

JACK B. JOHNSON COUNTY EXECUTIVE



COVER PHOTO "Stealth" Monopole Designs

The cover photo shows a T-Mobile monopole disguised as a flagpole at 901 Brightseat Road in Landover. Albeit a very large flagpole, its appearance is less intrusive and industrial-like than the more typical monopole design on which large triangular platforms support from nine to 15 antennas each. The monopole replaced an actual flagpole, which can be seen in the photo to the left below. The cover photo is shown to the right for comparison.



T-Mobile antennas are concealed within an "RF-friendly" exterior sheathing that covers the top half of the 120'-high structure. Within the faux exterior are four bays, stacked atop one another, each of which can enclose three panel antennas. T-Mobile's antennas occupy the top two bays, leaving two others below for potential co-location of another carrier's antennas. This unique design, also used at a number of other sites in the County, is intended to minimize the impact of the facility in the community. The photo to the left below shows technicians installing antennas in a similar structure at a location in Montgomery County. The photo on the right below shows one of the bays with the exterior removed, exposing the T-Mobile antennas within, at a monopole location in Baltimore County.



Table of Contents

1.	Introduction	1
2.	Executive Summary	2
3.	The TTFCC Membership	3
4.	Summary of 2010 TTFCC Activities	4
5.	Public Participation	
6.	Administration of the Antenna Siting Review Process	
F	Revenues	. 10
F	Processing Applications	. 10
F	Revised Application Procedures	. 10
S	Statistical Update	. 11
7.		
8.	Recommendations to Improve the Wireless Antenna Siting Process in the County	

Table of Figures

Figure 1: Number of Applications Received (by Year)	4
Figure 2: Applications Received by Type	4
Figure 3: Applications by Structure Type	. 5
Figure 4: New Structures by Zoning Category	12
8	

Table of Tables

Table 1: Towers or Monopoles with Multiple Carriers' Antennas	11
Table 2: New Structures by Council District	12
Table 3: Facilities Sited in the County	13
Table 4: Number of Sites with Multiple Attachments	14

Attachments

Attachment A: Proposed Legislative Changes Attachment B: GAO Report Highlights

1. Introduction

This report is intended to provide the County Executive and the County Council with a summary of the activities of the Telecommunications Transmission Facilities Coordinating Committee (TTFCC) during the first six months of 2010. This "interim" report is being issued in anticipation of the approval of pending legislation to synchronize the timing of the Annual Report with the annual Telecommunications Facilities Master Plan update. Previously, the Master Plan was submitted in October of each year, but the Annual Report was submitted at the end of the calendar year. Legislation to formally make October 1 the submission date for both the Master Plan and the Annual Report is pending approval by the County Council. Future Annual Reports will cover TTFCC activities occurring within each fiscal year.

2. Executive Summary

The view in the fold-out panorama on the next page of this report illustrates the location of telecommunications facilities in the vicinity of the monopole featured on the cover. Though it is a relatively small part of the County, the area shown in the panorama photo contains approximately 116 antennas from approximately nine carriers and the federal government on just seven support structures in an area less than seven-tenths of a square mile in size. This view of this horizon is not unlike many others in the County, evidencing the proliferation of antennas that are enabling a remarkable number of wireless service offerings from numerous competitive providers to County residents. These facilities exist, in large part, due to the creative work of the TTFCC and the effectiveness of the County's regulations, which have facilitated service providers' ability to locate in the County. In sum, the TTFCC process works.

In the first six months of 2010, the TTFCC reviewed 108 applications to place wireless facilities in the County. Sixty percent of the application were to add or replace antennas at existing locations (as carriers acted to implement new technology or radio frequencies bands) and were approved administratively. There were six new monopoles proposed in the first half of 2010, three of which were on State or federal lands. It is anticipated that there may be 200 to 300 TTFCC applications filed over the course of FY 2011.

At the request of the County Council, recommendations for legislative changes proposed by the TTFCC in 2009 were submitted for consideration in March 2010. Attachment A includes a summary of those changes.

Effective July 1, 2010, revisions to the TTFCC application process, including changes to the application form, were implemented to help applicants file complete and accurate applications and reduce County review time and costs. A summary of the changes is in Section 6 of this report.

TTFCC Recommendations

In conjunction with implementation of improvements to the TTFCC application filing and review process noted above, the TTFCC recommends the following actions to further improve the County's wireless facilities siting process.

- 1. Establish a date by which applications deemed incomplete must be corrected and refiled with the TTFCC.
- 2. Implement training for applicants to minimize errors on applications.
- 3. Consider revising filing fees to better cover the County's costs for application review, especially given the review period time constraints recently imposed by the Federal Communications Commission (FCC).

3. The TTFCC Membership

The current TTFCC members are:

TTFCC Chair

o Stan Wildesen, Special Assistant, Department of Environmental Resources

TTFCC Vice-Chair

 Clarence Moseley, Permits Supervisor, Permits Information and Management Section, Department of Environmental Resources

TTFCC Members

- o Nate Archey, Cable/I-Net Administrator,
 - Prince George's County Office of Information Technology and Communications
- Debbie Gallagher, Supervisor, Permit Review Division, Development Review Division, Maryland–National Capital Park and Planning Commission
- Leslie Jackson-Jenkins, Associate Director, Prince George's County Office of Central Services
- Frank Porter, Committee Director, Prince George's County Council
- Larry Pauling, Director, Facilities Maintenance, Prince George's County Public Schools
- Brian Winterwerp, Supervisor, Office of Engineering, Prince George's County Department of Public Works and Transportation

Additional support to the TTFCC is provided by:

- o Edwin Raynor, Esq., Associate County Attorney, Office of Law;
- Paivi Spoon, Special Assistant to the Deputy Chief Administrative Officer, Office of the County Executive; and
- TTFCC Facility Coordinators
 - o Robert Hunnicutt, Principal Analyst, Columbia Telecommunications Corporation
 - o Shivani Gandhi, Senior Engineer, Columbia Telecommunications Corporation

4. Summary of 2010 TTFCC Activities

Application Activity Summary

Figure 1 shows the number of applications received by the TTFCC since its inception in 2000. The number of applications filed during the first half of 2010 is less than half of the 2009 total.





Figure 2 compares the new, co-location, and minor modification applications received.

Figure 2: Applications Received by Type



Figure 3 illustrates the type of structures that were used to support those antennas.



Figure 3: Applications by Structure Type

TTFCC Action

To date, a total of 1,522 applications have been reviewed by the TTFCC. In the six-month period covered in this report, the TTFCC received 108 applications. (Sixteen 2009 applications were withdrawn during the same time period.) Of the 108 applications reviewed by the TTFCC, 65 were approved administratively. Four applications (three for new monopoles and one for

attachment of antennas to Byrd Stadium at the University of Maryland) were filed for information purposes only; they were for placement of facilities on federal or State property, which are not subject to the TTFCC regulations. Thirty-three applications were recommended with conditions, including:

- 7 applications on receiving a special exception on the property or approval of a special exception, or making changes to a detailed site plan for the property or the Telecommunications Facilities Master Plan.
- 13 applications on submission of a structural analysis report that the additional antennas and related equipment could be safely attached.
- 5 applications on meeting the requirement to screen equipment on the ground or paint the antennas to match the color of the building to which they are to be attached.
- 5 applications on obtaining approval from the WSSC to attach to its structures.
- 3 applications on meeting the requirements of providing notice to additional organizations, inspection of a monopole once construction has been completed, and coordination with other carriers on placement of equipment on a rooftop.

Minor Modification Applications

Sixty-five of the applications reviewed in the first half of 2010 were from carriers seeking to add or replace antennas at existing locations. The majority of those applications were filed by Clearwire and T-Mobile to add antennas that would enable those carriers to add bandwidth capacity or to add microwave links to other sites or network hub locations. Others applications were from carriers replacing antennas, upgrading coverage and services by adding new antennas to existing antenna arrays, and, in some cases, simply adding additional equipment cabinets to a site. Those applications were administratively approved by the TTFCC to expedite the permitting process.

Co-location Applications

The TTFCC reviewed 40 applications to add antennas to an existing structure to expand coverage to a service area, add capacity to handle the volume of calls from a particular cell site, or as part of changes needed to advance new 4G technology. (Clearwire has been implementing WiMAX technology for Sprint customers, and Verizon Wireless and AT&T have prepared some of their antenna locations for their LTE technology.)

Applications for New Structures

Three applications for monopoles on private property were reviewed by the TTFCC. They included two for T-Mobile antennas, one on property on Accokeek Road near the Charles County border and another close to the District of Columbia in a cemetery on Pennsylvania Avenue. The third new monopole application was for a monopole at BG&E property next to an existing monopole. The applicant in that case, Verizon Wireless, was asked to fully document why they could not use the existing monopole. The TTFCC's Facility Coordinator asked for additional documentation supporting Verizon's claims that the existing monopole could not structurally support their antennas, and that the proposed height of the second monopole was

warranted, based on their stated coverage objective and additional RF maps evidencing the need for antennas at the height proposed for the new monopole.

Three additional applications were for new monopoles on federal or State government property; one for Verizon Wireless antennas at the Visitor Center at NASA's Goddard Space Flight Center along Greenbelt Road, another for T-Mobile antennas at the I-295 and I-95/I-495 highway interchange near the Potomac River, and the third at the University of Maryland Experimental Farm on Route 202. Although those monopoles must comply with County zoning, TTFCC has no authority to recommend action for structures on State or federal property. The TTFCC does verify that notice of the proposed monopole is provided as required by the County Zoning Code and information from those applications is entered into the TTFCC database to identify those structures as potential facilities for co-location by other carriers.

5. Public Participation

The TTFCC ensures that carriers provide proper notice of a proposed new monopole to community organizations and nearby property owners. The notices describe the proposed monopole and offer an opportunity to meet with interested parties in the community to answer any questions. In the case of the notices for two of the new monopoles, community organizations requested community meetings.

For an application to construct a monopole on NASA property, Verizon Wireless representatives met with residents from the homeowner's association across Greenbelt Road from the proposed location for that monopole. They worked with the association representatives to place the monopole in a location on the property that was agreeable with the association.

In another case, for the T-Mobile monopole proposed to be constructed in a cemetery on Pennsylvania Avenue, residents near the cemetery raised concerns not so much about the monopole, but about other issues they had with the cemetery itself. In the end, T-Mobile agreed to notify the residents at the time they actually filed for the special exception needed for that monopole so that if the residents had further interests at that time, they would be able to attend the public hearings to provide their comment on the final plans for the monopole.

Based on these examples of community interest, we conclude that the notification process is working and leads to the intended results: community involvement with the antenna and tower siting process.

Additionally, the annual Master Plan of actual 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 to the County Council for its approval and adopted each October. 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 place new antennas, the carriers may seek approval for a new tower or monopole in the community. The Plan is intended to alert residents in those areas of the possibility of new antennas or new support structures.

The Office of Information Technology and Communications maintains a TTFCC website (<u>http://www.goprincegeorgescounty.com/Government/BoardsCommissions/ttfcc.asp</u>) 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 Room 4085 of the County Administration Building in Upper Marlboro and are open to the public, pursuant to the Open Meetings Act.

Regulatory Changes

Contained in the 2009 TTFCC Annual Report were recommendations for legislative changes to improve the overall TTFCC process. The County Council reviewed the recommendations in March 2010 and has notified the TTFCC that it supports the proposed changes. At the time of this report, the TTFCC is working with the Office of Law to draft final legislation for the Council's action in FY 2011. A copy of the notice from Chairman Dernoga summarizing the proposed changes is attached in Attachment A for reference.

6. Administration of the Antenna Siting Review Process

Revenues

For the first half of 2010, the County received \$98,000 in filing fees for TTFCC applications; expenditures for Facility Coordinator work amounted to \$117,564.

The \$250 refiling fee implemented last year was expected to encourage applicants to file complete and accurate applications. However, 51 applications, or 19% of the total applications filed in 2009, were still incomplete and needed to be corrected by the applicants and reviewed again. Of the 115 applications filed in the first half of 2010, all but 25 had to be refiled because required information was missing or was wrong. Consequently, in concert with the revisions to simplify the application process (implemented in July 2010 and discussed below), the TTFCC will monitor costs associated with processing applications and, if warranted, may revisit the fees for adjustments as appropriate. If the number of refilings does not decrease, we will consider recommending an increase in the filing fees at the time of the next legislative change to the TTFCC process to cover the County's costs for reviewing applications.

Processing Applications

In November 2009, the FCC issued a Declaratory Ruling that requires local authorities to complete their review of applications to co-locate wireless facilities on existing structures within 90 days from the date an application is deemed to be complete. For other applications, including proposals to construct a new tower or monopole, the FCC required that reviews be conducted within 150 days from the date an application is deemed to be complete. The TTFCC has met those requirements. In the first half of 2010, the TTFCC has, on average, processed all co-location applications in 34 days; the shortest processing time was just 12 days and the longest was 79 days.

Revised Application Procedures

Effective July 1, 2010, the TTFCC issued new processing requirements and procedures, including new application forms. The changes were made to make it easier for applicants to submit a complete application, to reduce the overall processing time, and to minimize the potential for submission of incomplete or inaccurate applications. Changes in the filing process include:

• The creation of a tutorial to show applicants how to access M–NCPPC's GIS website to obtain the official property information necessary both to complete a TTFCC application and to obtain the County building and electrical permits needed to construct wireless facilities. Simply submitting a copy of a GIS printout of property information with an application replaces manually entering that information on the application form, minimizing the chance for errors. All other important information is required to be on the application form itself, instead of on attached documents or statements, to expedite TTFCC review.

- A requirement that a Maryland Professional Engineer provide structural certifications to affirm that the support structure for the antennas meets the most current TIA/EIA standard (presently revision G) to support the existing and/or proposed antennas, cabling, and equipment.
- A provision that TTFCC applications for facilities on State or federal properties will be required only for informational and database recordkeeping purposes.
- A provision that electronic replies to notice of an incomplete application will no longer be accepted unless specifically requested by the County or the Facility Coordinator.
- A provision that, if an incomplete application is not made complete by the applicant within 60 days from the date on which the applicant is notified that the application is incomplete, the application will be considered withdrawn.
- A provision that photographs required to be attached to the application must have been taken within 90 days of the date of filing to show current conditions.

Statistical Update

Table 1 provides an update to the information provided in the 2009 Annual Report.

	Monopoles		Towers		
Number of Carriers Attached	2009	2010	2009	2010	
2	29	30	26	24	
3	31	27	10	10	
4	29	31	10	10	
5	24	23	2	3	
6	16	18	3	4	
7	4	5	2	2	

Table 1: Towers or Monopoles with Multiple Carriers' Antennas



Figure 4 shows the number of applications for each zoning category.

Table 2 provides information regarding new structures by Council District.

Table 2: New Structures by Council District

Council District	2009 Applications for New Structures	2000 to 2009 Applications for New Structures
1	0	9
2	0	7
3	0	10
4	1	21
5	0	25
6	1	19
7	1	10
8	1	13
9	2	33
Total	6	147

Table 3 reports the number of applications for facilities on public or institutionally owned property since the TTFCC's inception in 2000. Because there are some sites with multiple carriers at the same location, the total number of sites may be lower than the total number of applications. Applications to site antennas on federal and State property are exempt from the TTFCC requirements but the TTFCC still requires that applicants submit applications for informational purposes. Those applications are reviewed, approved administratively, and added to the TTFCC database.

Number of Sites on Public Property	2010 Applications	2010 New Structures	Total Applications Since 2000	Total New Structures on Public Property	Total Sites on Public Property
PEPCO	10	0	170	0	82
WSSC	9	0	64	5	17
Municipal	7	0	54	11	12
M–NCPPC	2	0	38	13	14
WMATA	0	0	4	1	1
BG&E	0	0	17	1	6
Prince George's County	1	0	29	7	14
Prince George's Community College	1	0	11	1	1
State of Maryland *	3	2	7	4	5
U.S. Government *	1	1	1	1	1
Volunteer Fire Dept.	1	0	31	4	10
Total Public Property Sites	35	3	426	48	163
Private Property	73	3	1040	83	274
Church/Religious Org. Property	4	0	97	19	32
Total	112	6	1,563	150	469

Table 3: Facilities Sited in the County

* These applications were for information purposes only; State and federal property are not subject to the TTFCC review regulations.

The increasing number of cell phone users, competition for customers, and the need for additional antennas at sites to add capacity to an area and to transmit new frequencies has resulted in antennas from multiple carriers at some sites. Table 4 illustrates the increase in the first half of 2010 in the number of sites with antennas from multiple carriers.

Number of Carriers with Antennas at the Site	2004	2005	2006	2007	2008	2009	2010 Jan-June
2	37	64	70	71	74	90	89
3	17	35	40	48	49	57	51
4	1	8	38	37	47	49	56
5	0	2	12	12	20	32	35
6	_	_	2	1	36	21	25
7	_	_	_	_	2	7	8

 Table 4: Number of Sites with Multiple Attachments

7. Recent Industry Activity and Its Impact on the TTFCC

Mobile Wireless Technology and the Spectrum Bands Where They Operate

Over the past four decades, three parallel developments have led to today's widespread use of mobile wireless systems: 1) the evolution of cellular technology, from analog cellular technology to the current digital 4G technology; 2) increased consumer demand for the various services and applications that technology can provide; and 3) the designation and allocation, by Congress and the FCC, of various spectrum bands in which these technology would operate.

In the early 1970s, Congress decided that 84 MHz of spectrum from the UHF television band (Channels 70-83) would be designated for land mobile use (i.e., terrestrial, two-way, mobile radio). A large part of that 800 MHz spectrum was ultimately dedicated to a new technology called "Cellular Radio."

The first cellular systems were licensed in the early 1980s, and they employed what is now referred to as 1G technology (i.e., basic, analog FM radio).

In the 1990s, a more efficient cellular capability was developed, using digital technology. In response, the FCC allocated 120 MHz of spectrum in the 1.8/1.9 GHz band for this "2G" technology, called PCS.

In both of these circumstances, the industry developed the technology, and then Congress and the FCC acted to provide spectrum where the technology could operate.

At this point in the evolution of wireless technology, more advanced digital technology was on the drawing board (i.e., 2.5G and 3G), which would enable more bits per second to be transmitted in a given amount of spectrum. The main impetus for what would occur in the late 1990s, however, was the increasing popularity of cellular and PCS with the general public.

Responding to that popularity—and the resulting need for more wireless spectrum to accommodate the increasing numbers of wireless users—Congress directed the FCC in the late 1990s to allocate an additional 108 MHz of television spectrum for wireless use (Channel 52-69); shortly thereafter, the FCC allocated an additional 90 MHz of spectrum in the 1.7/2.1 GHz bands (referred to as AWS) for wireless.

As these spectrum bands were being auctioned and licensed in the early and mid 2000s, 2.5G and then 3G technology began to fully develop; during this time period, wireless carriers began incorporating that technology into their existing (Cellular and PCS) and new (AWS) spectrum bands.¹

¹ Although 700 MHz spectrum had been licensed during the 2000s, carriers chose not to operate there until all television stations had vacated the band; this did not occur until 2009, as part of the digital television (DTV) transition.

At the same time 3G technology was being implemented, 4G technology (i.e., LTE and WiMAX) were being developed. And now, in 2010, 4G technology is being employed by different carriers in the 700 MHz and 2.5 GHz BRS bands.²

So, in summary, the evolution of mobile wireless systems over the past four decades is one in which the industry developed newer, better, and faster technology; consumer demand increased for the services and applications technology could provide; and Congress and the FCC, responding to that demand, provided spectrum in which the technology could operate.

Today, with the latest 4G technology, a multitude of services are offered, the most recent of which is wireless in-home Internet access replacing land-based facilities access to an Internet service provider. The table below illustrates the technology and related service capabilities.

	Technology (Download/Upload Service Speeds) ³					
Applications	2G/2.5G-EDGE/GPRS, 1xRTT (128 Kbps-300 Kbps/ 70 Kbps-100 Kbps)	3G- EVDO Rev A, HSDPA (600 Kbps-1.5 Mbps/ 500 Kbps-1.2 Mbps)	4G - WiMAX/LTE (1.5 Mbps-6 Mbps/ 500 Kbps-1.2 Mbps)			
Simple text e-mails without attachments (50 KB)	Good (2 seconds)	Good (1 second)	Good (1 second)			
Web browsing	Good	Good	Good			
E-mail with large attachments or graphics (500 KB)	OK (14 seconds)	Good (3 seconds)	Good (1 second)			
Play MP3 music files (5MB)	Bad (134 seconds)	OK (27 seconds)	Good (7 seconds)			
Play video files (100 MB for a typical 10-min. YouTube video)	Bad (45 minutes)	OK (9 minutes)	Good (3 minutes)			
Maps and GPS for smart phones	Bad		Good			
Internet for home	Bad	ОК	Good			

² The BRS band consists of almost 200 MHz of spectrum, initially allocated for broadcast transmissions, but recently re-allocated for mobile wireless use by the FCC.

³ This data assumes a single user. For downloading small files up to 50 KB, it assumes that less than 5 seconds is good, 5-10 seconds is OK, and more than 10 seconds is bad. For downloading large files up to 500 KB, it assumes that less than 5 seconds is good, 5-15 seconds is OK, and more than 25 seconds is bad. For playing music, it assumes that less than 30 seconds is good, 30-60 seconds is OK, and more than 100 seconds is bad. For playing videos, it assumes that less than 5 minutes is good, 5-15 minutes is OK, and more than 15 minutes is bad.

Government Accountability Office (GAO) Report

During this reporting period, the GAO conducted a study to review regulatory policies and wireless industry practices relative to fostering a competitive environment for wireless services. The report concludes that concerns about competiveness among the carriers could better be tracked with improved data monitoring on the part of the FCC. The GAO staff met with the Facility Coordinator to review local regulatory practices. Copies of recent TTFCC Annual Reports were provided to assist in their assessment. Highlights of the report are provided in Attachment B. The complete report is available at http://www.gao.gov/Products/GAO-10-779.

TTFCC Impact

Based on the annual plans filed last August by each current carrier for the upcoming 12-month period, we expect that there may again be 100 to 200 TTFCC applications filed in FY 2011 from the current service providers for new antenna sites. Additionally, we have been advised that a new carrier plans to deploy antennas in this market to provide additional capacity to supplement existing carriers' capacity. There may be up to an additional 90 co-location applications from that one carrier alone over the next six months. Further, as existing carriers begin to deploy 4G technology they will be applying to add antennas to existing sites.

Recommendations to Improve the Wireless Antenna Siting Process in the County

1. <u>Establish a date by which applications deemed incomplete must be corrected and refiled with the TTFCC.</u>

The FCC's Declaratory Ruling that set a so-called "shot clock" for time to act on an application (discussed in Section 6 above) applies to complete applications. For applications that are deemed incomplete, the shot clock stops until the applicant completes the application. The FCC determined that 30 days is an appropriate length of time to determine that an application is incomplete and so notify the applicant.

For many past TTFCC applications that have been deemed incomplete it has taken months for the applicant to resubmit a corrected application. In those instances, because so much time has passed and aspects of the initial review or of the site itself may have changed, the corrected application requires, in effect, a complete review. A complete review obviously requires more time than a re-evaluation, so these re-submitted applications take longer to process—and cost the County more for the Facility Coordinator's time than even the increased re-filing fee established in 2009. Consequently, to meet the shot clock timelines established by the FCC, the TTFCC will require that submission of a corrected application must occur within 30 days from the date of notice that an application is deemed incomplete, or the application will be deemed withdrawn and the case will be closed. If the applicant intends to pursue that antenna siting in the future, it must file a new application to begin the process anew, restart the counting of time toward the limits established by the FCC, and pay the appropriate application fee for the type of antenna placement. Hopefully, this action will encourage applicants to submit correct applications from the start, eliminating the need for additional time by County staff and for County expenditures for the Facility Coordinator's time in reviewing an application for a second time. To codify that requirement, the TTFCC will propose a change to the County Code as follows:

Sec. 5A-156. Telecommunications transmission facility applications.

(g) All applications shall be reviewed in an efficient and timely manner, with a goal of making a TTFCC recommendation within 60 days after a complete application is submitted to the Telecommunications Transmission Facility Coordinator. Any application that requires the submission of a corrected application must occur within 30 days from the date of notice that an application is deemed incomplete, or the application will be deemed with drawn and the case will be closed.

2. Implement training for applicants to minimize errors on applications.

The carriers hire contractors to perform their site acquisition for antennas. There appears to be a relatively high turnover among contractors doing this work. Consequently, there is often considerable time spent either reacquainting applicants or training new applicants not familiar with the application process and applicable zoning regulations. In the interest of improving efficiencies the TTFCC will consider creating online training forums or video to further assist applicants in preparing complete and accurate applications.

3. Consider revising filing fees to better cover the County's costs for application review.

As discussed above, the TTFCC will monitor costs and revenues over the next six months to see if any revisions may be needed to offset the costs of processing applications to meet the FCC's "shot clock" requirements and deal with multiple reviews of incomplete applications.