUSHERN L. BAKER, III
COUNTY EXECUTIVE

COVER PHOTO

The photo on the cover of this year's Report illustrates a trend in both Prince George's County and other communities across the country over the past year. The monopole in the photo is near Niwot, Colorado—where, as shown in the photo on the left below (taken in August, as this report was being prepared), workers are installing new, larger cellular antennas to meet smartphone-using residents' ever-increasing demand for advanced broadband services. Similar upgrades have been occurring in Prince George's County over the past several years. An example of this was the subject of last year's cover story. That monopole in Lanham is shown in two photos below; the one in the center is from 2010, the one on the right is from 2013 just after Verizon Wireless added an extension to the top of the monopole to support their new antennas. Even as we prepare this report, we note that Verizon Wireless has applied to further modify that antenna array by replacing the 15 existing antennas with nine larger antennas (several going from 4' to over 8' in height) that also include large equipment boxes.

The original antennas on the monopole on the left were painted green to minimize their appearance, and are just slightly larger than the green stand-off metal pipes still visible on the monopole. In contrast, the three new antennas (representing one carrier's attachment) are much larger and much more visible. These new antennas are capable of transmitting and receiving multiple frequencies. They permit the new 4G technology at this site to deliver the wide array of broadband services—including Internet access, e-mail, and video downloads—that are becoming the standard for "smartphone" customers.

Also visible behind the new antennas in the photo above are two "remote radio heads"—each weighing approximately 50 pounds and together almost as large as the approximately six-foot-tall antennas. Those devices enable coverage over a greater area with more reliable reception characteristics. In sum, these modifications result in "smarter" antennas, providing advanced broadband services to more customers over a greater area.

While similar antenna upgrades continue in Prince George's County, the visual impact is often even greater. At most locations in Prince George's County, because of the greater density of users and the greater number of service providers as compared to rural Colorado, there are usually six to nine antennas (or more) in multiple platform arrays, one for each carrier—making the scale of the facilities being placed at each site that much greater. Nearly all of the TTFCC applications received in FY 2014 were to make similar antenna improvements in Prince George's County by either adding to or replacing antennas at existing sites. We expect this level of activity to continue through the upcoming year.

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1. Introduction

This Annual Report—prepared by the Telecommunications Transmission Facility Coordinating Committee (TTFCC) as required by Section 5A of the County Code—provides an overview of the placement of wireless facilities in the County during Fiscal Year 2014.

In this report are summaries of the numbers and types of applications filed by wireless telecommunications service providers that have been reviewed by the TTFCC and permitted for construction by the County. This report also includes a general description of activity by the wireless industry, changes in wireless technology, and the impact of those changes on the community. The report also outlines the TTFCC's expectations for the upcoming fiscal year in terms of what County residents may expect to see in the realm of antenna and facility siting.

2. Executive Summary

In FY 2014, 192 applications were processed for TTFCC review. Many of the applications filed—like those filed in the two preceding years—were "minor modification" requests to add or replace antennas at existing sites. This continuing work, as noted in the cover photo description above, is to improve coverage and add capacity to meet customer demand for high-speed data services available on new "smartphones."

We expect this work to continue into FY 15 as the carriers further upgrade their antenna sites and expand their coverage in the County overall. Based on carriers' plans for future antenna sites in the County, as filed to date, approximately 80 new sites are planned over the next two years. The Master Plan map on the following page shows sites pending County Council approval.

Legend

This Master Plan represents a compilation of potential service areas where wireless telecommunications service providers have indicated they may seek to place new antennas within the next two years pursuant to § 5A-155 (b) of the County Code.

Existing locations and support structure types approved by the TTFCC

Locations and type support where there are existing telecommunications antennas[1] or proposed antennas previously approved by the TTFCC but not yet built are shown below:

- Water Tower
- Building
- Monopole
- Tower

Target Service Area for New Antennas

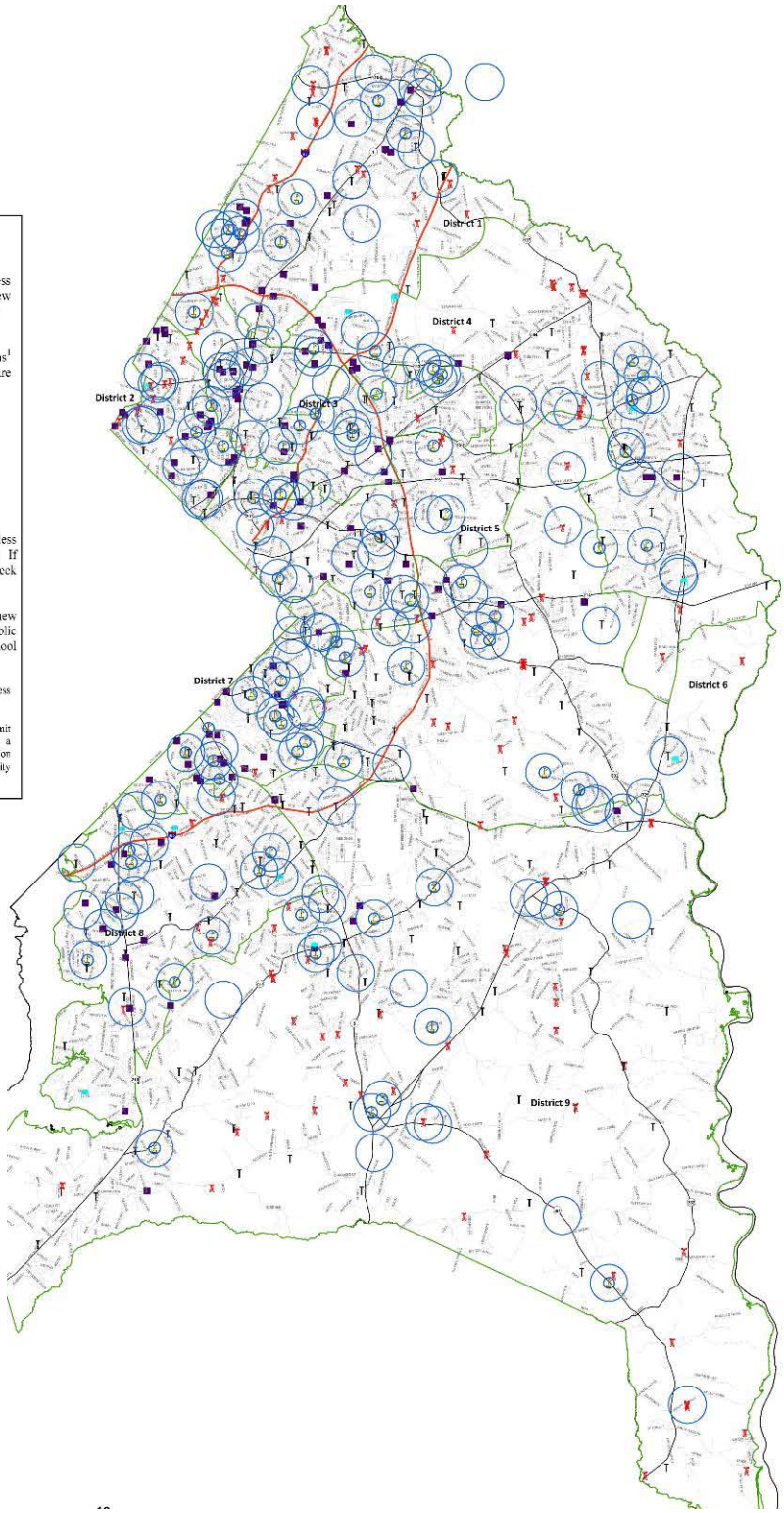
Target area for new telecommunications antennas as designated by wireless telecommunications service providers in their annual plan[2] submission. If there is no existing support structure for the antennas, the carrier may seek construction of a new tower or monopole in this area.

School Locations

High school and middle school locations - all potential sites for new monopoles pursuant to a contact between the Prince George's County Public Schools and Milestone Communications to place new facilities on school property.

[1] Some existing structures may have multiple sets of antennas belonging to different wireless telecommunications service providers.

[2] Pursuant to § 5A-155 (b) of the County Code, every applicant for a building permit or other permit for the erection of a telecommunications transmission facility shall annually submit a telecommunications transmission facility location plan. The plan shall clearly identify the location of every existing telecommunications transmission facility and the proposed location of each facility to be constructed or located in accordance with the permit application.



3. TTFCC Membership

The current TTFCC members are:

TTFCC Chair

- Michelle Lyons, Administrator of Boards and Commissions,
  Department of Permits, Inspections and Enforcement

TTFCC Vice-Chair

- Clarence Moseley, Permits Supervisor, Permits Information and Management Section,
  Department of Permits, Inspections and Enforcement

TTFCC Members

- Lakisha Pingshaw, ICBN Program Manager,
  Prince George's County Office of Information Technology
- John Ferrante, Acting Planning Coordinator, Permit Review Section,
  Maryland National Capital Parks and Planning Commission
- Frank Porter, Committee Director,
  Prince George's County Council
- Vincent Curl, Facility Supervisor, Maintenance Department,
  Prince George's County Public Schools
- Shaa'ron Williams II, Engineering Tech III, Site/Road Permit Section,
  Department of Permits, Inspection and Enforcement

Additional support to the TTFCC is provided by:

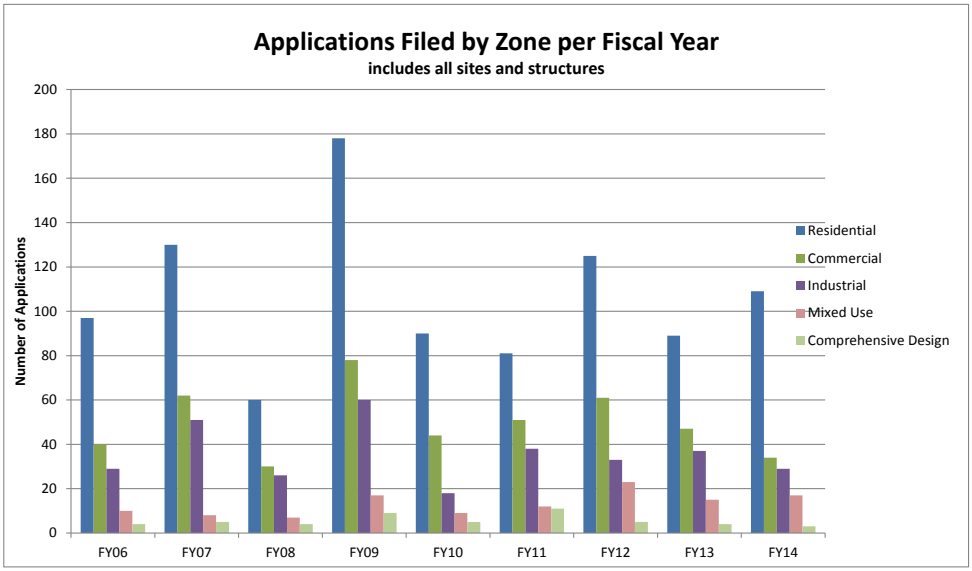
- Jared McCarthy, Associate County Attorney,
  Prince George's County Office of Law
- TTFCC Facility Coordinator
  Columbia Telecommunications Corporation

4. Background

The initial 2000 legislation that established the TTFCC and amended the County's zoning was initiated for "establishing dimensional and locational standards for wireless telecommunications antennas"[1] by limiting the height of towers in residential zones, permitting placement of new facilities in industrial and commercial zones, and encouraging co-location of antennas on existing structures in the County where they may exist in lieu of constructing new antenna support structures.

Since 2000, the Code has been further amended to provide for further improvements in the antenna siting regulations, including a requirement for an annual Master Plan of planned new antenna sites, limiting the lot size for a new tower in residential zones, and permitting administrative approval of applications for minor modifications and temporary cell antenna sites when needed to serve special events or immediate cell phone coverage needs. In 2007 there were approximately 411 antenna locations in the County; from that point until the end of FY 2014, approximately 98 new locations for antennas have been created in the County.

As evidenced by the charts below, the County's process has been successful in fostering deployment of advanced telecommunications services to County residents and businesses with the intended minimal impact in the areas where the customers reside—a factor becoming more and more important as reliance on cell phone coverage becomes more important to residents.



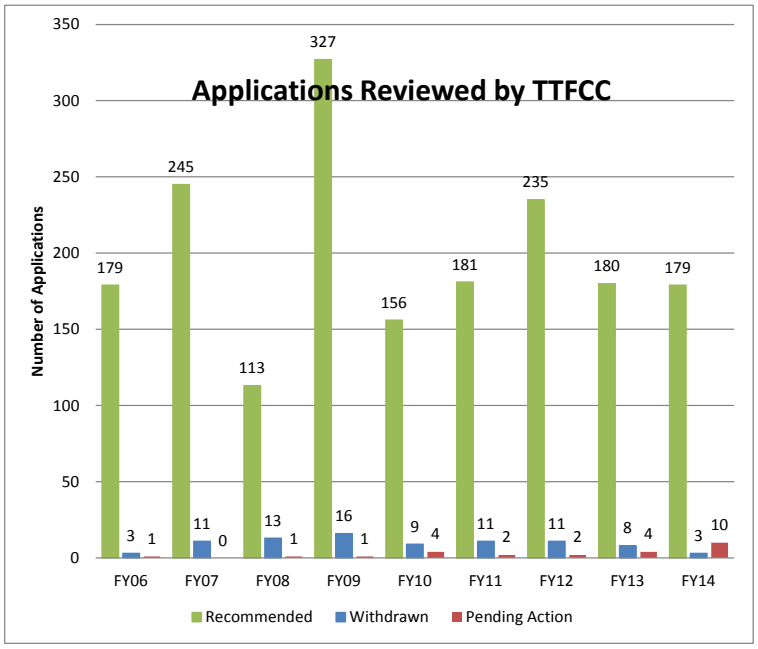
There are presently 529 antenna sites in the County that have been identified by applications to the TTFCC Many of those antenna sites existed prior to the creation of the TTFCC. The illustration below shows the number of antennas by type of support structure.

[1] "Zoning Bill," CB-65-2000, 2000 Legislative Session (Introduced October 17, 2000).

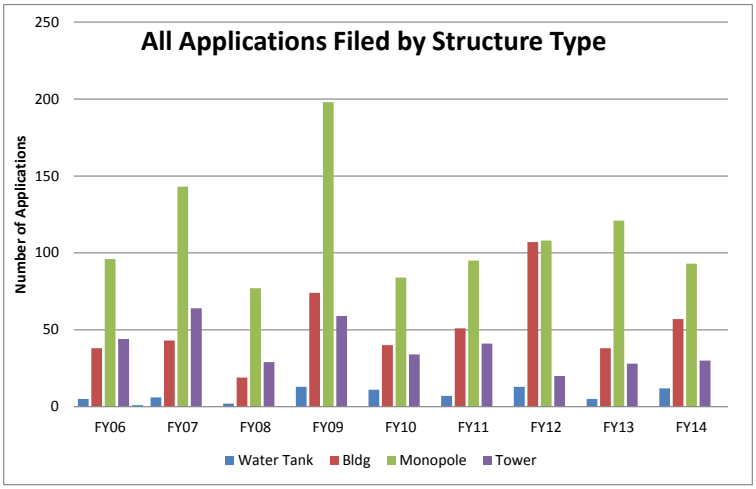
Monopoles	Building rooftops	Lattice towers	Water tanks
217	128	144	12

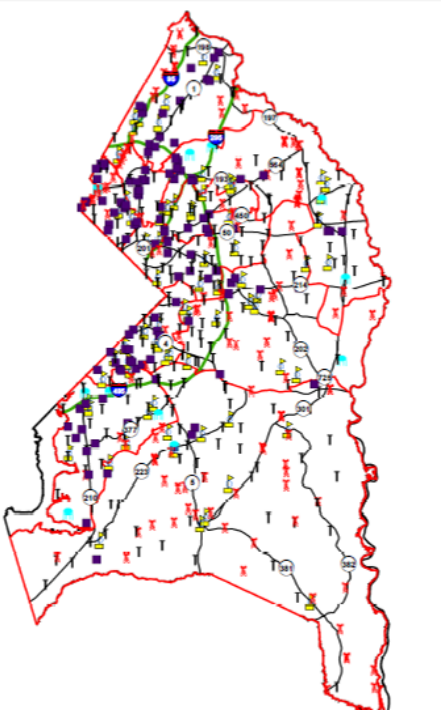



To date, since its inception in 2000, the TTFCC has processed 2,360 applications from approximately 22 companies to place antennas in the community. The chart below illustrates the record of TTFCC actions over recent years.



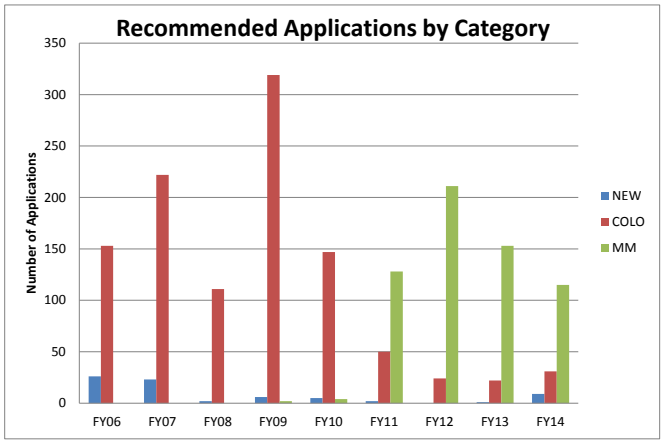
The chart below shows applications filed by carriers over recent years by support structure type illustrated above. The map on the right illustrates the distribution of antenna sites across the county.





5. Summary of FY 2014 TTFCC Activities

In FY 2014 the TTFCC received 192 applications, the same number as last year. Also like last year, and as expected, the majority (approximately 76 percent) of the applications filed by the carriers were to add or change antennas at existing sites and were approved administratively. The remaining applications received by the TTFCC included 35 applications from carriers to add antennas to new sites in the County ("co-locations") and nine applications to construct new support structures at new locations.



The slight increase in co-location applications is related to the need to meet demand for services in areas where there are not enough existing antenna sited to handle the increased need for bandwidth for 4G services and the growing capacity needs to support "smartphone" services.

There was a noticeable increase in the number of applications for new monopoles this fiscal year. In FY 2013 there was just one application for a new monopole. This year, there have been nine new tower applications, five of which were to support Verizon Wireless antennas submitted by Milestone Communications, a tower management company, which has begun development of wireless facilities on public school properties under the provisions of a contract with the Board of Education.

During FY 2014, the TTFCC acted on 155 applications including some that had been carried over from FY 13 filings. The average time it took to process a complete application in FY 2014 was 35 days for applications that were filed complete and accurate (approximately 53 percent). It took an average of 41 days to process an application that was incomplete, excluding the time it took the applicant to provide revised or additional information to correct the errors or omissions on the application as originally filed (which was, on average, 61 days).

We anticipate that over the course of FY 15 the current level of activity will continue as carriers continue to upgrade their antenna facilities. During FY 14, Verizon Wireless and Sprint filed the most applications to modify sites or add antennas at existing antenna locations. We expect T-Mobile to follow in that upgrade activity as they replace antennas with new ones capable of transmitting over frequencies newly acquired from the Federal Communications Commission.

In sum, based on the information provided by those that have reported their planned antenna sites, approximately 96 new antenna locations or more may be expected over the next two years.

During the past year, there were two significant spectrum acquisitions by wireless carriers. In July, 2013, Sprint obtained Clearwire's spectrum holdings in the BRS band (2496-2690 MHz) and in April, 2014, T-Mobile acquired Verizon's A-Block spectrum in the Lower 700 MHz band (698-704/628-734 MHz). Since these acquisitions took place, both carriers have filed applications to install antennas capable of transmitting in their new bands. The implementation of these new bands will result in increased system capacity for both carriers, which will enable them to provide improved service to their customers in the County. Implementation of 4G LTE technology also continues in the County– by these carriers, as well as by Verizon and AT&T – and this will also result in improved wireless service for County residents.

Finally, in February, 2014, the FCC conducted an auction of the PCS H-block spectrum band (1915-1920/1995-2000 MHz). The winner of that auction was American H Block Wireless LLC, a subsidiary of Dish Network. According to at least one press report, Dish Network is expected to use its licensed 700 MHz spectrum to transmit video programming and could utilize the H-block spectrum to provide wireless 4G LTE service to rural areas of the country.[2] Dish Network could thus become another wireless carrier in the County and could potentially use its spectrum to provide wireless service in some of the more rural areas of the County.

Additionally, in FY 15 we expect to see the first applications to place distributed antenna system (DAS) antennas on existing structures in the public rights-of-way. A DAS is comprised of numerous small antennas, each serving customers in an area typically up to a quarter mile away from the antenna. These antennas are linked together, primarily along major roadways, to in-fill geographically hard to serve areas or to add capacity to exiting coverage areas. Crown Castle, primarily a tower management company, acquired a number of existing DAS service operators and has expressed interest in placing facilities in the County to aid in the overall signal improvements necessary for extra capacity to meet the demand posed by smartphone users.

These small antennas are often clustered within canisters like that in the photo below of an existing DAS "node" (antenna site) in Vienna, Virginia. DAS networks can be used to improve coverage or add capacity without the need for constructing a new tower. County approval of a Special Utility Permit is required to permit DAS facilities in the County public rights-of-way pursuant to the County's Specifications and Standards for Roadways and Bridges.

[2] http://www.extremetech.com/electronics/177897-dish-secures-spectrum-for-150mbps-lte-to-rural-homes-in-the-us

6. Administration of the Antenna Siting Review Process

Fees paid to the County for processing the 212 applications filed during FY 14 amounted to approximately $126,500. Filing fees are based on the type of application and range in amount from $500 for an application to modify existing antennas to $2,500 to process an application for a new tower or monopole. County expenditures for administrative and engineering consulting services provided by the Facility Coordinator amounted to $170,033.

Last year, the cost of Facility Coordinator support was approximately 8 percent above the fees received for review of applications. In FY 14—because there were significantly more applications for new towers in the County (which are inherently more time-consuming to review) and because many were filed incomplete or had errors in the required information—the cost to review those applications nearly doubled in processing costs.

Examples of problems with applications include an application in which engineering documentation supporting the need for a new tower was calculated based on the tower being in an entirely different location from where it is proposed to be located, and applications so incomplete in providing the required information that they were, in effect, rejected and the applicant had to refile as if a new application.

Consequently, we recommend an increase in the filing fees for new tower applications to offset the County's processing costs. Alternatively, the costs for review of new tower applications could be passed along directly to the applicants as some other jurisdictions presently do. That way, County costs would be appropriately attributed to the actual costs for reviewing each application.

7. Public Participation

The annual Master Plan of existing and proposed telecommunications facilities is prepared by the Facility Coordinator; it reflects the antenna locations planned for construction for the succeeding two years, based on updated information provided annually by each of the carriers. The Plan is submitted each October to the County Council for its approval. Once the Plan is approved it is available for public review. The Plan is a map showing target areas where new antennas may be sited in the community. Where there are no existing structures to which the carriers could potentially attach new antennas, the carriers may seek approval for a new tower or monopole. The Plan is intended to alert residents in those areas of the possibility of new antennas or new support structures.

The TTFCC ensures that carriers provide proper notice of proposed new monopoles to community organizations and nearby property owners. The notices describe the proposed monopole and offer an opportunity for interested parties in the community to meet with representatives of the carriers. In FY 2014, community organizations requested meetings for all proposed new monopoles for construction at public school sites.

The public has access to information related to the TTFCC's work in other ways, as well. The Office of Information Technology and Communications maintains a TTFCC website (http://www.goprincegeorgescounty.com/Government/BoardsCommissions/ttfcc.asp) that provides information about the TTFCC and the application process, downloadable application forms, excerpts from related County Code and zoning regulations, the Telecommunications Master Plan, and contact information for interested parties who may have questions or comments.

TTFCC meetings are held on the third Wednesday of each month. Applications are due by the last Wednesday of the month in order to be considered for review at the next month's meeting. The meetings are held in Conference Room 124 at 9400 Peppercorn Place in Largo. All meetings are open to the public. During FY 14 a procedure for calling an audio conference line was established to increase access to the meetings for those who may not be able to attend the meetings in person.