

# Fibernet (P509651)

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

Date Last Modified 4/21/14  
 Required Adequate Public Facility No  
 Relocation Impact None  
 Status Ongoing

	Total	Thru FY13	Est FY14	Total 6 Years	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Beyond 6 Yrs
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### EXPENDITURE SCHEDULE (\$000s)

Planning, Design and Supervision	3,046	3,026	20	0	0	0	0	0	0	0	0
Land	4	4	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	13,041	12,691	175	175	175	0	0	0	0	0	0
Construction	20,143	3,984	3,877	12,282	4,240	2,375	2,345	1,322	1,000	1,000	0
Other	25,098	21,273	100	3,725	102	1,723	1,600	100	100	100	0
<b>Total</b>	<b>61,332</b>	<b>40,978</b>	<b>4,172</b>	<b>16,182</b>	<b>4,517</b>	<b>4,098</b>	<b>3,945</b>	<b>1,422</b>	<b>1,100</b>	<b>1,100</b>	<b>0</b>

### FUNDING SCHEDULE (\$000s)

Cable TV	49,221	29,892	3,916	15,413	3,748	4,098	3,945	1,422	1,100	1,100	0
Contributions	855	86	0	769	769	0	0	0	0	0	0
Current Revenue: General	256	0	256	0	0	0	0	0	0	0	0
G.O. Bonds	4,074	4,074	0	0	0	0	0	0	0	0	0
PAYGO	6,926	6,926	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>61,332</b>	<b>40,978</b>	<b>4,172</b>	<b>16,182</b>	<b>4,517</b>	<b>4,098</b>	<b>3,945</b>	<b>1,422</b>	<b>1,100</b>	<b>1,100</b>	<b>0</b>

### OPERATING BUDGET IMPACT (\$000s)

Maintenance				864	580	27	37	62	70	88
<b>Net Impact</b>				<b>864</b>	<b>580</b>	<b>27</b>	<b>37</b>	<b>62</b>	<b>70</b>	<b>88</b>

### APPROPRIATION AND EXPENDITURE DATA (000s)

Appropriation Request	FY 15	4,517
Appropriation Request Est.	FY 16	4,098
Supplemental Appropriation Request		0
Transfer		0
Cumulative Appropriation		45,150
Expenditure / Encumbrances		40,978
Unencumbered Balance		4,172

Date First Appropriation	FY 96
First Cost Estimate	
Current Scope	FY 15
Last FY's Cost Estimate	61,332
	58,967

## 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 voice, public-safety, traffic management, data, Internet access, wireless networking 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 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.

## Capacity

FiberNet II is a state-of-the-art multiservice wide area network (WAN) platform with the capacity to deliver 100 megabit/second, one and ten gigabit per second WAN links to ITPCC participating agencies. These links make possible thousands of Internet sessions, data transfers, voice calls and most importantly critical Montgomery County Government public safety, traffic management and resident facing services.

## Estimated Schedule

At the end of FY13, FiberNet reached 340 locations. Based on the current funding schedule, FiberNet is scheduled to reach 467 locations by the end of FY14; 487 locations by the end of FY15; 507 locations by the end of FY16; and 523 locations by the end of FY17. Today, the Traffic Management network reaches over 200 traffic cameras and 830 traffic signals with plans to add 200 pedestrian safety beacons. By the end of FY17, FiberNet is expected to have a total of more than 1,750 sites on the network serving a wide variety of facilities from pedestrian beacons to major campus networks or building complexes.

## Cost Change

Cost increases will increase FiberNet services, fund a study to determine FiberNet's next generation of technology (\$123,000 in FY16), cover foreseen cost overages in current construction of approximately 60 CIP sites (\$200,000 in FY16, \$170,000 in FY17), and fund level of effort system maintenance FY19 & FY20 (\$1,100,000 each year). These cost increases are partially offset by FY18 cost savings of approximately \$603,000 attributable to having FiberNet reach its nominally terminal network size.

## Justification

## Fibernet (P509651)

FiberNet is a critical infrastructure asset serving every agency in Montgomery County. As of June 30, 2013, 340 sites are on-net and receiving critical services over FiberNet. In FY07, the Department of Technology Services (DTS) completed the re-engineering of FiberNet (now referred to as FiberNet II) to directly support high speed connections. This provides a core network that is technologically more robust and less expensive to operate on a per-site basis than any commercial service or its predecessor FiberNet I. The Interagency Technology Policy Coordination Committee (ITPCC) focus remains to be completing the MCPS and HOC sites targeted in the ARRA grant, performing hubsite upgrades, adding new sites and constructing 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 in order to deliver services to their clients, students and staff. 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, provides dark fiber used to connect several locations to FiberNet. On-net sites 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 completing the ARRA Grant-funded sites, which includes the remaining MCPS elementary schools and 21 HOC properties. Funding for these projects is included in the FY15-FY20 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 has approved a special allocation request by Montgomery College for creation of a College Fiber Network that would permit MC communications traffic to be routed over dedicated optical fibers within FiberNet's physical plant on electronics owned and 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 as needed to reflect the ongoing FiberNet operating network.

### **Fiscal Note**

The ARRA Grant terminated on August 31, 2013. This grant represented a tremendous cost savings to Montgomery County. The County has received the benefit of over \$11.1 million dollars in fiber construction and networking equipment for a matching contribution of \$2.6 million. The matching contribution was funded as part of the FY12 and FY13 FiberNet CIP and was composed of cash and in-kind matches. FiberNet maintenance is supported by a grant contained in the Comcast franchise agreement, one of the County's cable service providers. 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. In FY14 Current Revenue General funding was shifted from the Information Technology: College (P856509) project to complete FiberNet expansion to College sites in accordance with the terms of the MOU. The City of Takoma Park will be contributing \$769,000 in FY15 for FiberNet projects in the County.

### **Coordination**

DTS, Department of Transportation, Advanced Transportation Management System Project, Montgomery County Public Schools, M-NCPPC, MC, 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