FiberNet
(P509651)

Category	General Government	Date Last Modified	01/10/22
SubCategory	Technology Services	Administering Agency	Technology Services
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE ($000s)

Cost Elements	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Planning, Design and Supervision	12,968	6,046	922	6,000	1,000	1,000	1,000	1,000	1,000	1,000	-
Land	1,504	4	-	1,500	250	250	250	250	250	250	-
Site Improvements and Utilities	18,817	17,266	1,251	300	50	50	50	50	50	50	-
Construction	20,948	1,522	8,858	10,568	2,088	1,696	1,696	1,696	1,696	1,696	-
Other	49,942	46,247	695	3,000	500	500	500	500	500	500	-
TOTAL EXPENDITURES	104,179	71,085	11,726	21,368	3,888	3,496	3,496	3,496	3,496	3,496	-

FUNDING SCHEDULE ($000s)

Funding Source	Total	Thru FY21	Est FY22	Total 6 Years	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Beyond 6 Years
Contributions	1,611	1,611	-	-	-	-	-	-	-	-	-
Current Revenue: Cable TV	84,099	58,205	4,526	21,368	3,888	3,496	3,496	3,496	3,496	3,496	-
Current Revenue: General	7,456	256	7,200	-	-	-	-	-	-	-	-
G.O. Bonds	8,866	8,866	-	-	-	-	-	-	-	-	-
PAYGO	2,147	2,147	-	-	-	-	-	-	-	-	-
TOTAL FUNDING SOURCES	104,179	71,085	11,726	21,368	3,888	3,496	3,496	3,496	3,496	3,496	-

APPROPRIATION AND EXPENDITURE DATA ($000s)

Appropriation FY 23 Request	3,888	Year First Appropriation	FY96
Appropriation FY 24 Request	3,496	Last FY's Cost Estimate	89,987
Cumulative Appropriation	82,811		
Expenditure / Encumbrances	71,545		
Unencumbered Balance	11,266		

PROJECT DESCRIPTION

FiberNet CIP provides for the planning, design, and installation of a countywide electro-optical fiber communication network with the capacity to support voice, public-safety, traffic management, data, Internet access, wireless networking (including public WiFi) 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. Video transmission will include distribution of public, education, government access channel and selected cable programming. FiberNet is the communications backbone for the Public Safety Radio and

Public Safety Mobile Data Systems (collectively, Public Safety Communications System (PSCS), DOT's Advanced Traffic Management System (ATMS), and other technology implementations (including the 800 MHz IP public safety radio). Upgrades and replacements to electronic components in the core and at user sites extend the usefulness of outside fiber facilities. Core and user equipment must be periodically replaced and upgraded, ideally at 7-8 year intervals, to harness the capabilities of technological evolution and to meet the expanding networking demands of FiberNet customers. Implementation of the third generation of core components, FiberNet3, began in FY21. FiberNet3 exponentially increased FiberNet's ability to support cloud services, resilient data storage and retrieval, and cost effective access to high speed broadband service. In FY22, FiberNet upgraded data center equipment and firewall devices at the Council Office Building (COB) data center. FiberNet will also implement an encrypted private cloud, failover recovery equipment and ransomware recovery capabilities as part of the County's business continuity initiative.

ESTIMATED SCHEDULE

The primary focus of the FY21-22 CIP had been to plan and install core third-generation FiberNet3 equipment to exponentially expand capacity within FiberNet, upgrade hub-site electrical equipment to support installation of FiberNet3 equipment, and to establish Ashburn data center connections to enable cost-effective future technology public-private partnerships with government and educational institutions, major research and educational institutions, and large employers. Additional work was done in response to Covid to expand outdoor public WiFi to 14 libraries and to expedite transitioning MCPS to FiberNet3 to support hybrid simultaneous in-person and online teaching. FiberNet was expanded to extend fiber to 448 government and education sites by the end of FY22, including 18 Flash Route 29 Bus Rapid Transit stations. The Traffic Management network reaches over 230 traffic cameras and 909 traffic signals, and backup power to keep traffic signals operations during large scale power outages have been added at 436 traffic signals.

In FY22, TEBS received a $7.2 million supplemental appropriation to refresh past end of life network, routing and firewall equipment in the COB data center and to install and implement an encrypted private cloud, failover recovery equipment, and ransomware recovery capability. This implementation creates resilient data storage in Ashburn, VA and strengthens the County's ability to safely access and protect data and systems against ransomware.

COST CHANGE

TEBS received a $7.2m supplemental in FY22 and funds were added in FY27 and FY28.

PROJECT JUSTIFICATION

FiberNet is a critical infrastructure asset providing communication services and applications to every agency in Montgomery County. As more services are offered electronically (e-applications, e-payment, e-document, e-storage, e-learning), and more services require cloud-access, it is critical that every County location has robust access to FiberNet, and that FiberNet be secure, reliable, and always-on, and that sufficient equipment be in place to enable data recovery in the event of major power outages, natural disasters, or cybersecurity events. In addition, aging internal building wiring, public WiFi access points, external fiber, and end point routers, switches and firewalls need to be upgraded to enable use of newer IT services and technology. A large amount of equipment is beyond End of Life or End of Support and some had been identified as critical to replace to prevent cybersecurity intrusions.

FISCAL NOTE

The FiberNet CIP originally was funded by the General Fund. As restricted-use Cable Fund PEG/I NET capital grant funding grew, the Cable Fund became the primary funding source for FiberNet. Cable revenues are declining as cord cutting increases. Funding for future FiberNet CIPs may need to be supplemented by the General Fund. FiberNet operations and maintenance (O&M) activities are a critical component of FiberNet's utility but are not funded by the FiberNet CIP. Federal regulatory actions, or the outcome of renegotiations when the Comcast and Verizon franchises expire in 2021, may negatively impact the Cable Fund. The County is

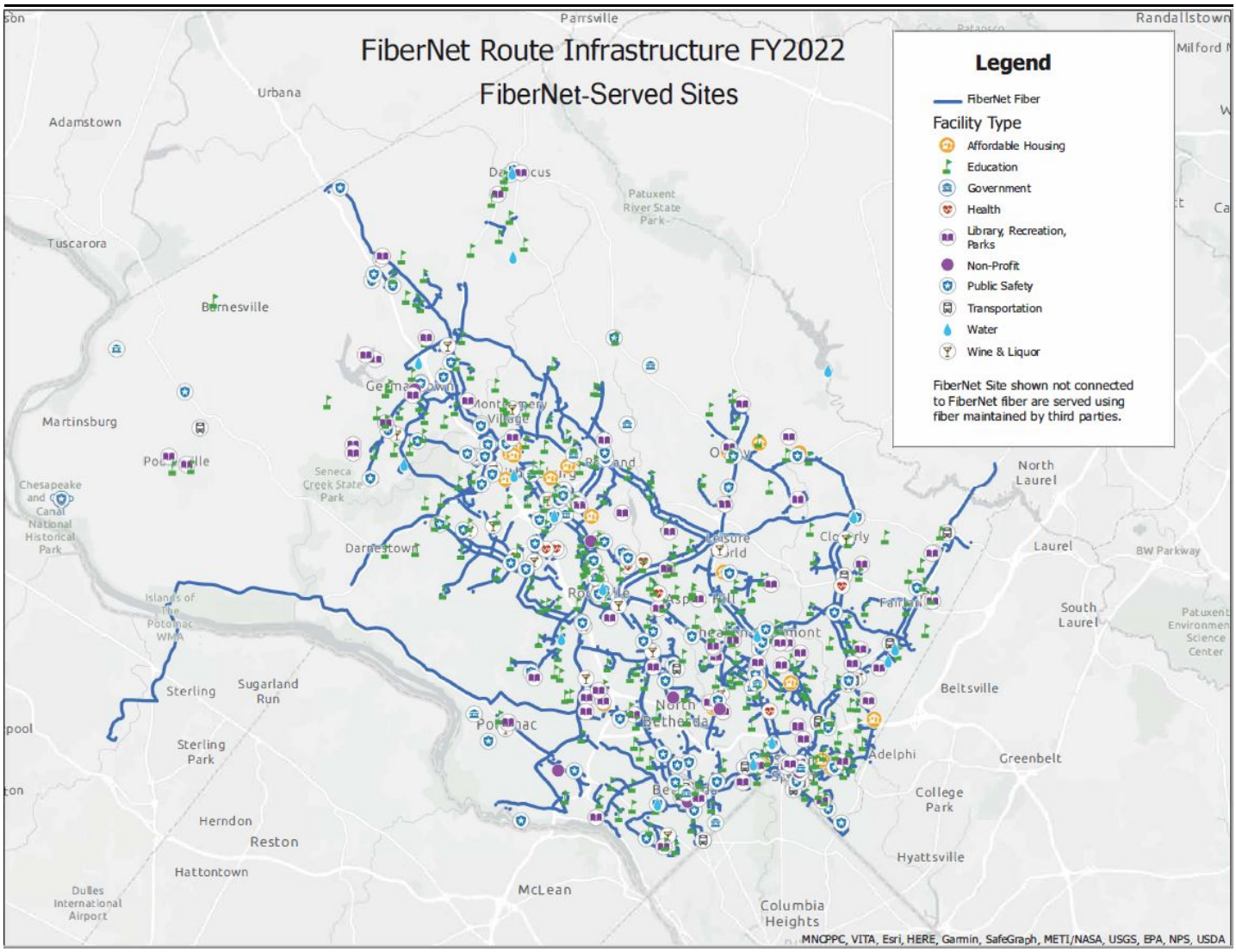
negotiating extensions of the current franchises. In FY16 funds were also used to support government and educational ultraMontgomery broadband initiatives. An FY22 Current Revenue General Supplemental was approved for $7.2 million for business continuity enhancements.

DISCLOSURES

Expenditures will continue indefinitely.

COORDINATION

Technology & Enterprise Business Solutions (TEBS), Department of Transportation, Advanced Transportation Management System Project, Montgomery County Public Schools, MNCPPC, MC, HOC, WSSC, PSCS, Information Technology Policy Coordination Committee (ITPCC), ITPCC CIO Subcommittee, and Interagency Technology Advisory Group (ITAG); and supports ATMS, Traffic Signal System Modernization (TSSM) and Traffic Signal CIPs.


FiberNet Route Infrastructure FY2022
FiberNet-Served Sites
Legend
FiberNet Fiber
Facility Type
Affordable Housing
Education
Government
Health
Library, Recreation, Parks
Non-Profit
Public Safety
Transportation
Water
Wine & Liquor
FiberNet Site shown not connected to FiberNet fiber are served using fiber maintained by third parties.
Parrsville
Randallstown
Milford
Urbana
Adamstown
Damascus
Patuxent River State Park
Tuscarora
Barnesville
Martinsburg
Chesapeake and Ohio Canal National Historical Park
Seneca Creek State Park
Darnestown
Islands of the Potomac WMA
Sterling
Sugarland Run
Sterling Park
Herndon
Reston
Hattontown
Dulles International Airport
McLean
Columbia Heights
Hyattsville
College Park
Greenbelt
Adelphi
Beltsville
South Laurel
Laurel
North Laurel
BW Parkway
Patuxent Environmental Science Center
Clarksburg
Leisure World
Aspen Hill
Fairland
Olney
Rockville
Potomac
North Bethesda
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