

MEETING MINUTES

Information Technology Advisory Commission
(ITAC)

Wednesday 7:30 pm

November 15, 2017

Arlington County Courthouse Building

Room 311

Arlington County, VA 22201

In attendance:

Chair: Frank Jazzo

ITAC Members Present: Mary Crannell, Vice Chair
Phil Caughran
David Husband
William Lang
Kevin Robins

ITAC members Not Present: Anita Nolen
Martha Moore
Patrick South
Dan Laredo
Joshua Farrar
Dr. Denise Haskins

Staff: Jack Belcher, CIO
Joe Webster
Devika Nair

1. Meeting Called to Order - Quorum not present
2. Public Comment
3. Approval of Minutes of Prior Meetings (October 25th) - Deferred to consideration next meeting due staff liaison out of office
4. Presentation by Jonathan Adelstein of the Wireless Infrastructure Association
Chair Frank Jazzo introduced Jonathan S. Adelstein, President & CEO of the Wireless Infrastructure Association (WIA). WIA represents over 200 companies devoted to building wireless broadband facilities that connect every corner of America.

Mr. Adelstein, an Arlington resident since 2000, started by saying that there are big swaths of the County that don't get good broadband coverage due to its hilly topography, including his neighborhood of Belle View Forest. He said because of this topography, it's very hard and expensive to site cell towers to serve them.

According to Mr. Adelstein, the biggest problem facing the telecommunications industry today is capacity. "People are using so much more data on their cell phones. Over the past five years, there's been a 35% annual increase in data demand," he said. "That's a 500% increase (compounded) since 2012," he added. All that data travels over the wireless spectrum and it's increasingly getting clogged up on old networks, Mr. Adelstein said.

Meanwhile, customers are getting more for less. Mr. Adelstein said that the average revenue per user has gone down from \$46 to \$42 per as the per megabit cost has gone down in the past 10 years from \$1.72 to less than a half a cent. In order to accommodate this ever-increasing demand, expensive infrastructure must be created. That burden falls on the members of his Association, whose work requires big capital investment. That means high margins and low profits compared to the low margins and big profits enjoyed by the service providers. With the roll out of 3G, 4G and 5G, his member companies didn't make a lot of money, according to Mr. Adelstein.

The barriers that the builders of new infrastructure face led Mr. Adelstein to say that those governments that roll out the red carpet for the industry tend to get more infrastructure built and faster than those jurisdictions that impose too many restrictions or fees. He cited the City of Alexandria as an example of a locality that made too many demands on Comcast, the City's only cable television franchisee, by insisting that Comcast provide service to 100% of its residents. By doing so, Verizon decided not to enter that market.

In Arlington, it will be expensive to build additional wireless infrastructure. "Small cell construction along Military Road will be very expensive," Mr. Adelstein said. "So, if Arlington County makes it expensive to expand service within its boundaries, the decision by the industry to locate small cell towers in surrounding jurisdictions that offer entry that's free and easy will get new towers instead of areas like Columbia Pike, leaving Arlington residents to ask, why?" he said.

“Externalities, those positive societal benefits that do not accrue to the carriers themselves but are enjoyed by the community, result from expanded and improved cellular service. They are the main reason local governments should remove all barriers from expanded broadband infrastructure and service,” said Mr. Adelstein. “Taxing things with a lot of positive externalities is the wrong thing to do though some places are charging huge fees for access to rights of way,” he said.

More and more small cell deployments cannot get towers so more and more are moving to small cell towers in suburban areas where there’s a degradation of service. Small cells also offer the opportunity to reuse frequencies as there aren’t enough frequencies to go around. Because there’s not enough spectrum small cells allow carriers to reuse frequencies to get the most out of them. New frequencies are extremely expensive to purchase, according to Mr. Adelstein.

To get more bandwidth, Mr. Adelstein said that more spectrum can be made available, software that makes antennas more efficient and densification of infrastructure are the three options available to the industry. It’s the third option, densification via increased infrastructure that the industry has been telling Congress it needs. According to Mr. Adelstein their message has been, “if you want us to keep up with demand, you gotta put more cells in.” He added that this is something you want to invite into your community, which Virginia has done by passing a law that facilitates deployment.

When asked about the physical dimensions of small cell towers, Mr. Adelstein said that each deployment will have an antenna of six cubic feet (about the size of a pizza box), which will be part of the 28-cubic foot unit. He said that small cell towers need to be within 100 yards of each other while towers have a range of about a half a mile. Many of these deployments will be mounted on commercial buildings at consistent heights and intervals in Arlington County.

There were questions about the safety of RF signals as many people are concerned about the effects of radiation. While there hasn’t been any increase in the number of reported cases of brain cancer since the advent of the iPhone 2007, the question remains: how long would it take for such an increase to show up, two decades, three? Mr. Adelstein said there is concern for workers who work closely with RF signals and equipment every day and the FCC established rules protecting them. (He says he’s studied this issue and believes that while

proximity to antennas will heat tissue the radiation from RF is non-ionizing and thus not a threat to cause cancer). Regarding the public at large, he said the FCC will need to determine what is an acceptable risk. Arlington County is prohibited from considering the issue.

Finally, Mr. Adelstein said that ultimately small cell will be deployed to every room. “We’re headed to super high frequencies with very short waves that pack a lot of data.” That means a conference room will get gigabit speed by having a unit deployed inside. He concluded by saying that the FCC has yet to set rules for some of the new frequencies. Thus, Mr. Adelstein said, roll out of 5G won’t be until 2019 or 2020.

5. Cable Administrator’s Report (George Parr) – Deferred
Cable Administrator out of office

6. DTS CIO Report (Jack Belcher)

- **Digital Inclusion Update** – (Joe Webster DTS) - Digital Connectivity is a vital part of everyday life. Used to pay bills, complete homework, schedule appointments, locate jobs, access healthcare information, etc. Some low-income residents cannot afford to pay for internet service or can only afford low speed service with limited data caps. The gulf between those who have ready access to quality internet access digital devices and those who do not is known as the “Digital Divide”, which disproportionately affects low income, senior, and rural residents.

The “Homework Gap”. Some low-income children may lack access to computers/high-speed internet service in their home.

May have difficulty completing homework (the homework gap).

Pew Research Center: ~5 million households experience homework gap.

APS has programs to help close the gap, i.e. via the distribution of laptops/tablets to all children and by providing mobile “Mi-Fi Hot spots” for those without internet access.

About Arlington Mill. Arlington Mill residences are owned by APAH. There are 122 Units of affordable housing. About 61 of 122 households pay for data/internet plan (50%)
159 K-12 school children. Plans typically cost \$45-\$70/month
Due to proximity to Community Center, the Residences building has infrastructure necessary for “dark fiber” connection.

Arlington Digital Inclusion Initiative – Overview

Leverage existing assets/partnerships to provide free broadband internet to residents of Arlington Mill. Utilize available “dark fiber” from ConnectArlington.

Explore a cooperative effort with APAH and commercial and university partners including Virginia Tech, Potomac Fiber, and Wi-Fiber.

Free - shared 1 Gbps (1,000 Mbps) internet connection and free Wi-Fi equipment and support available to all 122 units. Services to be provided for a period of 3 years.

Arlington Digital Inclusion Initiative – Technical Solution

Technical Solution Overview, Wi-Fiber will furnish, install, maintain and service Wi-Fi equipment and support services to each unit at Arlington Mill Residences. Potomac Fiber will license and light 2 strands of available dark fiber, providing 1 Gbps connectivity from the Virginia Tech Research Center (900 N. Glebe Rd) to Arlington Mill Residences as well provide IP addresses and internet transit services at Equinix in Ashburn, Virginia. Virginia Tech will provide a 1 Gbps dedicated Ethernet transport circuit from their Research Facility in Arlington to Ashburn, Virginia.

Dark Fiber, Arlington Mill & VA Tech Connectivity

Arlington County is completing installation of a fiber optic network for its own use. Included in this installation is fiber capacity designed for long term expansion which the County is making available to business, academic, non-profit and government communities.

Virginia state law prohibits Arlington County from offering or providing lit “broadband services” to the public, so we are limited to offering “dark fiber” only. “Dark Fiber” refers to the underlying fiber optic cable used for telecommunications and networking. The fiber is essentially refined strands of glass. The fiber is called “dark” because to transmit and receive signals, the user of the fiber must first attach appropriate electronic equipment using laser light.

The Arlington Mill Residences, which is located adjacent to the Arlington Mill Community Center, has already been connected via a fiber optic lateral between the two buildings. Virginia Tech’s Research Center is also already connected to the County’s dark fiber network.

Additional Elements of Digital Inclusion Initiative

Arlington County will provide financial support to APAH through a grant from available Columbia Pike TIF funds.

Computer training classes are currently available at Arlington Mill Community Center Intro to computing classes teach basics of using computers.

APAH is developing programs and applying for other grants to provide internet/digital literacy training and devices.

APAH is also developing options for measuring the success of the initiative (via surveys)

Arlington Digital Inclusion Initiative - Next Steps

Going to County Board for Consideration at their Dec 16, 2017 Meeting.

County is providing a grant to APAH to use to offset a portion of the equipment and services costs provided by the partner organizations.

Housing, DTS and the contributing partners are exploring expansion opportunities (to serve additional affordable housing units).

Examining MDUs close to County's dark fiber network.

Including a mix of affordable and market rate units.

Exploring ideas for creating financial sustainability.

7. Administrative and Other Issues:

- Upcoming ITAC Meetings – December 20th and January 24
- Verizon Update - • Next HOA in Fairlington (4 of 7 in South Fairlington), Fairlington Meadows, is now online for Fios: 342 units. Fairlington Green, Commons and Court are up next, then Fairlington Villages (i.e. North Fairlington).
- Comcast Update - None

8. Regulatory & Legislative Update (Frank Jazzo)

- Cisco announced a \$1 billion program to finance "Smart City" projects.
- The FCC is scheduled to vote on a decision to speed up and streamline the copper retirement process to encourage the deployment of fiber networks.
- The FCC is scheduled to vote on an Order to accelerate wireline broadband deployment by removing barriers to infrastructure investment, including establishing a 180-day shot clock for resolution of pole attachment access complaints.
- The FCC is scheduled to vote on an Order that would eliminate the requirement for historic preservation review when utility poles are replaced with substantially identical poles that can support antennas and other wireless communications equipment.
- In early November, Comcast and Verizon experienced an interruption to Internet service, which was attributed to an external network issue.

9. Good of the Order – None

10. Adjournment

