

GO Committee #6
April 16, 2013

Worksession

MEMORANDUM

April 12, 2013

TO: Government Operations and Fiscal Policy Committee

FROM: Dr. Costis Toregas, Council IT Adviser

SUBJECT: Capital Improvements Program Supplemental Request: FiberNet

The following are expected to attend:

Sonny Segal, Chief Information Officer, Department of Technology Services
Dieter Klinger, Chief Operating Officer, Department of Technology Services
John Castner, FiberNet Project Manager, DTS
Mitsuko R. Herrera, Cable and Communications Administrator, DTS
Gary Thomas, ITPCC staff
Representatives from Office of Management and Budget (OMB)

Summary of Staff Recommendations

1. **Accept** the Executive's recommendation of **adding \$2,341,000 to the FY2014 FiberNet budget and \$1,772,000 in FY2015** to complete necessary hub site improvements, support wire relocations, and provide Montgomery College with needed expansion capacity and improvements.
2. **Encourage discussions between DTS and DED and the Digital Montgomery initiative** to ensure that the broadband capabilities of FiberNet for government and supporting connectivity needs are properly reflected as an economic development advantage for the County.
3. **Continue to encourage the Executive to offer public space WiFi** for residents and visitors using FiberNet carrying capacity and through possible public/private partnerships.

Background

FiberNet provides broadband connectivity amongst hundreds of user sites for Montgomery County Government, Montgomery County Public Schools, Montgomery College, the Maryland-National Capital Park and Planning Commission, the Housing Opportunities Commission, and the Washington Suburban Sanitary Commission. Beyond voice, data, and video transmission between civilian agencies, FiberNet is also the communications backbone for the Public Safety Radio and Mobile Data Systems, thus being an important link in the County's emergency communications system.

CIP Supplemental Request

In his March 15, 2015 supplemental request, the Executive is recommending an increase in funding for FiberNet over the next two years (FY14 and FY15) in the amount of \$3,494,000 (see © 1-2 for FiberNet PDF No. 509651). This increase will be covered by two major sources: an additional transfer from the Cable Fund of \$2,744,000, and a transfer from Montgomery College of \$750,000.

The Office of Management and Budget has provided a more detailed description of this request on © 3-6.

There are two major elements to the request: one is to provide important enhancements to the reliability of the network and extend its capacity through completion of hub site improvements and support wire relocations needed to maintain compliance with utility pole safety standards. The second is to implement the work program contained in the Memorandum of Understanding between MCG and Montgomery College on © 7-11, and provide the College with a robust, reliable and cost effective high speed communications network. This supplemental request will leverage the major ARRA grant for the region that has enabled a build out of the FiberNet network to cover the majority of sites of all County agencies.

Additional suggestions for leveraging FiberNet

Many jurisdictions are not in the advantageous position the County is in (with a fully paid-up high speed broadband system that crisscrosses the County). This can form the foundation of a competitive advantage in the economic development race and give the County a way to both attract and retain major employers and hi-tech firms. FiberNet is currently considered a government-only network, but there are ways to view the connectivity in a broader light. In addition, through public/private partnerships, it is possible to go beyond the governmental mandate and consider offering a broadband support mechanism for a variety of end uses. Eventually, ecosystems of companies and their employees could locate and thrive in the County, driven by the major investment already made in FiberNet.

In addition, FiberNet by definition is present in most, if not all, the developed areas of the County. It is possible to consider its use as a feeder system for public space WiFi that could

again boost economic development and the tourism industry and have other salutary effects on residents, visitors, and businesses alike. Many cities have used fiber networks to build out entire WiFi mesh networks that allow users to have connectivity for governmental service delivery and other purposes. Corpus Christi, TX recently deployed such a system over their entire 150 square mile area, and at a cost below \$5m, providing a challenging, efficient, and effective strategy for growth. The County should be more aggressive in expecting results from FiberNet investments well beyond the technological achievements (which themselves are impressive).

These suggestions can form the foundation of the full CIP discussions on FiberNet investments that will take place in 2014.

Fibernet (P509651)

Category General Government
 Sub Category Technology Services
 Administering Agency Technology Services (AAGE05)
 Planning Area Countywide

Date Last Modified 3/13/13
 Required Adequate Public Facility No
 Relocation Impact None
 Status Ongoing

	Total	Thru FY12	Rem FY12	Total 6 Years	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	Beyond 6 Yrs
EXPENDITURE SCHEDULE (\$000s)											
Planning, Design and Supervision	3,046	2,220	200	826	606	20	0	0	0	0	0
Land	4	4	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	13,041	12,441	0	900	250	175	175	0	0	0	0
Construction	18,103	1,653	1,456	14,994	875	3,877	3,967	2,175	2,175	1,925	0
Other	24,773	21,173	0	3,600	100	100	100	1,600	1,600	100	0
Total	58,967	37,491	1,656	19,820	1,831	4,172	4,242	3,775	3,775	2,025	0

	Total	Thru FY12	Rem FY12	Total 6 Years	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	Beyond 6 Yrs
FUNDING SCHEDULE (\$000s)											
Cable TV	47,131	26,879	1,182	19,070	1,831	3,916	3,748	3,775	3,775	2,025	0
Contributions	65	86	0	0	0	0	0	0	0	0	0
Current Revenue: General	750	0	0	750	0	256	494	0	0	0	0
G.O. Bonds	8,900	8,426	474	0	0	0	0	0	0	0	0
PAYGO	2,100	2,100	0	0	0	0	0	0	0	0	0
Total	58,967	37,491	1,656	19,820	1,831	4,172	4,242	3,775	3,775	2,025	0

	Total	Thru FY12	Rem FY12	Total 6 Years	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	Beyond 6 Yrs
OPERATING BUDGET IMPACT (\$000s)											
Maintenance				1,459	1,097	153	101	13	37	56	
Net Impact				1,459	1,097	153	101	13	37	56	

APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation Request	FY 14	4,171
Supplemental Appropriation Request		0
Transfer		0
Cumulative Appropriation		40,979
Expenditure / Encumbrances		37,581
Unencumbered Balance		3,398

Date First Appropriation	FY 98
First Cost Estimate	
Current Scope	FY 14 58,967
Last FY's Cost Estimate	55,473

Description

This project provides for the planning, design, and installation of a County wide fiber optic cable-based communication network with the capacity to support traffic management, voice, data, and video transmissions among Montgomery County Government (MCG), Montgomery County Public Schools (MCPS), Montgomery College (MC), Maryland National Capital Park and Planning Commission (M-NCPPC), Housing Opportunities Commission (HOC) and Washington Suburban Sanitary Commission (WSSC) facilities. FiberNet is also the communications backbone for the Public Safety Radio and Public Safety Mobile Data Systems (collectively, Public Safety Communications System - PSCS), and will be the backbone for the Public Safety System Modernization (PSSM) IP-based radio network, and other future technology implementations. Fibernet has an estimated useful life of at least 20 years. Upgrades and replacements to electronic components in the core and at user sites will be required periodically throughout the service life.

Estimated Schedule

At the end of FY12, FiberNet reached 341 locations. Based on the current funding schedule, FiberNet will reach 450 locations by the end of FY13; 469 locations by the end of FY14; 483 locations by the end of FY15; 497 locations by the end of FY16; and 510 locations by the end of FY17.

Cost Change

Cost increase will leverage FiberNet to provide the College with a robust, reliable and cost-effective high-speed College Communication Network by FY15. As part of this partnership, \$750,000 will be shifted from the Information Technology: College project into the FiberNet project. Funding has also been added to expand capacity and reliability for the FiberNet network through completion of hub site improvements and to support wire relocations needed to maintain compliance with utility pole safety standards.

Justification

FiberNet (P509651)

FiberNet is a critical infrastructure asset serving every agency in Montgomery County. As of June 30, 2012, 341 user sites are on-net and receiving critical services from FiberNet. In FY07, the Department of Technology Services (DTS) completed the re-engineering of FiberNet (now referred to as FiberNet II) to directly support Ethernet connections. This provides a core network that is technologically more robust and less expensive to operate on a per-site basis. The Interagency Technology Policy Coordination Committee (ITPCC) focus during the first two years of this CIP will be constructing the ARRA Grant-funded sites, and completing hubsite upgrades and inter-jurisdictional connections to enable cost-effective future technology partnerships. MCG, MCPS, MC, M-NCPPC, HOC and WSSC require substantially increased communication services and bandwidth among their facilities. As locations are connected to FiberNet, the County will be able to provide communications services to those facilities more cost-effectively by using FiberNet than by using leased telecommunications services. Studies include: FiberNet Master Plan; RAM Comm. Mar 1995; FiberNet Eval. Rpt., TRW, Sept 1997; FiberNet Proj. Cost Est., ARINC, Apr 1998; FiberNet Proj. Cost-Benefit Analysis, ARINC, Oct 1998; FiberNet Strategic Plan, PrimeNet, June 2002; FiberNet Strategic Direction, Interagency Telecommunications Advisory Group (ITAG), Nov 2003; and the FiberNet service level agreement, Jan 2005.

Other

DTS is responsible for project management, network operations, and maintenance of electronics, while the Department of Transportation (DOT) is responsible for installation and maintenance of the fiber optic cable. Comcast, at DTS's direction, also provides dark fiber used to connect some locations to FiberNet. Sites installed to date include MCG departments/offices, public safety sites, Montgomery College campuses, MCPS elementary, middle, and high schools plus several administrative facilities, M-NCPPC sites, HOC sites and WSSC sites including the headquarters building in Prince Georges County. The municipalities of Takoma Park, Gaithersburg and Rockville are on FiberNet as well as several cultural centers including the American Film Institute (AFI), the Fillmore, Strathmore, Bethesda Performing Arts, the Convention Center, Olney Theatre, and Black Rock. Currently FiberNet is focused on building out the approved ARRA Grant-funded sites, which includes the majority of MCPS elementary schools, and 21 HOC properties. Funding for these projects are included in the FY13-FY18 CIP. In June 2012, the ITPCC approved a Policy Guideline for Special Allocation of FiberNet Resources. This proposed policy governs special fiber resource allocation decisions for FiberNet for all participating ITPCC agencies. ITPCC will be requested to approve a special allocation request by Montgomery College for creation of a College Fiber Network that would permit MC communications traffic to be routed separate from other FiberNet traffic over equipment operated by the College. In December 2012, the County and MC entered into a separate Memorandum of Understanding (MOU) to address the use and expansion of FiberNet by the College. Agency FiberNet MOUs and Service Level Agreements (SLAs) will be updated and revised to reflect the ongoing FiberNet operating network.

Fiscal Note

The ARRA Grant represents a tremendous cost savings to Montgomery County. The County will receive the benefit of over \$11.1 million dollars in construction for a matching contribution of \$2.6 million. The matching contribution is funded as part of the FY12 and FY13 FiberNet CIP. FiberNet maintenance is supported by a grant from the franchise agreement with Comcast, one of the County's cable service provider. The original grant amount of \$1.2 million/yr is increased by the CPI each year. In the renewed Comcast franchise, the County expects to receive operating support and franchise fee revenues which can be used to support FiberNet maintenance and operations. Capital support received from the Verizon and RCN franchises can be used to support construction of FiberNet through the FiberNet CIP. Current Revenue: General funding will be shifted from the Information Technology: College (P856509) project to complete FiberNet expansion to College sites in accordance with the terms of the MOU.

Coordination

Department of Technology Services, Department of Transportation, Advanced Transportation Management System Project, Montgomery County Public Schools, M-NCPPC, Montgomery College, HOC, WSSC, Comcast, Public Safety Radio System, Information Technology Policy Coordination Committee (ITPCC), ITPCC CIO Subcommittee, Interagency Technology Advisory Group (ITAG), CIO Howard County, Inter-County Broadband Network Program Office

SUMMARY: FIBERNET CIP SUPPLEMENTAL REQUEST (March 15, 2013)

Need for Supplemental Funding. The FY14 supplemental FiberNet CIP request is needed to address unanticipated costs associated with the implementation of the American Recovery and Reinvestment Act (ARRA), remediation work related to FiberNet facilities attached to utility poles, and to create a College Fiber Network. If the \$3,494,000 supplemental CIP request is not approved, the County may incur additional costs over the next 3 years.

Background. The federal agency implementing the ARRA grant reduced the overall request by \$11 million (from \$126 million to \$115 million), thereby reducing available contingency funding. The State of Maryland environmental reviews added an unanticipated \$1 million to the overall ARRA project costs. Within Montgomery County, unanticipated City of Rockville permitting fees and PEPCO pole remediation costs added an additional \$428,579 to the project. Of the \$115 million statewide ARRA grant, approximately \$11 million has been used to fund expansion of FiberNet within Montgomery County. An additional \$3 million in matching funding and in-kind contributions has been provided by the County as part of the ARRA project.

Specific Work Funded by the FY14 Supplemental Request.

(a) FiberNet Hub Termination. The ARRA project requires newly installed fibers to be terminated within existing hub locations. During the ARRA engineering process, it was determined that the existing fibers must be re-terminated using smaller ends in order to have enough room to terminate 200 to 400 additional fibers at each hub. There was insufficient funding in the ARRA grant to accomplish this. Although a temporary solution of terminating all ARRA fibers in one hub was created to enable the ARRA sites to be activated, the additional fiber capacity provide by the new ARRA grant fibers *cannot* be accessed until the hub termination is completed. The cost of the hub termination is approximately \$285,000 at 8 locations, or \$2,280,000 split over two fiscal years.

(b) Pole Remediation. Pole remediation work was performed on approximately 2,000 poles on which FiberNet fiber is attached as part of the ARRA project. FiberNet needs to complete remediation work on the remaining 5,000 poles that were not used for the ARRA project but on which FiberNet fiber is attached. The total cost is approximately \$464,285 spread over 18 months across 2 fiscal years.

(c) College Fiber Network. The new fiber capacity constructed using the ARRA grant will expand interagency use of FiberNet. Consistent with the 2012 FiberNet MOU between the County and Montgomery College and 2012 ITPCC Policy Guideline for Special Allocation of FiberNet Resources, FiberNet fiber will be allocated to Montgomery College to create a College Fiber Network. An additional \$750,736 is needed over 2 fiscal years to construct FiberNet connections at four college locations and to construct an additional five miles of fiber where insufficient fiber would be available.

Risk and Consequences of Not Funding the Supplemental Request. The FY14 supplemental request is vital and essential to the growth and use of FiberNet, including planned support for the Public Safety System Modernization (PSSM) project. Until the new ARRA fibers are properly terminated in the nearest hub, the 59 new FiberNet sites and 25 cameras planned to be added in FY14-16 as part of the current FiberNet CIP will be delayed and the College Fiber Network cannot be completed. Delay of the provision of fiber for PSSM will require the County to fund an additional \$3 million over 3 years to lease very expensive 24x7x365 commercial broadband

service with 99.999 percent reliability to support transport of public safety IP radio traffic until the hub terminations are complete. Failure to fund the supplemental request may also result in a 25 percent increase in fiber termination costs (\$758,000) and a 200 percent increase in pole attachment safety corrections (\$929,000). Moreover, if the supplemental CIP request is not funded, the College will not realize any reduction in leased services fees and there will likely be an additional 25 increase (\$187,500) in the cost to complete the College Fiber Network.

Funding Summary. The County Executive has submitted a request for an amendment to the Approved FY13-FY18 FiberNet CIP for a cost increase of \$3,494,000. This increase will be funded through the Cable Fund by \$2,085,000 in FY14 and \$1,278,000 in FY15. In addition, the Montgomery College IT CIP will also provide funding of \$256,000 in FY14 and \$494,000 in FY15. Restricted capital funds from the Cable Fund will be used, which cannot be transferred to the General Fund – the use of restricted capital funds *does not impact the transfer* to the General Fund from the Cable Fund.

Amendment to FiberNet (P509651)

EXPENDITURE SCHEDULE	Total 6 Years	FY2014	FY2015
Approved FY13-18 CIP	16,326	2,470	2,450
FY14 Supplemental Request	3,494	1,702	1,792
Revised FY13-FY18 CIP	19,820	4,172	4,242

FUNDING SCHEDULE		FY2014	FY2015
Approved FY13-18 CIP:			
Cable TV	16,326	1,831	2,470
Current Revenue: General*	0	0	0
TOTAL	16,326	1,831	2,470
FY14 Supplemental Request:			
Cable TV	2,744	2,085	1,278
Current Revenue: General*	750	256	494
TOTAL	3,494	2,341	1,772
Revised FY13-FY18 CIP:			
Cable TV	19,070	3,916	3,748
Current Revenue: General*	750	256	494
TOTAL	19,820	4,172	4,242

*General Fund will reduce planned funding to Montgomery College IT CIP and fund FiberNet CIP with corresponding amount. Montgomery College IT CIP has unencumbered balance in FY12 and FY13 that will be used to offset reduction in funding from General Fund.

FIBERNET FY14 MID-CYCLE CIP INCREASE REQUEST -- BUDGET IMPACT

Information revised to reflect November 2014 meetings with OMB Director

	Total	FY14	FY15	Funding Source	Funding Type	
Hub Termination	\$ 2,280,000	\$ 1,140,000	\$ 1,140,000	Cable Fund	Current Revenue	HT--1/2 in FY14; 1/2 in FY15
PEPCO Remediation	\$ 464,285	\$ 306,428	\$ 157,857	Cable Fund	Current Revenue	PR--Per J Hughes split 2/3 in FY14, 1/3 in FY15
FiberNet Expansion--4 MC locations						
FiberNet Mont Coll Expansion - Design	\$ 22,440	\$ 22,440		Montgomery Coll.	Current Revenue	
FiberNet Mont Coll Expansion - Construction	\$ 178,292	\$ 178,292		Montgomery Coll.	Current Revenue	
College Fiber Network--5 new miles						
College Fiber Network - Design	\$ 54,780	\$ 54,780		Montgomery Coll.	Current Revenue	MC--Fund all design in FY14; split construction into
College Fiber Network - Construction	\$ 495,224		\$ 495,224	Montgomery Coll.	Current Revenue	Expansion in FY14 and College Fiber Network in
Total	\$ 3,495,021	\$ 1,701,940	\$ 1,793,081			FY15)

FiberNet	Total	FY14	FY15		
Approved	\$ 4,920,000	\$ 2,470,000	\$ 2,450,000	Cable Fund	Current Revenue
Hub Termination	\$ 2,280,000	\$ 1,140,000	\$ 1,140,000	Cable Fund	Current Revenue
PEPCO Remediation	\$ 464,285	\$ 306,428	\$ 157,857	Cable Fund	Current Revenue
Montgomery College	\$ 750,736	\$ 255,512	\$ 495,224	Montgomery Coll.	Current Revenue
Total	\$ 8,415,021	\$ 4,171,940	\$ 4,243,081		
CABLE FUND TOTAL	\$ 7,664,285	\$ 3,916,428	\$ 3,747,857		
MONT COLLEGE CIP	\$ 750,736	\$ 255,512	\$ 495,224		
<i>Increase in Cable Fund Contribution</i>	<i>\$ 2,744,285</i>	<i>\$ 1,446,428</i>	<i>\$ 1,297,857</i>		

FiberNet --- No. 509651

EXPENDITURE SCHEDULE

APPROVED FY13-18	FY14 Approved	FY14 Increase	FY14 Revised	FY15 Approved	FY15 Increase	FY15 Revised	Total Increases
Cost Estimate							
Planning, Design & Supervision	\$ 20,000	\$ 77,220	\$ 97,220	\$ -	\$ -	\$ -	\$ 77,220
Land	\$ 175,000	\$ -	\$ 175,000	\$ 175,000	\$ -	\$ 175,000	\$ -
Site Improvements & Utilities	\$ 2,175,000	\$ 306,428	\$ 2,481,428	\$ 2,175,000	\$ 157,857	\$ 2,332,857	\$ 464,285
Construction	\$ 100,000	\$ 1,318,292	\$ 1,418,292	\$ 100,000	\$ 1,635,224	\$ 1,735,224	\$ 2,953,516
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ 2,470,000	\$ 1,701,940	\$ 4,171,940	\$ 2,450,000	\$ 1,793,081	\$ 4,243,081	\$ 3,495,021

FUNDING SCHEDULE

Cable TV	\$ 2,470,000	\$ 1,446,428	\$ 3,916,428	\$ 2,450,000	\$ 1,297,857	\$ 3,747,857	\$ 2,744,285
Contributions			\$ -			\$ -	\$ -
G.O.Bonds	\$ -	\$ 54,780	\$ 54,780	\$ -	\$ 495,224	\$ 495,224	\$ 550,004
PAYGO			\$ -			\$ -	\$ -
Total	\$ 2,470,000	\$ 1,501,208	\$ 3,971,208	\$ 2,450,000	\$ 1,793,081	\$ 4,243,081	\$ 3,294,289

OPERATING BUDGET IMPACT

Maintenance	\$ 153,000			\$ 101,000			\$ -
Net Impact	\$ 153,000			\$ 101,000			\$ -

**FIBERNET MEMORANDUM OF UNDERSTANDING
BETWEEN MONTGOMERY COUNTY, MARYLAND
AND MONTGOMERY COLLEGE**

This Memorandum of Understanding (“MOU”) is entered into by Montgomery County, Maryland (the “County”) and Montgomery College (“Montgomery College” or the “College”), known collectively as the “Parties.” The purpose of this MOU is to further the cooperative relationship between the Parties regarding the use and expansion of FiberNet. FiberNet is the fiber optic communications network owned and operated by the County. FiberNet is used to provide voice, video, data, and public safety communications to the County, County-funded entities, and other governmental agencies and entities.

Whereas, the users of FiberNet and the residents of Montgomery County benefit from the inter-agency collaborative approach of using FiberNet as a cost-effective shared resource thereby reducing design, engineering, procurement, pole attachment, construction, maintenance, and operating costs for each individual agency;

Whereas, the construction and operation of FiberNet and the ability of Montgomery College to provide communications network services is contingent upon fiscal appropriations by the Montgomery County Council and the encumbrance of such funding;

Whereas, the Montgomery County Council through Resolution No. 12-1758 established the Interagency Technology Policy Coordinating Committee (ITPCC);

Whereas, the Interagency Technology Policy Coordinating Committee (“ITPCC”) provides advice to the County Executive and County Council regarding FiberNet, the County and Montgomery College are both members of the ITPCC, and the ITPCC receives advice from the ITPCC members’ Chief Information Officers (“CIOs”);

Whereas, the ITPCC has a Policy Guideline for Special Allocations of FiberNet Resources (Attachment 1), and there is precedent for separate network operation, as the Public Safety Radio, Advanced Traffic Management, and Traffic Signal System Modernization network traffic is not co-mingled with other FiberNet traffic and some of this traffic is carried using specifically allocated fibers;

Whereas, the current and future academic, administrative and technical needs of and planning for Montgomery College need to be supported by a robust communications network, and whereas the College has a One-Campus vision to efficiently and seamlessly provide equivalent communications network services at its many locations;

Whereas, Montgomery College operates at eight locations within the County, of which four have direct fiber connections to FiberNet; and

Montgomery County/Montgomery College FiberNet MOU
December 2012

Whereas, Montgomery College uses FiberNet for some communications services and seeks to increase its use of FiberNet and FiberNet fiber resources in a cost effectively and timely manner;

Now therefore, in consideration of these Recitals, the Parties agree to the following FIBERNET MEMORANDUM OF UNDERSTANDING:

1. **Expand Montgomery College Use of FiberNet.** The Parties will engineer Montgomery College's fiber connections to FiberNet, as well as any future College FiberNet connections, to operate at speeds mutually agreed upon by the Parties. The College shall select and route such services and communications traffic over FiberNet links to perform the College's business functions as the College deems appropriate. FiberNet will provide an OSI (open systems interconnect) Layer Three Ethernet hand-off at its point-of-presence at each College FiberNet location. The Parties will develop an implementation and acceptance plan to expand Montgomery College's use of FiberNet. The Parties will meet regularly to review the College's use of FiberNet and address ways to expand and enhance the benefits of FiberNet for the College and to address the College's need for robust, reliable and redundant communications services.
2. **Plan and Implement a Future Montgomery College FiberNet Network by Leveraging FiberNet Facilities.** The Parties will work together to enable Montgomery College to develop and control implementation of a planned migration of the College communications network to a "College Fiber Network," based on the needs of the College, such that the College's communications traffic is carried over FiberNet fiber without passing through any FiberNet electronic equipment. A College Fiber Network would operate exclusively over College owned, operated and maintained electronics located completely within College maintained facilities. In this configuration, FiberNet's responsibility would be limited to outside-plant fiber maintenance which would be provided by Montgomery County. The Parties believe that an independent College Fiber Network could be efficiently developed by having FiberNet carry the College's communications network traffic separated at the physical layer from other FiberNet traffic. Such a College Fiber Network represents an effective use of FiberNet resources because it provides the optical network infrastructure necessary to support the College's One-Campus vision while leveraging the County's investment in over 500 miles of FiberNet optical network infrastructure at no additional cost to the College. As funding is identified and in a timely manner, the Parties will develop an implementation and acceptance plan to create a cost effective College Fiber Network.
3. **Cooperatively Expand FiberNet to Other College Locations.** The College has main distribution frames (MDF) at the following locations:
 - 930 King Street, Silver Spring, MD 20910 – Network Operations Center ("Silver Spring-King Street")
 - 51 Mannakee Drive, Rockville, MD 20850 – Computer Science Building ("Rockville Campus")
 - 15400 Calhoun Place, Rockville, MD 20850 – College MDF ("OITB")

- 20200 Observation Drive, Germantown, MD 20876 – Goldenrod Building (“Germantown Campus”)
- 12 S. Summit Avenue, Gaithersburg, MD 20877 – Fourth Floor MDF (“Gaithersburg”)
- 40 W. Gude Drive, Rockville, MD 20850 – Second Floor MDF (“Gude”)
- 11002 Veirs Mill Road, Wheaton, MD 20902 – WDCE MDF (“Wheaton”)
- 7600 Takoma Avenue, Takoma Park, MD 20912 – Commons Building (“Takoma Park/Silver Spring Campus”)

- a. The Parties will work together to secure funding to ensure adequate FiberNet connections to all of the College’s eight locations and to build a redundant western route to the King Street MDF. The Rockville Campus, OITB, Germantown Campus, and Takoma Park/Silver Spring Campus presently have direct fiber connections to FiberNet. Montgomery College agrees to obtain a right of entry and access for the County to all buildings and building entrances, as well as any easements necessary to reach these buildings and building entrances from the public right-of-way, if funding is secured to expand FiberNet to additional College locations. The College cannot guarantee a right of entry or access to buildings that are not owned by the College, but the College will use its best efforts to obtain rights of entry or access to those buildings. If the College cannot obtain a right of entry to a building, the Parties are not obligated to expand FiberNet fiber to the MDF within that building.
- b. The College will assist the County in identifying and permitting use of the existing fiber path between the Takoma Park/Silver Spring Campus and the Silver Spring-King Street location for FiberNet use.
- c. The Parties acknowledge that while existing FiberNet fiber is located nearby the Germantown Campus and Gaithersburg and Wheaton locations, there is very little spare fiber capacity from these locations to the nearest FiberNet hub sites, and there is an additional shortage of fiber capacity amongst the Rockville Campus, Gude and OITB locations and to the closest FiberNet hub sites. Adding additional fiber capacity near these locations would be a benefit to the College and to FiberNet. Therefore, the Parties agree to work with FTPCC to develop future recommendations to expand FiberNet fiber capacity to meet the needs of the College and FiberNet.

4. Share Information and Collaborate on Technical Issues. The Parties agree to cooperate with and work together to resolve any and all technical, administrative or regulatory challenges which may arise during the term of this MOU. Montgomery College will provide network operations and management information as reasonably requested by the County so as to facilitate current and future efficient FiberNet construction and network operation. Such information may include, but is not limited, to:

- a. Current network services that Montgomery College plans as necessary to be operated over FiberNet fiber;
- b. Future network services to be implemented in the next two to three years; and

c. Current equipment in use or planned to be in use in the next two to three years in the operation of Montgomery College services over FiberNet fiber.

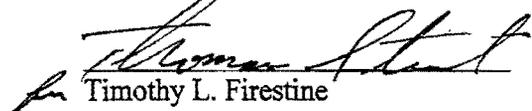
5. **ITPCC Cooperation.** The Parties will work with the ITPCC CIO Subcommittee to make recommendations to the County Executive and County Council regarding improvements to FiberNet network monitoring, maintenance and service level agreements.

GENERAL TERMS AND CONDITIONS:

6. **Fiscal Appropriation.** No additional budget allocation is being provided by the Parties to complete work described herein. The Parties' ability to meet the terms of this MOU is contingent upon the appropriation and encumbrance of funds by the Montgomery County Council.
7. **Ownership and Governance.** Montgomery College acknowledges that the County would own all current and future FiberNet fiber.
8. **Waiver.** Nothing in this MOU, nor any action taken by any Party pursuant to this MOU, nor any document that arises out of this MOU shall constitute or be construed as a waiver of either the sovereign immunity or governmental immunity of the Parties.
9. **Dispute Resolution.** If the Parties are unable to resolve any dispute arising from the MOU, the Parties may submit the dispute to a mediator, acceptable to both Parties, for the purpose of facilitating discussion and receiving new perspectives on the issues and new proposals for compromise. The Parties shall share the cost of the mediation equally. Such mediation shall not be binding on any Party.
10. **Governing Law and Venue.** This MOU must be construed and enforced in accordance with the laws of the State of Maryland. The Parties agree that all disputes arising hereunder that cannot be resolved through other means must be brought in the Circuit Court for Montgomery County, Maryland, or in the U.S. District Court for the District of Maryland, Southern Division.
11. **Term.** This Agreement is effective as to each Party upon the date of signature by that Party ("Effective Date"). This Agreement will remain in effect until notice is given in writing by either party requesting termination of the MOU. Party must provide at least 90 days notice of termination.
12. **Entire Agreement.** This MOU embodies the entire agreement of the Parties. No representations, inducements, or agreements, oral or otherwise, between the Parties not contained herein shall be of any force and effect. This MOU may not be amended or modified in any manner other than by an agreement in writing approved by the Parties and duly signed by authorized persons on behalf of the Parties.

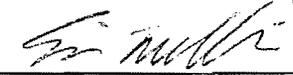
MONTGOMERY COUNTY, MARYLAND and MONTGOMERY COLLEGE, through their respective authorized representatives, have executed this **FIBERNET MEMORANDUM OF UNDERSTANDING** on the dates indicated below.

MONTGOMERY COUNTY


Timothy L. Firestine
Chief Administrative Officer

Date: 12/26/12

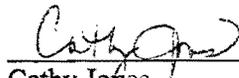
APPROVED as to form and legality this 26th day of December, 2012

By:  (signature)

Name: Eric Willis (print name)

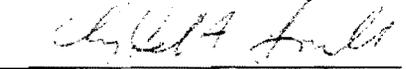
Office of the County Attorney

MONTGOMERY COLLEGE


Cathy Jones
Senior Vice President
Administrative and Fiscal Services

Date: 12/17/12

APPROVED as to form and legality this 17th day of December, 2012

By:  (signature)

Name: Clyde H. Sorell (print name)

Montgomery College

