

MEMORANDUM

February 9, 2016

TO: Government Operations and Fiscal Policy Committee 
Education Committee

FROM: Dr. Costis Toregas, Council IT Adviser

SUBJECT: Discussion – Access to the Internet for Students

INTRODUCTION

Children who attend classes in the MCPS system are fortunate in that all schools are connected to the Internet, and teachers have the ability to deploy lessons and engage with students using a reliable and fast Internet connection. This was recently enhanced through a Federal ARRA grant that allowed the County to deploy FiberNet connectivity to all elementary schools. However, once school is out, this connectivity does not necessarily follow the student home. FCC Commissioner Jessica Rosen Worcel has focused on this “Homework Gap” (see <https://www.fcc.gov/document/commissioner-rosenworcel-statement-pew-homework-gap-findings>) and it is an issue of concern to many educators, government officials and parents.

The Brookings Institution recently sponsored a dialog on the general topic of Broadband availability. Senator Cory Booker spoke about Internet access being a right, rather than a privilege, and how we need to increase adoption rates; he spoke of efforts in Newark and elsewhere in New Jersey where this topic is being addressed. The full Brookings report is at <http://www.brookings.edu/research/reports2/2015/12/07-Broadband-adoption-rates-metropolitan-areas-tomer-kane>. The report highlighted the fact that local data for Internet access are very hard to find. At the national level, the following paragraph from the report underlines the continuing age and socioeconomic disparities:

“...Despite its central role in promoting economic prosperity, Broadband adoption remains highly uneven among specific groups, limiting opportunity for many people. For example, only 46.8 percent of households with incomes under \$20,000 annually had a Broadband subscription in 2014, compared to 88.8 percent of households earning \$50,000 or more. Likewise, while 54.1 percent of individuals with less than a high school diploma had a Broadband subscription, 91.5 percent with a Bachelor’s degree or higher did. Relatively low adoption rates also appear among older age groups—64.5 percent of individuals 65 years and older—while those not in the labor force (69.7 percent) subscribe to Broadband at marginally lower rates relative to the national average...”

Many jurisdictions have made Broadband accessibility a major priority for their programs, and federal efforts are helping propel Broadband efforts forward. A few examples:

- New York City has encouraged a private sector initiative to provide extra fast Internet service at old payphone locations (http://www.crainsnewyork.com/article/20160105/TECHNOLOGY/160109981/wi-fi-kiosks-coming-soon-to-a-former-pay-phone-near-you?utm_source=Technology%20Leadership%20Matters%20January%202016&utm_campaign=Technology+Leadership+Matters+%7C+JANUARY+ISSUE&utm_medium=email).
- Coachella, CA provides WiFi to rural parts of the school district by parking buses with strong transmitters in neighborhoods where students live (<http://hechingerreport.org/poor-students-often-lack-a-home-internet-connection-is-this-fcc-program-a-solution/>).
- The White House recently used a US Ignite event to suggest that Sprint offer a program for free or low cost mobile Broadband service.
- The Federal Communications Commission (FCC) has expanded the government program Lifeline, which currently provides subsidies to phone service, to include Broadband; this is expected to provide incentives for expanding low-income household access to Broadband services.

At the local level, the Council has heard examples of need from many community members; one example is the testimony provided by Jose Antonio Tijerino, President and CEO of the Hispanic Heritage Foundation, during the Council's Hispanic Heritage forum on September 29, 2015, when he presented a strong case for the need for additional access for Hispanic children (http://www.montgomerycountymd.gov/COUNCIL/SpecialPrograms/hispanic_heritage.html). He suggested different ways to improve access in the community:

- provide more WiFi access in libraries and other public locations;
- "Internet as a Service" offerings at affordable prices;
- explore ways to develop partnerships with McDonalds, Starbucks, and other places where students go to offer Internet access in some subsidized manner; and
- explore ways to use MCPS infrastructure to provide WiFi in areas where it is not attractive for the private sector to provide services.

Using data from the private sector, the same picture emerges. The statistics cited by Comcast regarding use of their nationwide Internet Essentials offering, which only has 48,900 low income residents from the **entire** Washington Metro area as subscribers, are compelling.

While it is not clear what jurisdictions Comcast includes in their computation, it is clear that Montgomery County students and their families are underutilizing this attractive offer. To set the 48,900 current Internet Essentials subscribers **in the DC area** in context, a quick estimate of eligible students in the County alone is instructive. The number of students eligible for Free and Reduced Meals (FARMS) is a key indicator of poverty for the school system. Comcast has indicated that if a school has more than a 50 percent FARMS rate, all students in the school would be eligible for the \$10 per month Internet Essentials rate. There are 59 schools with greater than 50% FARMS this current school year: 48 elementary schools, 9 middle schools, and 2 high schools. Total enrollment of these 59 schools is 39,679, close to the total number of current Internet Essentials subscribers.

The technology supply side of this challenge has two parts: equipment to access the Internet, and a connection that provides the Internet signal. Equipment includes desktops, laptops, smart phones, tablets, and other devices that can launch browsers and other applications needing Internet access. Means to log on include cable modems, smart phone “personal hot spots”, MyFi equipment, WiFi hot spots, and Ethernet Local Area Networks. The ways that devices, Internet access, user training, and cost subsidies can help students and their families access the Internet are many, and can sometimes cause confusion because of the overlaps.

The County has invested considerable resources to develop a “Public WiFi” program; © 1 reflects a list of locations that have or are programmed to have a public WiFi “hot spot”. It does not include sites supported by MCPS, MC, or other agencies. In summary, the following locations are currently programmed (see ©1 for detail):

Good public WiFi (first column)	33
Currently being upgraded (second column)	17
Limited public WiFi (third column)	10
No or substandard public WiFi (third column)	21
No WiFi (third column)	12

In addition to the deployment of these public WiFi sites, it is important to ensure that the public is aware of their existence and can use them in a comfortable and safe manner. Including the location and method for accessing the Internet in public service announcements, library postings, and newsletter articles is a useful step. In addition, the 21 + 12 = 33 sites currently without effective public WiFi cover a broad range—from outdoor pools to recreation centers and health centers. Committee members may want to review the list of facilities that still need upgrading with Broadband and make sure that proper priority is given to the “homework gap” challenge as decisions are made.

To help the Committees address the issue and consider strategies to improve conditions, the following questions were posed to various stakeholders:

- What is MCPS doing to ensure there is a level playing field given the technology on which MCPS relies in the classroom?
- What are private partners (such as Comcast) doing to increase access?
- Are there demographic and geographic data on populations without access?
- Is what some are calling “the homework gap” part of the discussion? (See, e.g., <http://all4ed.org/articles/closing-the-homework-gap-nearly-200-school-district-superintendents-urge-fcc-to-modernize-lifeline-program/>.)

Responses from MCPS, MCG and Comcast were received and are provided as © 2-3, 4, 5-6 respectively. Additional responses are forthcoming but were not received in time for the production of this packet. They will be distributed when received.

A summary of the responses follows.

SUMMARY OF RESPONSES TO QUESTIONS POSED BY COUNCIL STAFF

<p>How are the lowest-income students able to access the Internet for school-related purposes?</p>	<p>MCPS is launching a trial program in mid-March 2016 to bring home Internet access to 1,200 students in partnership with commercial partners.</p> <p>MCPS is working with a wireless carrier to provide smart phones and service for specific low income students enrolled from out of area.</p> <p>MCPL provides access to 500 Internet-capable PCs in 20 locations, and reserves 12% of library computers for children.</p>
<p>What are private partners (such as Comcast) doing to increase access?</p>	<p>Internet Essentials program offers affordable (\$9.99/month) access at home for families with children eligible for National School Lunch program; option to purchase Internet-ready computer for less than \$150 and access to free digital literacy training. This is promoted by MCPS through direct mailings to eligible students.</p> <p>MCG is organizing a working group to include MCPS, Linkages to Learning, HOC Academy and MCG to support Comcast’s Internet Essentials program.</p> <p>Comcast provided grants to Latino Parents Connected Program through Comcast Foundation.</p> <p>MCG is working with T-Mobile to provide small access devices and a data plan at affordable rates to persons associated with a County program.</p>
<p>Are there demographic and geographic data on populations without access?</p>	<p>None have been provided at County level.</p>
<p>Is what some are calling “the homework gap” part of the discussion?</p>	<p>MCPS has supported a local summer school program in Paint Branch High School in the development of a digital learning platform.</p> <p>MCPS has made Chrome books available for checkout in the same manner as they would a textbook. In addition, there is a program that refurbishes and reconfigures older equipment to make them function as Chrome books.</p> <p>MCG is working with HOC to leverage FiberNet assets in HOC properties that would make Internet access available to residents.</p> <p>MCG is exploring options to offer MC students who currently have free WiFi access across all 3 campuses to ensure home access. These Broadband-enabled devices would include Open Educational Resources (open licensed on line educational materials).</p>

POSSIBLE ACTIONS TO CONSIDER

It is clear that much activity is underway in a variety of organizations. At the same time, it is clear that further action is needed. To drive progress forward, the Committees may want to consider the following actions:

1. Support the deployment of the Comcast “Internet Essentials” program to more subscribers, and encourage other Internet providers to deploy similar affordable programs aimed at the underserved population of the County.
2. Request that the Interagency Technology Policy and Coordination Committee (ITPCC) accelerate the priority of their Work Plan 2017-18 element 1.0, “Digital Citizenship/Digital Montgomery”, especially sub-element “Interagency Public WiFi Access Expansion Project”, and report achievable targets in the ITPCC semi-annual review with the GO Committee in April 2016.
3. Request that DTS and MCPS both articulate explicit targets for improving the after school access to the Internet “homework gap” for students by:
 - establishing a baseline set of underserved population numbers that both agencies recognize as the current situation;
 - articulating desired percentage improvements in those access numbers for FY17 and FY18, and identifying resources specifically focused on this goal; and
 - sharing innovative ideas for reducing the gap and possible pilot project potential with the Committees during the FY17 budget review.

Montgomery County Facility Public WiFi Locations

Upgraded WiFi (2014 Standard)		WiFi Upgrade in Progress FY16 Budget (2014 Standard)		Evaluate Funding Support to Add or Expand Public WiFi
A Animal Shelter		Within DTS Budget		S Agricultural Services
A Council Office Building	B Silver Spring Civic Building & Veteran's Plaza			S Board of Elections
A Dept of Economic Development		Within DPL Modernization CIP		N REC Bethesda Outdoor Pool
A Dept of Liquor Control	B MCPL Aspen Hill Library			N REC Leonard D Jackson Ken Gar Center
A Equipment Maintenance & Transit Ops Ctr (EMTOC)	B MCPL Kensington Park Library			C REC Olney Indoor Swim Center
A Executive Office Building	B MCPL Little Falls Library			N REC Margaret Schweinhaut Senior Center
A Judicial Center	B MCPL Long Branch Library			N REC Upper County Outdoor Pool
A MCG Multi-Agency - 225 Rck Pk (CUPF, PRO, DPS)	B MCPL Noyes Library			C REC Western County Outdoor Pool
A MCG Multi-Agency - 51 Monroe (MC311, ERP)		Within Recreation CIP		N REC Wheaton/Glenmont Outdoor Pool
A MCPL Bethesda Library	B REC Bauer Drive Community Recreation Center (CE Rec FY17 CIP)*			C DHHS Adult Behavior Health Services
A MCPL Davis Library	B REC Gwendolyn E Coffield Community Recreation Center (CE Rec FY17 CIP)*			N DHHS Betty Ann Krahnke Center
A MCPL Gaithersburg Library	B REC Damascus Community Recreation Center (CE Rec FY17 CIP)*			C DHHS Colesville Center
A MCPL Germantown Library	B REC East County Community Recreation Center (CE Rec FY17 CIP)*			C DHHS Dennis Avenue Health Center
A MCPL Marilyn J Praisner Library	B REC Germantown Community Recreation Ctr & Outdoor Pool (CE Rec FY17 CIP)*			S DHHS Germantown Health Center
A MCPL Olney Library	B REC Kennedy Shriver Aquatic Center			S DHHS Juvenile Assessment Center
A MCPL Poolesville Library	B REC Long Branch Community Recreation & Senior Center (& Outdoor Pool)			C DHHS Mid-County Building
A MCPL Potomac Library	B REC Mid County Community Recreation Center			C DHHS Offices Hungerford Dr
A MCPL Quince Orchard Library		Within DGS CIP/Budget		C DHHS Offices Washington St
A MCPL Rockville Memorial Library	B REC Good Hope Neighborhood Recreation Center			C DHHS Piccard Drive Health Center
A MCPL Silver Spring Library	B REC North Potomac Community Recreation Center			C DHHS Silver Spring Center
A MCPL Twinbrook Library	B REC Ross Boddy Neighborhood Recreation Center			S DHHS Silver Spring Health Center
A MCPL White Oak Library		Needs Additional APs to Improve WiFi Coverage & Quality		N DHHS Takoma East Silver Spring (TESS) Center
A MPCL Chevy Chase Library				S MC Correctional Facility (process innovation)
A PS Correctional Facility (2d floor & roll call areas)	S Bethesda/Chevy Chase Regional Service Center			N MCEDC Germantown Innovation Center
A PS Detention Center	S East County Regional Service Center			N MCEDC Montgomery Works
A PS Public Safety Headquarters	* MidCounty Regional Service Center			N MCEDC Rockville Innovation Center
A PS Rockville Police Station	S Sidney Kramer Upcounty Regional Service Center			* MCEDC Silver Spring Innovation Center
A PS Silver Spring Police Station		FiberNet Locations		N MCEDC Wheaton Innovation Center
A REC Damascus Library & Senior Center	S Holiday Park Senior Center			N Germantown Police Station
A REC Damascus Senior Recreation Center	S Plum Gar Neighborhood Recreation Center			N Gaithersburg Police Station
A REC Scotland Neighborhood Recreation Center	S Potomac Community Recreation Center			N Wheaton Police Station
A REC White Oak Community Recreation & Senior Center	S Germantown Indoor Swim Center			S Solid Waste Transfer Station
A Solid Waste Transfer Station (for staff)	S Martin Luther King, Jr. Outdoor Pool			* Old Silver Spring Library
	S Martin Luther King, Jr. Swim Center			* Children's Resource Center (Broome Holding Sch)
		Non-FiberNet Locations		
* MC 311 New Location	S Clara Barton Neighborhood Recreation Center			A Good Public WiFi
* Wheaton Library & Neighborhood Recreation Center	S Jane E Lawton Community Recreation Center			B Upgrading Public WiFi
* Bethesda Police Station	S Longwood Community Recreation Center			C L Limited Public WiFi (has APs; needs more APs)
WiFi means Wireless Internet access APs means wireless Access Point, i.e., an antenna used to provide WiFi	S Marilyn J Praisner Community Recreation Ctr			S No or Substandard Public WiFi
	S Upper County Community Recreation Center			N No WiFi
	S Wisconsin Place Community Recreation Center			* Future Public WiFi or Bldg Construction

Sherwin Collette, MCPS Chief Technology Officer

the efforts for access are not singularly related to giving connectivity in the home. They must also include device access. We are learning from some students that this still remains an issue and for many this is the real block since the access can occur from multiple publicly available Wi-Fi enabled locations that draw students anyway. Here are some thoughts:

- This school year, Montgomery County Public Schools (MCPS) extended its collaboration with Comcast to expand promotion of Comcast's Internet Essentials program. Comcast expanded participation eligibility in the program to now include all students attending schools that are 50% (or higher) Free and Reduced Priced Meals System (FARMS). MCPS staff worked together with Comcast to send direct mailings to households of all eligible students. Our work with Comcast and the enrollment of eligible remains a model for this program.
- In partnership with commercial partners, MCPS will launch a trial program in mid-March 2016 to bring home Internet access to approximately 1200 students. This model will be used to test the requirements for providing Children's Internet Protections Act (CIPA) compliant home-based access to students. Moreover, we will use this effort as a demonstration effort to target grant opportunities. One critical factor to success is to develop a sustainable model that will enable participating students to retain this access through their years of enrollment in MCPS.
- For the past two summers, we have worked with Paint Branch High School leadership and teachers to support the school's local summer school program. A central part of this effort has been the development and use of a digital learning platform. Relatedly, we have made MCPS issued chrome books available for students to check out and use in the same manner as they would a textbook. We have found that this is an important facet because the access issues are not only home internet access but also just simply having a device. With the device, students can use their internet access at home or at a variety of public places.
- To further support student device access, we are working with select schools across each school level to pilot students checking out devices from their media centers. This is still a limited pilot, but it also has spawned work around refurbishing and reconfiguring older devices to function as chrome books. This has implications for reducing needed software costs and also providing lightweight Internet appliances that would be easy to maintain. We believe that this is an important component to supporting student access to our growing digital learning community.
- We also have begun work to create or extend previous school to school partnerships. This effort is pairing schools in more affluent communities with schools that are more affected by poverty. The goal is to support fundraising efforts in more affluent communities that also will dedicate a portion of what is raised to assist designated schools with higher poverty loads.

- We are working with a wireless carrier to provide smart phone devices and service for specific low income students enrolled from out of area. There are important aspects related to securing these devices for appropriate communications and use.

INFORMATION ABOUT EFFORTS TO IMPROVE INTERNET ACCESS AT HOME FOR STUDENTS

Mitsi Herrera, ultraMontgomery program director

- Montgomery County is working to organize a working group of organizations who support students eligible for Comcast's Internet Essentials Program. Initial organizations would include MCPS, Linkages to Learning, and the HOC Academy.
 - Students eligible for Free and Reduced Meals (FARMS), whose families live within the Comcast service area, who have not been Comcast broadband customers for the past 90 days, and who do have a past due debt to Comcast are eligible for the \$9.95/month Comcast Internet Essentials Program.
 - Comcast has expanded the Internet Essentials program. Now, any student attending a school in which 50% of students are eligible for FARMS, is income eligible for the program. Comcast now has a debt amnesty program. The broadband service offered has been improved to 10 Mbps, Comcast will provide a free home WiFi router, and Comcast continues to offer a \$150 computer.
- In addition to the Comcast program, the County is working with T-Mobile. T-Mobile offers a program in which persons associated with a County program can pay \$10/month for a 10 gigabit plan by using a \$110 device. The device can be purchased outright or paid for in installments. Unlimited data is available for \$29.40/month. T-Mobile initially approached Montgomery County Public Libraries about offering the service and MCPL is reviewing. However, the County is also working to determine the feasibility of using the program to serve parts of the Agricultural Reserve. A pilot concept is being worked out with T-Mobile.
- At a recent White House-US Ignite event, the White House suggested that Sprint offers a program for free or low cost mobile broadband service that is available if requested. The County intends to follow-up on this proposal.
- The Housing Opportunities Commission (HOC) has requested that the County work to leverage FiberNet to provide Internet service for residents. Technical review and assessment is underway. The County is also assisting HOC in finding partners to offer broadband and similar programs in the renovated Alexander House (Fall 2018 anticipated completion date).
- Montgomery College (MC) provides ubiquitous, free public WiFi across all 3 three campuses and WorkForce Development/Continuing Education centers. MC is working to determine the feasibility of offering broadband-enabled computing devices to some students to ensure that all MC students have access to the Internet at home. These broadband-enabled devices will also include Open Educational Resources, which are high-quality, freely accessible, openly licensed, online educational materials.
- The Cable and Broadband Office has obtained preliminary cost estimates from Comcast to launch a pilot to extend broadband service with the Agriculture Reserve. This pilot could assist families with students to have improved Internet access.
- The County, MCPS, and Montgomery College offer free public WiFi in many locations frequented by the public, including schools, college campuses, recreation centers and libraries. Montgomery County Public Libraries provides access to 500 Internet-capable PCs with Microsoft Office Suite at 20 locations. Twelve percent of these computers are reserved for use by children. Public WiFi is available at 4 Recreation/Senior/Community Centers, will be expanded to 3 more locations in FY16, and FY17 CIP funding was requested to expand to 4 more locations.



Community Impact

- At Comcast, acting responsibly drives what we do every day. We are a global media and technology company that strives to make change happen in all of our communities.
- This includes Montgomery County, where we partner with local non-profit organizations to maximize our impact in three core areas: *Digital Literacy, Community Service* and *Youth Leadership*.
- Our partners include, Boys & Girls Clubs of Greater Washington's Germantown Branch, Casa de Maryland, Crittenton Services of Greater Washington, Easter Seals, George B Thomas, Jr. Learning Academy, Identity, Impact Silver Spring, Interfaith Works, Passion for Learning, Shepard's Table, among others.
- \$22 million in donations and in-kind contributions has been given to Montgomery County non-profits between 2003 and 2015.
- \$109,000 has been awarded to 104 college-bound students in Montgomery County as part of the life of Comcast's Leaders & Achievers Scholarship program.

Internet Essentials

- *Internet Essentials is the nation's largest and most comprehensive high-speed Internet adoption program for low-income households. It provides low-cost Internet service for \$9.95 a month; the option to purchase an Internet-ready computer for less than \$150; and access to free digital literacy training in print, online, and in person.*
- Eligible families include those who: Have a child who qualifies for the National School Lunch Program; Lives in an area where Comcast internet service is available but has not subscribed to it within the last 90 days; Does not have outstanding debt to Comcast that is less than a year old. Families with outstanding debt to Comcast greater than a year may still be eligible.
- 48,900 low-income residents in the Washington, DC Metro Area are connected to the Internet via Internet Essentials from Comcast.
 - #1 school district - lifetime connects in Maryland
 - #4 school district - % lifetime connects to eligible HH in Maryland
- Comcast partners with Montgomery County Public Schools (MCPS) to help outreach to potentially eligible families of the program.

- This has included co-branded letters to parents; attendance at both individual school nights and system wide school fairs to help promote the program.
- Comcast also partners with local non-profits.

Comcast Cares Day

- Comcast Cares Day is a celebration of our company's year-round commitment to service, and has grown to become the nation's largest single-day corporate volunteer event.
- In 2015, more than 3,400 Comcast employees, family and friends volunteered at 28 project locations in Maryland contributing more than 27,000 hours of service to our local communities.
- In 2015, 80 Comcast employees volunteered at Interfaith Works Rockville Clothing Center sorting clothes and at Easter Seals in Silver Spring helping with various painting and organizing projects.

Comcast Foundation

- In 2014 and 2015, Identity received a \$10,000 grant from the Comcast Foundation to support the *Latino Parents Connected Program*.
- In 2014, Passion for Learning received a \$10,000 grant from the Comcast Foundation to support the Dig.Lit Program.
- In 2015, Easter Seals received a 2 year - \$40,000 grant from the Comcast Foundation to support the STEM & Technology Training & Implementation Program in Washington, DC & Maryland.