

MEMORANDUM

April 16, 2015

TO: Government Operations and Fiscal Policy Committee  
FROM: Dr. Costis Toregas, Council IT Adviser  
SUBJECT: Department of Technology Services Operating Budget

Expected to attend:

Sonny Segal, Chief Information Officer, DTS  
Dieter Klinger, Chief Operating Officer, DTS  
Representative from Office of Management and Budget

Staff recommendations:

1. ERP: Closely monitor the incorporation of the ERP sustaining organization within DTS by requesting quarterly written updates, including budget summaries, accomplishments, and challenges for the next quarter.
2. Cyber security: Affirm prior discussions regarding consolidation of cyber security functions across departments and possible move under Risk Management or Emergency Management and Homeland Security, and hold a Summer 2015 study session to review the consultant study due in May 2015 and action items that may emerge. Such actions may require mid-year budget adjustments, but should be revenue-neutral. Depending on degree of detail available by then, this session may be a closed session to encourage effective dialogue.
3. Ultra Montgomery: Approve the Ultra Montgomery efforts as shown within the activities of DTS for the time being. Encourage the Executive to develop an explicit program around Ultra Montgomery with both Open Data and Economic Development targets that should be discussed by relevant Council Committees as the project matures.
4. Lack of Strategic Plan: Review and provide input to DTS Strategic Plan once completed in 2015.
5. **Accept the Executive's recommended budget of \$40,907,969 for FY16, which represents an increase of 35.1% over the FY15 approved budget.**

## **Background**

The DTS budget has been increased for the last three years, reflecting the importance of technology in the delivery of services across all departments. The table below provides detail regarding the total DTS budget figure by year:

	<b>Recommended FY16</b>	<b>Approved FY15</b>	<b>Approved FY14</b>	<b>Approved FY13</b>	<b>Approved FY12</b>
Total DTS budget	\$40,907,969	\$ 30,272,068	\$ 28,754,504	\$ 26,259,783	\$ 25,649,440
Increase	+35.1%	+5.3 %	+9.5 %	+2.4 %	
Increase without ERP shift	+1.6%				

The full Technology Services budget recommendation for FY15 is on ©1-8.

The unusual increase in the budget (+37.1%) is due to the shift of the ERP “Sustaining Organization” from the CIP Technology Modernization program to the DTS Operating Budget. This increase is comprised of 36 positions with a budget of \$5.7 million and contractor and other resources totaling \$4.4 million.

Several questions were raised by Council staff in order to understand the structure and focus of the FY15 budget request. These questions, and the answers provided by DTS and staff comments when appropriate follow.

## **POLICY**

1. Gartner provided guidance as to the location of the ERP sustaining organization once development was complete. Please provide all options Gartner submitted, and the reason the Executive decided to locate it within DTS (presumably one of the options)

*Gartner research published in 2011 states...*

*“[Determining where the ERP support organization will be housed decision] addresses who will own and manage support resources, ensure that the support work is done, and manage the quality of the services delivered. The types of business units being supported, the number of different application instances and the variation across them, and the geographic location of end users will influence where the [Business Application competence center] BACC is housed organizationally. The enterprise's existing management structure will influence this decision.*

*The best-practice BACC integrates the IT department's traditional application support services with business-led services. Enterprises that adopt this best practice must accommodate a mixture of business and IT resources when deciding where to house the team organizationally. The following organizational options offer different advantages and disadvantages:*

- *Centralized BACC as an IT department*
- *Centralized BACC as part of operations*

- *Centralized BACC as a separate department between IT and the business*
- *Decentralized/distributed BACCs by division, geography or other classification”*

*The recommended sustaining organization does align with the first option above, and more importantly follows industry best practices by encompasses both functional and technical resources in one organization.*

*In August 2014, we benchmarked Montgomery County ERP against other jurisdictions of similar size, business functions and modules (please see ©9-12 for a summary of the findings). One of the findings was that most ERPs were housed in an IT department. Based on the benchmark data and given the County's organizational structure, the Executive Steering Committee recommended to house ERP in the Department of Technology Services with oversight of a Governance Board.*

*The Governance Board will include Department Heads or their designee from Finance, Human Resources, Management & Budget, Technology Services, General Services, Employee Retirement Program, and chaired by the CAO or his designee.*

**Council Staff Comment:** This shift of resources is significant and sudden, and will put a major strain on the organization's management. The Committee should carefully monitor progress on a quarterly basis as this important function is absorbed; special attention must be paid to the performance of the Executive Steering Committee and its independence from internal DTS priorities.

2. The Committee urged the Executive to consider consolidating the various cyber security functions across departments under a single organization, and to locate the function outside of DTS (Risk Management and Emergency Management and Homeland Security were two functions mentioned). How does the Executive's continued recommendation to keep it within the department align with this direction?

*The CAO engaged an industry recognized expert, Gartner Inc., in FY15 to independently review the County's cybersecurity program, including governance. Gartner will be presenting its findings and recommendations in May 2015. The Executive will consider all Gartner's recommendations, including any recommended changes to organizational structure.*

**Council Staff Comment:** Leading edge jurisdictions and major industry leaders (such as insurance industry leader AIG) are moving in the direction of consolidating cyber security functions under an Enterprise Risk management umbrella or similar non-technology location. The County has to explore such strong options and begin to move towards a careful evaluation of strategy and implementation.

3. Please provide a status report on accomplishing the goals within the ODIP; progress made with other agencies beyond MCG should be highlighted.

*The Open Data program is on track to complete the FY15 ODIP work items. A detailed summary of accomplishments for FY15 to date is on ©13-14.*

4. Please provide a detailed strategy document for Ultra Montgomery and for Public Wi-Fi, both priorities of the Executive but with no explicit line item footprint on the DTS budget. Include source of funding, personnel and consultant requirements, and geographic impact analysis.

*Please see the Ultra Montgomery PowerPoint presentation and multi-year strategy, as well as the list of County public WiFi locations on ©15-25. Slides 11 and 12 on ©20 provides a list of specific FY16 initiatives. The County's Ultra Montgomery Smart Map is in beta form and will be used to provide geographic impact analysis for WiFi locations. This information will also be used to update WiFi information available on the County's openData website.*

*At the present time, existing staff and consultants will primarily be used to support Ultra Montgomery and public WiFi initiatives. A list of additional funding the County Executive has recommended for FY16 is on Slide 11 on ©20 of the Ultra Montgomery PowerPoint presentation.*

**Council Staff Comment:** This project is still in its conceptual stage; once it gains traction, funding at scale will have to be provided and a budget framework (perhaps a separate CIP project) should be encouraged so true costs and targets are visible. From ©20, it appears that current FiberNet funding is being reallocated to this new project, but no reference is made to the reduction of effort and its impact on the FiberNet side. Current ongoing work includes build out of hubs for FiberNet, completion of work from the ARRA Grant expansion, and outfitting of more than 30 elementary schools with broadband service. These projects must not be delayed because of Ultra Montgomery priorities.

## MANAGEMENT

1. Does DTS currently have the management bandwidth to absorb the new ERP? Please name the individual who will lead this effort and who will replace that person's current responsibilities.

*The current Program Administration of ERP, which includes the project director, technical manager, and functional manager, will continue to manage ERP. The staff in these positions is transferring to DTS along with the personnel from the core business functions. The ERP will be another operating division in DTS reporting to the COO. Ms. Karen Plucinski, will serve as the ERP division chief.*

*Please see the ERP organization chart on ©26.*

**Council Staff Comment:** The transition plan, while not aligned with the original discussions regarding the organizational placement, is staffed with expert professionals with strong experience and awareness of issues.

2. Since the \$10,222,000 is a shift and new allocation to create a new department of ERP, please provide a "zero base budget" that details personnel by type, projects within the Division, and

management responsibilities for each. A separate table should be provided for the \$5.7 million in personnel, and for the \$4.4 million in operating expenses.

<i>The ERP Division – core business operations by responsibilities</i>		<i>\$5,727,538</i>
<u><i>Core Operations</i></u>	<u><i>Number of Positions</i></u>	
<i>Program Administration</i>	<i>5</i>	
<i>Security &amp; System Administration</i>	<i>2</i>	
<i>Change Management</i>	<i>3</i>	
<i>Hyperion/Budgeting</i>	<i>3</i>	
<i>Financial / Warehouse Management</i>	<i>4</i>	
<i>Human Resources</i>	<i>3</i>	
<i>Payroll</i>	<i>3</i>	
<i>Business Intelligence</i>	<i>1</i>	
<i>Infrastructure</i>	<i><u>12</u></i>	
<i>Total</i>	<i>36</i>	
<i>Operating Expenses include – contracts, contractors, audit service, lease, training, supplies, equipment, maintenance</i>		<i>\$4,401,473</i>

- Page 38-2 states that ESOD is responsible for ERP, MC311, and other Enterprise systems. Please clarify the statement, since there is now an ERPD. Also detail the reductions made possible by the ERPD addition from the ESOD budget.

*ESOD manages the servers and infrastructure for ERP, MC311, MCTime, Public Safety Data Systems, Office 365, Active Directory, and all other enterprise systems. This does not change with the move of ERP from program office to operating division. ESOD will continue to manage the servers and infrastructure and ERPD will continue to be responsible for day to day ERP operations.*

- Enhanced cyber security initiatives will receive an additional \$385,000 under the Executive's recommended budget. Please provide the total amount programmed for Cyber Security and indicate what the additional \$340,000 will secure.

*The FY16 DTS recommend budget includes approximately \$1,420,000 for the Enterprise Information Security Office (EISO).*

*The additional \$340,000 will be utilized for the following:*

- o Addition of Incident Response contractor resources*
- o Continuation of County-wide Information Security Awareness Training*
- o Continuation of Personal Computer & Server Vulnerability Remediation*

*Cybersecurity is also an important component of operational priorities, and resources are allocated for this function in all DTS Operating Division.*

*Please see the attached Cybersecurity Overview on 27-28 for a summary of the current environment / challenges and recent accomplishments.*

**Council Staff Comment:** The cyber security investment is significant and begins to reflect the importance of the threat the County faces daily. In order to fully leverage this investment, the Committee encouraged DTS in Spring 2014 to consider two strategies: consolidate cyber security operations across all departments to combat the “weakest link” threat, and raise the entire function to an Enterprise level; such a level may be found in Emergency Management and Homeland Security, or Risk Management. DTS has engaged a consultant and expects a report within FY15. The results of this study should provide guidance in this vital organizational development opportunity, and the budgetary discussions may have to be adjusted to support the results.

5. Please provide a copy of the most current DTS Strategic Plan. The DTS website provides access to the 2009-2012 version; are there plans to update it?

*DTS is in the process of re-drafting the County Government’s FY15-FY18 Technology Strategic Plan to include recent programs and technology trends. The proposed plan takes into account the input provided by the functional units and external agencies and incorporates (internal and external) stakeholder-centric themes versus pure technology themes. The plan is expected to be completed in FY15.*

*The TSP proposed Strategic Objectives facilitate fulfillment of the CE’s Mission Statement and Six-point Economic Plan across the County government’s “lines of business” and services:*

- I. Leverage technology to continually strengthen citizen services delivery*
- II. Deploy technology solutions that improve government productivity and efficiency*
- III. Select and deploy technology solutions that promote an open and transparent government*
- IV. Invest in technology and implement policy that protects government, public, employee and business partners’ confidential data and information*
- V. Innovate continually for a smart and sustainable County*

**Council Staff Comment:** The Department should provide a current Strategic Plan at the earliest possible time; having a 6 year old strategic document (2009) in an area where the tools and techniques change almost monthly does not reflect well on the County.

6. ETSD has increased by \$260,000, but the FiberNet budget has increased many times that amount through the NOC addition. Where is this added expense if not in ETSD?

*FiberNet capital and operating expenses, including the NOC, DTS personnel and other direct costs are budgeted in the Cable office budget and can be found in the Cable Communications Plan.*

7. Please give an update on the IJIS status; currently it appears to be assigned to the COO office - is this correct?

*I want to assure you that IJIS is still active and a successful program. The listing of IJIS in the Recommended Budget COO narrative is an error previously introduced and is being corrected. The IJIS program, along with the PSSM program continues to report to the CIO.*

*The IJIS CIP is ongoing; although it is not listed in the current CIP budget publication as no additional funding was added for the current CIP funding cycle. Prior funding will continue into FY16, and IJIS stakeholders are pursuing additional grant funding. Upon grant funding award, a CIP amendment will be submitted.*

*Listed below are a summary of recent major IJIS accomplishments:*

- *Developed and implemented the Criminal Justice Case Management System (CJCMS) as the CJIS interim replacement to enable CJIS and mainframe retirements.*
- *Developed and implemented Court data feeds to CJCMS. Now all District and Circuit Court, criminal and non-criminal (i.e. traffic) are automatically loaded for user consumption.*
- *Developed and implemented the MCPD Go-to-Court application which alerts MCPD Officers of upcoming their court dates to eliminate missed court dates.*
- *Implementation of SAO eDiscovery solution to provide for electronic and automated processing of court discovery material between SAO and the public defenders and private defense attorneys.*

*The following are some key IJIS initiatives:*

- *Business Intelligence solution for the CJ agencies to include the capability for enhanced reporting, data analytics and predictive analysis. Anticipating funding from GOCCP grant to support initiative.*
- *Enhance the CJ expungement process of criminal records and develop a solution to simplify the tasks of expungements.*

## **TECHNOLOGY**

1. Are there residual negative effects from the retirement of the mainframe?

*The retirement of the mainframe did not have any negative effects. There was only one minor unexpected consequence, when it was discovered some non-law enforcement department staff were using a connection via the mainframe to state law-enforcement systems. These were moved to an alternate connection.*

2. Has the implementation of Office 365 caused any degradation of screen refresh speeds or other bandwidth-related issues for end users?

*Office 365 has not negatively impacted network bandwidth. DTS planned for the increased bandwidth required by upgrading the County firewalls coincidental with Office 365 implementation. DTS continues to monitor bandwidth usage and anticipated needs to ensure we have sufficient capacity for all business operations.*

*DTS has received some reports of performance issues. We investigate to determine root cause and the best remedy. To date none have been found to be caused by Office 365, however some have been accentuated by the move to Office 365, the same any cloud solution would have done. One example is the Libraries network limitations that DTS is currently addressing with a complete network redesign and upgrade.*

3. ORACLE and MC311 support on page 38-3 are almost \$1.5 million. Please detail reasons for this increase, and why they belong to the base budget.

*The first line item on page 38-3 is the increase of \$1,070,104 for Office 365, this is offset later by \$179,582 and \$939,989 reductions in software maintenance and mainframe, respectively.*

*The second line item is an increase in \$400,000 for Oracle software/license maintenance that is a result of additional software licenses required for the current ERP architecture. The third line item is a \$90,000 increase for MC311 contractor support due to increased contractor costs. These are ongoing costs for ERP and MC311, respectively and therefore should be considered to be part of the base budget.*



---

# Technology Services

## MISSION STATEMENT

The mission of the Department of Technology Services is to use information technology to enable our employees to provide quality services to our citizens and businesses, deliver information and services to citizens at work, at home, and in the community, and increase the productivity of government and citizens.

### County Government Reorganization

Originally developed and implemented under the Technology Modernization--MCG CIP (P150701), funding for the Enterprise Resource Planning (ERP) program shifts to the Department of Technology Services operating budget beginning in FY16. The new Enterprise Resource Planning Division (ERPD) is responsible for the operations of the County's core business systems (financials, human resources, procurement and budgeting). ERPD provides production support and supports business owners in meeting their operational needs, adapting to the ongoing and changing environment, reengineering business processes to improve efficiency, implementing new initiatives and staying abreast of systemic enhancements and improvements to the County's ERP systems.

## BUDGET OVERVIEW

The total recommended FY16 Operating Budget for the Department of Technology Services is \$40,907,969, an increase of \$10,635,901 or 35.1 percent from the FY15 Approved Budget of \$30,272,068. Personnel Costs comprise 52.6 percent of the budget for 155 full-time positions and two part-time positions, and a total of 146.65 FTEs. Total FTEs may include seasonal or temporary positions and may also reflect workforce charged to or from other departments or funds. Operating Expenses and Capital Outlay account for the remaining 47.4 percent of the FY16 budget.

Without including the new Enterprise Resource Planning Division (ERPD), the recommended FY16 Operating Budget for DTS is \$30,778,958, an increase of \$506,890 or 1.6 percent from the FY15 Approved Budget of \$30,272,068. Non-ERPD FTEs are 110.65, an increase of 0.62 FTEs from the FY15 Approved Budget of 110.03 FTEs.

In addition, this department's Capital Improvements Program (CIP) requires Current Revenue funding.

## LINKAGE TO COUNTY RESULT AREAS

While this program area supports all eight of the County Result Areas, the following are emphasized:

### ❖ **A Responsive, Accountable County Government**

## DEPARTMENT PERFORMANCE MEASURES

Performance measures for this department are included below, with multi-program measures displayed at the front of this section and program-specific measures shown with the relevant program. The FY15 estimates reflect funding based on the FY15 approved budget. The FY16 and FY17 figures are performance targets based on the FY16 recommended budget and funding for comparable service levels in FY17.

## ACCOMPLISHMENTS AND INITIATIVES

### ❖ **Received the following awards in 2014:**

- 1. The Public Technology Institute (PTI) designated Montgomery County as a Tech Savvy County in 2014. Montgomery County is only one of four local governments in the nation -- and the only County in Maryland -- to be designated as a Tech Savvy jurisdiction during 2014.**
- 2. Montgomery County ranked 2nd overall best Digital County Government in the United States by the Center for Digital Government and the National Association of Counties (NACo).**
- 3. Montgomery County's weekly "County Report This Week" cable television show recently was awarded a prestigious national "Telly" award.**
- 4. PTI honored Montgomery County with the 2013-2014 Technology Solutions Award for the County's "Bikeshare**

---

**Station Site Identification and Property Verification" program.**

**5. Department of Technology Services received a NACo Award for the Unique Building Address Processor Program.**

- ❖ **A new Enterprise Resource Planning Division (ERPD) will be launched in FY16. The ERPD will function as a long-term and permanent sustaining organization to maintain and operate the County's Core Business Systems (financials, human resources, procurement and budgeting).**
- ❖ **A new Network Operations Center (NOC) for the County's FiberNet network will be launched in FY16. The NOC will monitor FiberNet operations on a 24x7 basis, respond to faults in the network in order to restore services in a timely manner, provide enhanced services to various County Agencies (including MCPS) and the Department of Technology Services (DTS), and develop utilization reports and capacity planning studies. The NOC will also serve as a platform for leveraging the County's current FiberNet for the UltraMontgomery Initiative to bring ultra-high-speed broadband services to the County.**
- ❖ **Continued cybersecurity efforts across several areas, including an updated Employee IT Security Policy training program and an in-depth assessment of the County's IT environment by Gartner, an industry-leading consulting group.**
- ❖ **Provided project management, development, application engineering, systems engineering and quality assurance support for the Public Safety System Modernization (PSSM) program.**
- ❖ **Developed, deployed, and improved Enterprise Resource Planning (ERP) Business Intelligence (BI) tools. Implemented ERP Purchasing Order service level agreement process and Compensation Work Bench module.**
- ❖ **Developed the Open Data Implementation Plan as required by Bill 23-12. The Implementation Plan contains an inventory of datasets in the County and a high-level publication schedule for publication of each documented dataset. In developing the publication schedule, each dataset was evaluated and rated by the dataMontgomery Workgroup on factors relating to their publication value and alignment with the mission of the department.**
- ❖ **Provided technology infrastructure and led the transition of technology services for numerous new County facilities. Major technology infrastructure projects completed include the David F. Bone Equipment Maintenance and Transit Operations Center (EMTOC), the Judicial Center Annex, the Department of Liquor Control (DLC) Warehouse, Police Station #3, and the Montgomery County Animal Shelter.**
- ❖ **Implemented enhanced cybersecurity measures for users of the County's Virtual Private Network (VPN) system.**
- ❖ **Retired the County's Mainframe computer in FY15.**
- ❖ **Completed the retirement of the Windows XP operating system from the County's desktop environment.**
- ❖ **Rolled out Microsoft Office 365 across County departments to replace older applications and productivity suites.**
- ❖ **Productivity Improvements**
  - **Continued upgrade and expansion of wireless access points in County facilities, expanding access to mobile devices and business productivity both for employees and visitors.**

## **PROGRAM CONTACTS**

Contact Helen Ni of the Department of Technology Services at 240.777.2807 or Naeem Mia of the Office of Management and Budget at 240.777.2782 for more information regarding this department's operating budget.

## **PROGRAM DESCRIPTIONS**

### **Enterprise Systems and Operations (ESOD)**

This program designs, implements and maintains a secure and reliable computer-based hardware, software, and data infrastructure for County business systems and County staff. The Division manages enterprise-wide systems including Enterprise Resource Planning (ERP), MC311, MCTime, enterprise messaging system, enterprise directory system, enterprise file and print system, enterprise image archiving, enterprise anti-malware systems, the mainframe system, and hundreds of enterprise servers (web, application, database). ESOD manages and provides support for the Public Safety Data System. ESOD also operates the enterprise data center, a 24-hour-a-day service supporting enterprise and department servers, the mainframe and network control center equipment.

<b>Program Performance Measures</b>	<b>Actual FY13</b>	<b>Actual FY14</b>	<b>Estimated FY15</b>	<b>Target FY16</b>	<b>Target FY17</b>
Enterprise Applications System Availability (%)	99.8	99.9	99.9	99.9	99.9
Number of Enterprise Service Bus data transfers (monthly average)	82,285	174,163	300,000	600,000	1,200,000

<b>FY16 Recommended Changes</b>	<b>Expenditures</b>	<b>FTEs</b>
<b>FY15 Approved</b>	<b>12,534,956</b>	<b>32.00</b>
Add: Office 365 Licenses, Support, and Subscriptions	1,070,104	0.00
Increase Cost: Oracle Software/License Maintenance	400,000	0.00
Increase Cost: Contractor Support for MC311	90,000	0.00
Increase Cost: Computer-Aided Dispatch (CAD) Software Maintenance	29,000	0.00
Increase Cost: Anti-Spam Software Maintenance	10,000	0.00
Increase Cost: Property Manager Software Maintenance	10,000	0.00
Increase Cost: Siebel Software Maintenance	9,000	0.00
Increase Cost: Info Server Software Maintenance	7,000	0.00
Decrease Cost: Expired Software Maintenance Contracts	-154,141	0.00
Decrease Cost: Lapse Vacant Sr. IT Specialist	-179,582	0.00
Decrease Cost: Service Contract/Agreement Reductions	-939,989	0.00
Multi-program adjustments, including negotiated compensation changes, employee benefit changes, changes due to staff turnover, reorganizations, and other budget changes affecting multiple programs.	92,233	0.00
<b>FY16 CE Recommended</b>	<b>12,978,581</b>	<b>32.00</b>

### **Enterprise Telecommunications and Services (ETSD)**

This program provides reliable, modern, and integrated communications services to enable network data, voice and other solutions for County Government departments and Agencies. PBX Telecommunications Services is responsible for the programming, operation and maintenance of the County's PBX telephone network and all associated adjuncts, i.e., Voicemail, IVR, and Cabling infrastructure. Radio Communications Services is responsible for the operation and maintenance of the County's 800 MHZ radio and mobile communications systems which predominantly support public safety agencies. Network Services is responsible for providing Wide Area Network (WAN) management and design services to County government, FiberNet connectivity to other agencies, and wireless connectivity. Some costs associated with FiberNet/WAN are charged to the Cable Fund in accordance with the cable franchise provision to support installation, construction, operations, and maintenance of the County's FiberNet and associated network equipment.

<b>Program Performance Measures</b>	<b>Actual FY13</b>	<b>Actual FY14</b>	<b>Estimated FY15</b>	<b>Target FY16</b>	<b>Target FY17</b>
Average Number of Workdays to Complete Telecom Requests (in workdays)	9.3	9.3	9.0	9.0	9.0
Transmission Facilities Application Process - Average number of days to process applications for siting wireless towers	30	35	30	30	30

<b>FY16 Recommended Changes</b>	<b>Expenditures</b>	<b>FTEs</b>
<b>FY15 Approved</b>	<b>5,979,841</b>	<b>22.05</b>
Increase Cost: Motorola Maintenance Contract	115,000	0.00
Multi-program adjustments, including negotiated compensation changes, employee benefit changes, changes due to staff turnover, reorganizations, and other budget changes affecting multiple programs.	145,542	0.00
<b>FY16 CE Recommended</b>	<b>6,240,383</b>	<b>22.05</b>

### **Enterprise Applications and Solutions (EASD)**

This program delivers and maintains solutions through core business, web-based applications, and geographic information services; and provides oversight for the Desktop Computer Modernization (DCM) program and the County's Help Desk. The Application Development and Integration team supports the County's electronic government initiative to include website management. Electronic government seeks to provide cost-effective services at greater convenience to residents and employees through the use of modern web technologies. The Enterprise System Services team is responsible for supporting the enterprise software applications which are used throughout the County Government. This includes applications maintenance, upgrades, phase out and replacement; and ensuring applications are adapted to conform to changes in the County's hardware and software environment. The Geographic Information Systems team designs and implements applications for County departments, designs and develops custom maps and web-based mapping applications, maintains the accuracy and currency of the Montgomery County Street Centerlines database and the Geographic Base Files (GBF/DIME) and related data layers, and participates in the development and maintenance of the enterprise planimetric and property databases. The Information Technology Help Desk Services team provides IT support directly to departments and employees.

<b>Program Performance Measures</b>	<b>Actual FY13</b>	<b>Actual FY14</b>	<b>Estimated FY15</b>	<b>Target FY16</b>	<b>Target FY17</b>
Average Number of Seconds to Serve a Web Page	0.4	0.4	0.4	0.4	0.4
Percent of DTS Help Desk Requests that are Resolved on the First Call (%)	96.8	96.3	97.0	97.0	97.0

<b>FY16 Recommended Changes</b>	<b>Expenditures</b>	<b>FTEs</b>
<b>FY15 Approved</b>	<b>6,466,463</b>	<b>36.38</b>
Increase Cost: Google Site Search License Maintenance	85,000	0.00
Shift: Position returning from the Technology Modernization Capital Improvements Program (CIP)	72,074	0.50
Increase Cost: Countywide Pictometry Flyover	34,000	0.00
Increase Cost: Annualization of FY15 Personnel Costs	25,169	0.12
Increase Cost: Storm Operation Map Required Maintenance	25,000	0.00
Decrease Cost: Lapse Vacant Sr. IT Specialist	-179,582	0.00
Multi-program adjustments, including negotiated compensation changes, employee benefit changes, changes due to staff turnover, reorganizations, and other budget changes affecting multiple programs.	140,550	0.00
<b>FY16 CE Recommended</b>	<b>6,668,674</b>	<b>37.00</b>

### **Office of the Chief Operating Officer (COO)**

This Office provides leadership and strategies for the development and delivery of County technology solution planning and implementation for both County staff and residents. The Office acts as the first step to improving project return on investment (ROI) and fosters a successful project outcome through the establishment and use of a strong Project Management Methodology (PMM). The Office manages both Enterprise Architecture and Enterprise Strategic Planning to ensure cost-effective Countywide IT investment. The Project Management Office (PMO) is responsible for reviewing and prioritizing new project requests for the Department, reviewing all technology funding requests for County Departments, maintaining the IT Initiative Dashboard of technology projects, developing and maintaining the project management standards across projects, and providing contract management support services for the Department. Additionally, project managers in this Office are responsible for managing major multi-million dollar cross-departmental projects (including Integrated Justice and numerous Department initiatives). Project Management certification is encouraged to promote continuous growth and demonstration of project management best practices.

<b>Program Performance Measures</b>	<b>Actual FY13</b>	<b>Actual FY14</b>	<b>Estimated FY15</b>	<b>Target FY16</b>	<b>Target FY17</b>
Open Data - Number of datasets published	24	15	50	50	50

<b>FY16 Recommended Changes</b>	<b>Expenditures</b>	<b>FTEs</b>
<b>FY15 Approved</b>	<b>2,044,109</b>	<b>12.60</b>
Multi-program adjustments, including negotiated compensation changes, employee benefit changes, changes due to staff turnover, reorganizations, and other budget changes affecting multiple programs.	12,455	0.00
<b>FY16 CE Recommended</b>	<b>2,056,564</b>	<b>12.60</b>

### **Office of the Chief Information Officer (CIO)**

This Office provides technology leadership, allocation of resources, policy direction, and program guidance for the Department and the County government's Information Technology initiatives, including the Public Safety Systems Modernization (PSSM) program. The Office is responsible for assisting Departments with creating process efficiencies and aligning their information technology needs with the overall County enterprise strategy.

Management Services is responsible for centralized administrative support functions in the areas of budgeting and financial processing, human resources management, procurement, facilities management, front desk support, and event planning.

The Enterprise Information Security Office (EISO) provides enterprise risk assessments, data security consulting, policy/procedure development, and sensitive data architecture design to the County government. These services also include identifying and managing the tools required to protect the County from data security threats, to provide security training to County employees through an Enterprise Security Awareness Training program, and rapidly respond to incidents that may affect the confidentiality, integrity, and/or availability of the County's information assets and data. Additionally, the EISO is responsible for oversight in various enterprise information security compliance mandates, such as the Health Insurance Portability and Accountability Act (HIPAA) of 1996 and the Payment Card Industry Data Security Standards (PCI DSS).

<b>Program Performance Measures</b>	<b>Actual FY13</b>	<b>Actual FY14</b>	<b>Estimated FY15</b>	<b>Target FY16</b>	<b>Target FY17</b>
IT Security - Average Security Vulnerabilities per Device	39.2	30.6	25.0	20.0	15.0

<b>FY16 Recommended Changes</b>	<b>Expenditures</b>	<b>FTEs</b>
<b>FY15 Approved</b>	<b>3,246,699</b>	<b>7.00</b>
Enhance: Cybersecurity Initiatives	340,000	0.00
Increase Cost: Cyber Security Advisory Contract	45,000	0.00
Increase Cost: Information Builders InfoAssist	17,000	0.00
Increase Cost: Information Technology Consulting Contract	8,600	0.00
Add: InfoAssist Software Maintenance	3,400	0.00
Reduce: Temporary Clerical/Administrative Staff Support	-42,089	0.00
Decrease Cost: Lapse Three (3) Vacant Positions through FY16	-367,385	0.00
Multi-program adjustments, including negotiated compensation changes, employee benefit changes, changes due to staff turnover, reorganizations, and other budget changes affecting multiple programs.	-416,469	0.00
<b>FY16 CE Recommended</b>	<b>2,834,756</b>	<b>7.00</b>

### **Enterprise Resource Planning Division (ERP)**

The Enterprise Resource Planning Division (ERP) is responsible for the operations of the County's core business systems (financials, human resources, procurement and budgeting). ERP provides production support and supports business owners in meeting their operational needs, adapting to the ongoing and changing environment, reengineering business processes to improve efficiency, implementing new initiatives and staying abreast of systemic enhancements and improvements to the County's ERP systems. The ERP is comprised of both IT and business functions to promote an integrated ERP environment for developing complex solutions, continual enhancements and improvements and maintenance of the enterprise systems.

The ERP will enable an enterprise view for managing the County's business and technical processes by:

- Maintaining a comprehensive, scalable enterprise team to support the day to day operational needs of finance, human resources, payroll, retirees, budgeting, procurement, warehouse management, and transportation management staff.
- Maximizing the efficient use of the ERP solution by streamlining business operations and enhancing systems to take advantage of productivity improvements and providing a structure for continuous improvement, efficiency and effectiveness.
- Developing enterprise business intelligence dashboarding/reporting capabilities and analytic tools that provide decision support to executive management and department administrators.
- Balancing the business requirements between core functions and sub organizations (finance, human resources, payroll, retirees, budgeting, procurement, etc.) and effective and efficient systems operations.
- Facilitating the flow of information between all business functions within Montgomery County government and managing the system interfaces to external stakeholders' systems.

<b>FY16 Recommended Changes</b>	<b>Expenditures</b>	<b>FTEs</b>
<b>FY15 Approved</b>	<b>0</b>	<b>0.00</b>
Shift: Thirty-six (36) positions from the Technology Modernization Capital Improvements Program (CIP) to support the new Enterprise Resource Planning Division (ERP)	5,727,538	36.00
Shift: Contractor and other operating expenses from the Technology Modernization Capital Improvements Program (CIP) to support the new Enterprise Resource Planning Division (ERP)	4,401,473	0.00
<b>FY16 CE Recommended</b>	<b>10,129,011</b>	<b>36.00</b>

## BUDGET SUMMARY

	Actual FY14	Budget FY15	Estimated FY15	Recommended FY16	% Chg Bud/Rec
<b>COUNTY GENERAL FUND</b>					
<b>EXPENDITURES</b>					
Salaries and Wages	11,268,130	11,886,047	11,521,481	16,647,430	40.1%
Employee Benefits	3,822,769	3,921,742	3,880,105	4,871,551	24.2%
<b>County General Fund Personnel Costs</b>	<b>15,090,899</b>	<b>15,807,789</b>	<b>15,401,586</b>	<b>21,518,981</b>	<b>36.1%</b>
Operating Expenses	14,391,309	14,343,979	15,103,779	19,268,688	34.3%
Capital Outlay	0	120,300	0	120,300	—
<b>County General Fund Expenditures</b>	<b>29,482,208</b>	<b>30,272,068</b>	<b>30,505,365</b>	<b>40,907,969</b>	<b>35.1%</b>
<b>PERSONNEL</b>					
Full-Time	128	135	135	155	14.8%
Part-Time	2	2	2	2	—
FTEs	109.53	110.03	110.03	146.65	33.3%
<b>GRANT FUND MCG</b>					
<b>EXPENDITURES</b>					
Salaries and Wages	0	0	0	0	—
Employee Benefits	0	0	0	0	—
<b>Grant Fund MCG Personnel Costs</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>—</b>
Operating Expenses	654,968	0	0	0	—
Capital Outlay	0	0	0	0	—
<b>Grant Fund MCG Expenditures</b>	<b>654,968</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>—</b>
<b>PERSONNEL</b>					
Full-Time	0	0	0	0	—
Part-Time	0	0	0	0	—
FTEs	0.00	0.00	0.00	0.00	—
<b>DEPARTMENT TOTALS</b>					
<b>Total Expenditures</b>	<b>30,137,176</b>	<b>30,272,068</b>	<b>30,505,365</b>	<b>40,907,969</b>	<b>35.1%</b>
<b>Total Full-Time Positions</b>	<b>128</b>	<b>135</b>	<b>135</b>	<b>155</b>	<b>14.8%</b>
<b>Total Part-Time Positions</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>—</b>
<b>Total FTEs</b>	<b>109.53</b>	<b>110.03</b>	<b>110.03</b>	<b>146.65</b>	<b>33.3%</b>
<b>Total Revenues</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>—</b>

## FY16 RECOMMENDED CHANGES

	Expenditures	FTEs
<b>COUNTY GENERAL FUND</b>		
<b>FY15 ORIGINAL APPROPRIATION</b>	<b>30,272,068</b>	<b>110.03</b>
<b>Changes (with service impacts)</b>		
Add: Office 365 Licenses, Support, and Subscriptions [Enterprise Systems and Operations (ESOD)]	1,070,104	0.00
Enhance: Cybersecurity Initiatives [Office of the Chief Information Officer (CIO)]	340,000	0.00
Add: InfoAssist Software Maintenance [Office of the Chief Information Officer (CIO)]	3,400	0.00
Reduce: Temporary Clerical/Administrative Staff Support [Office of the Chief Information Officer (CIO)]	-42,089	0.00
<b>Other Adjustments (with no service impacts)</b>		
Shift: Thirty-six (36) positions from the Technology Modernization Capital Improvements Program (CIP) to support the new Enterprise Resource Planning Division (ERPD) [Enterprise Resource Planning Division (ERPD)]	5,727,538	36.00
Shift: Contractor and other operating expenses from the Technology Modernization Capital Improvements Program (CIP) to support the new Enterprise Resource Planning Division (ERPD) [Enterprise Resource Planning Division (ERPD)]	4,401,473	0.00
Increase Cost: FY16 Compensation Adjustment	448,248	0.00
Increase Cost: Oracle Software/License Maintenance [Enterprise Systems and Operations (ESOD)]	400,000	0.00
Increase Cost: Retirement Adjustment	132,222	0.00
Increase Cost: Motorola Maintenance Contract [Enterprise Telecommunications and Services (ETSD)]	115,000	0.00
Increase Cost: Contractor Support for MC311 [Enterprise Systems and Operations (ESOD)]	90,000	0.00
Increase Cost: Google Site Search License Maintenance [Enterprise Applications and Solutions (EASD)]	85,000	0.00
Shift: Position returning from the Technology Modernization Capital Improvements Program (CIP) [Enterprise Applications and Solutions (EASD)]	72,074	0.50
Increase Cost: Cyber Security Advisory Contract [Office of the Chief Information Officer (CIO)]	45,000	0.00
Increase Cost: Countywide Pictometry Flyover [Enterprise Applications and Solutions (EASD)]	34,000	0.00
Increase Cost: Group Insurance Adjustment	32,490	0.00

	Expenditures	FTEs
Increase Cost: Computer-Aided Dispatch (CAD) Software Maintenance [Enterprise Systems and Operations (ESOD)]	29,000	0.00
Increase Cost: Annualization of FY15 Personnel Costs [Enterprise Applications and Solutions (EASD)]	25,169	0.12
Increase Cost: Storm Operation Map Required Maintenance [Enterprise Applications and Solutions (EASD)]	25,000	0.00
Increase Cost: Information Builders InfoAssist [Office of the Chief Information Officer (CIO)]	17,000	0.00
Increase Cost: Anti-Spam Software Maintenance [Enterprise Systems and Operations (ESOD)]	10,000	0.00
Increase Cost: Property Manager Software Maintenance [Enterprise Systems and Operations (ESOD)]	10,000	0.00
Increase Cost: Siebel Software Maintenance [Enterprise Systems and Operations (ESOD)]	9,000	0.00
Increase Cost: Information Technology Consulting Contract [Office of the Chief Information Officer (CIO)]	8,600	0.00
Increase Cost: Info Server Software Maintenance [Enterprise Systems and Operations (ESOD)]	7,000	0.00
Increase Cost: Motor Pool Rate Adjustment	749	0.00
Decrease Cost: Printing and Mail	-13,398	0.00
Decrease Cost: Expired Software Maintenance Contracts [Enterprise Systems and Operations (ESOD)]	-154,141	0.00
Decrease Cost: Lapse Vacant Sr. IT Specialist [Enterprise Applications and Solutions (EASD)]	-179,582	0.00
Decrease Cost: Lapse Vacant Sr. IT Specialist [Enterprise Systems and Operations (ESOD)]	-179,582	0.00
Decrease Cost: Lapse Three (3) Vacant Positions through FY16 [Office of the Chief Information Officer (CIO)]	-367,385	0.00
Decrease Cost: Elimination of One-Time Items Approved in FY15	-626,000	0.00
Decrease Cost: Service Contract/Agreement Reductions [Enterprise Systems and Operations (ESOD)]	-939,989	0.00
<b>FY16 RECOMMENDED:</b>	<b>40,907,969</b>	<b>146.65</b>

## PROGRAM SUMMARY

Program Name	FY15 Approved		FY16 Recommended	
	Expenditures	FTEs	Expenditures	FTEs
Enterprise Systems and Operations (ESOD)	12,534,956	32.00	12,978,581	32.00
Enterprise Telecommunications and Services (ETSD)	5,979,841	22.05	6,240,383	22.05
Enterprise Applications and Solutions (EASD)	6,466,463	36.38	6,668,674	37.00
Office of the Chief Operating Officer (COO)	2,044,109	12.60	2,056,564	12.60
Office of the Chief Information Officer (CIO)	3,246,699	7.00	2,834,756	7.00
Enterprise Resource Planning Division (ERPD)	0	0.00	10,129,011	36.00
<b>Total</b>	<b>30,272,068</b>	<b>110.03</b>	<b>40,907,969</b>	<b>146.65</b>

## CHARGES TO OTHER DEPARTMENTS

Charged Department	Charged Fund	FY15		FY16	
		Total\$	FTEs	Total\$	FTEs
COUNTY GENERAL FUND					
CIP	CIP	2,561,108	21.00	847,683	5.50
Human Resources	Employee Health Benefit Self Insurance	0	0.00	698,250	0.00
Liquor Control	Liquor Control	0	0.00	542,000	0.00
NDA - Mont. County Employee Retirement Plans	Employee Retirement System	0	0.00	174,336	0.00
Total		2,561,108	21.00	2,262,269	5.50

## FUTURE FISCAL IMPACTS

Title	CE REC.		(S000's)			
	FY16	FY17	FY18	FY19	FY20	FY21
This table is intended to present significant future fiscal impacts of the department's programs.						
<b>COUNTY GENERAL FUND</b>						
<b>Expenditures</b>						
<b>FY16 Recommended</b>	<b>40,908</b>	<b>40,908</b>	<b>40,908</b>	<b>40,908</b>	<b>40,908</b>	<b>40,908</b>
No inflation or compensation change is included in outyear projections.						
<b>Annualization of Positions Recommended in FY16</b>	<b>0</b>	<b>359</b>	<b>359</b>	<b>359</b>	<b>359</b>	<b>359</b>
New positions in the FY16 budget are generally lapsed due to the time it takes a position to be created and filled. Therefore, the amounts above reflect annualization of these positions in the outyears.						
<b>Elimination of One-Time Items Recommended in FY16</b>	<b>0</b>	<b>-1,119</b>	<b>-1,119</b>	<b>-1,119</b>	<b>-1,119</b>	<b>-1,119</b>
Items approved for one-time funding in FY16, including positions and ERP contractors no longer needed after FY16 ERP transition to DTS.						
<b>Labor Contracts</b>	<b>0</b>	<b>48</b>	<b>48</b>	<b>48</b>	<b>48</b>	<b>48</b>
These figures represent the estimated annualized cost of general wage adjustments, service increments, and associated benefits.						
<b>Subtotal Expenditures</b>	<b>40,908</b>	<b>40,197</b>	<b>40,197</b>	<b>40,197</b>	<b>40,197</b>	<b>40,197</b>







# **Enterprise Resource Planning (ERP) Sustaining Organization Benchmarks September 2014**

1

## **Benchmarks with Cities and Counties**

- ▶ **Benchmarks with other Cities and Counties**  
(August 2014)
  - King County, Seattle Washington
  - Pinellas County, Florida
  - City of Miami, Florida
  - City of San Diego, California
  - City of Chicago, Illinois
  - Arlington County, Virginia
  - Washington Suburban Sanitary Commission

2

## Cities and Counties Benchmarked

Jurisdiction	Environment	Systems
King County, Seattle Washington	In house Center of Excellence model Executive Services	Oracle EBS PeopleSoft Hyperion
Pinellas County, Florida	In house Business Technology Services Matrix with Five Business Areas	Oracle EBS Hyperion Oracle Business Intelligence Enterprise Edition (OBIEE)
City of Miami, Florida	In house Department of Technology Services	Oracle EBS Kronos BI Publisher
City of San Diego, California	In house Department of Technology Services	SAP Business Warehouse Objectives / Reports
City of Chicago, Illinois	Managed Services Department of Technology Services	Oracle EBS Mainframe SAP Business Objectives/Reports
Arlington County, Virginia	Managed / Hosted Department of Technology Services	Oracle EBS Public Sector Tool (Noetix)
Washington Suburban Sanitary Commission	In house Department of Technology Services	Oracle EBS Hyperion Oracle Business Intelligence Enterprise Edition (OBIEE)

3

## Montgomery County ERP Compared with Four Jurisdictions of Similar Size, Business Functions and Modules

<b>Montgomery County, Maryland</b>	<b>Financials – (14) Modules</b> General Ledger, Accounts Receivable, Accounts Payable, Purchasing, Cash Management, Fixed Assets, Project & Grants, Inventory, Work Orders, iAssets, iExpense, iSupplier, iReceivable, Advanced Collection	<b>Total of 40 modules</b>
	<b>Under Development – (7) Modules</b> Property Management, Mobile Units, iStore, Order Management, Warehouse/Inventory, Second Operating Unit, New Chart of Accounts	
	<b>Human Capital Mgmt/Payroll (16) Modules</b> Active Employee Payroll, Non Active Payroll, Employee Self Service, Manager Self Service, Core HR, Work Structures, Position Management, Advanced Benefits, Pension Administration, Labor Distribution, iRecruitment, Performance Management, Learning Management, Compensation WorkBench, Absence Management, Time and Labor	
	Budgeting – Hyperion CIP	
	Pension – PeopleSoft	
	Reporting – Oracle Business Intelligence Enterprise Edition (OBIEE)	
<b>King County, Seattle, WA</b>	<b>Financials – (9 Modules)</b> General Ledger, Project & Grants, Fixed Assets, Advanced Collection, Cash Management, Purchasing, eBusiness Tax, iExpense, Order Management	<b>Total of 15 modules</b>
	<b>Human Capital Mgmt/Payroll – (3) Modules</b> Employee Payroll, Labor Distribution, Time & Labor	
	Budgeting – Public Sector Hyperion	
	Pension – PeopleSoft	
	Reporting – Discovery Reporting Tool	

4

### Montgomery County ERP Compared with Four Jurisdictions of Similar Size, Business Functions and Modules

<b>City of Chicago, Illinois</b>	<b>Financials – (7) modules</b> General Ledger, Project & Grants, Accounts Payable, Accounts Receivable, Cash Management, iProcurement, iSupplier	<b>Total of 13 modules</b>
	<b>Human Capital Mgmt/Payroll – (4) Modules</b> Self Service, Position Management, Advanced Benefits, Taleo (recruiting)	
	<b>Budgeting – NA</b>	
	<b>Pension – Oracle/Mainframe</b>	
	<b>Reporting – SAP Business Objectives</b>	
<b>City of San Diego, CA</b>	<b>Financials – (8) modules</b> General Ledger, Accounts Receivable, Accounts Payable, Purchasing, Projects & Grants FICA Costing, Public Sector Utilities, Budget Formation	<b>Total of 11 modules</b>
	<b>Human Capital Mgmt/Payroll – (2) modules</b> Benefits, Learning Solutions	
	<b>Budgeting – NA</b>	
	<b>Pension – NA</b>	
	<b>Reporting – Business Warehouse Objective</b>	

5

### Montgomery County ERP Compared with Four Jurisdictions of Similar Size, Business Functions and Modules

Organization	# of Employees	ERP System	# of Modules	Cost	Support Organization
Montgomery County, MD	9,000	Oracle EBS PeopleSoft Hyperion OBIEE	Financials – 14 Under Development – 7 Human Capital – 16 Pension OBIEE Hyperion /Budgeting	\$9,319,000 Employees, consultants, \$2,021,159 Software, annual licenses \$2,383,000 Infrastructure \$13,723,159 Managed in-house	48 staff 24 employees 24 consultants
King County, Seattle WA	11,000	Oracle EBS	Financials – 9 Human Capital – 3 Pension/PeopleSoft Hyperion /Budgeting	\$14 million Managed In-house (does not include infrastructure)	51 employees
City of Chicago, Illinois	7,260	Oracle EBS	Financials – 7 Human Capital – 4 Pension – Oracle/ Mainframe Hyperion – NA SAP Business Objective	\$14.5 million Managed Service (production support and development) (does not include infrastructure)	19 staff 2 employees 17 consultants
City of San Diego, CA	10,000	SAP	Financials – 8 Human Capital – 2 Pension – NA Hyperion – NA Business Warehouse	\$20 million Managed in-house	40 staff 2/3 consultants 1/3 employees

### Montgomery County ERP Compared with Four Jurisdictions of Similar Size, Business Functions and Modules

Organization	# of Modules	Cost (Includes Salaries, Contractors & Software)	Support Organization	Approx. Cost per Module	Manpower per module (number of staff)
Montgomery County, MD	40	\$11,340,159 Managed in-house  Does not include infrastructure	48 staff	\$283,500	1.2
King County, Seattle WA	15	\$14 million Managed in-house	51 staff	\$933,000	3.4
City of Chicago, Illinois	13	\$14.5 million Managed Service (production support and development)	19 staff	\$1,115,400	1.5
City of San Diego, CA	11	\$20 million Managed in-house	40 staff	\$1,818,200	3.6

7

### Montgomery County ERP Compared with Four Jurisdictions of Similar Size, Business Functions and Modules

Organization	Organizations Reporting Structure	Infrastructure	Future Plans
Montgomery County, Maryland	Executive Steering Committee	Technology Services	<ul style="list-style-type: none"> <li>•Optimize Business Processes</li> <li>•Team with County Stat to maximize data reporting</li> <li>•Establish Enterprise Service Center</li> <li>•Collaborate with other Public Sector Oracle clients to share ideas, experiences, and learning</li> </ul>
King County, Seattle WA	Co-located as one group under the Office of Executive Services Implemented Gartner's model  Executive Steering Team Change Management Board	Technology Services	<ul style="list-style-type: none"> <li>•Leverage tools and approach to standardize and optimize business processes</li> <li>•Enterprise reporting approach and solutions</li> <li>•Interact with Oracle public sector clients to share ideas, experience, learn from others and collaborate</li> </ul>
City of Chicago, Illinois	Technology Services IT Governance Board	Technology Services	<ul style="list-style-type: none"> <li>•Upgrade 311</li> <li>•Consolidate shared services</li> </ul>
City of San Diego, CA	ERP Support Organization housed in Department of Information Technology	Contract /Out Sourced	<ul style="list-style-type: none"> <li>•Implement Enterprise Asset Management/Inventory/Work Orders</li> <li>•Engage business owners and end users</li> <li>•Enhance Change Management &amp; Training</li> <li>•Enhance Reporting</li> </ul>

8

### FY15 Dataset Publication

The Open Data Operations Manual (ODOM) specified 57 datasets for publication in FY15. To date:

- 41 of these datasets have been published on dataMontgomery,
- 13 datasets are in process and on target for publication in FY15, and
- 3 datasets on this list have been re-prioritized into a future fiscal year schedule based on recommendation from the owning departments and approval by the Open Data Steering Committee, according to the Open Data governance process.

It is also expected there will be a few additional datasets published in the FY15 timeframe that were not on the FY15 publication list in the ODOM, particularly datasets from outside the Executive Branch of Montgomery County Government. A full accounting of all datasets published in FY15 will be detailed in the annual update to the ODOM, as required by the Open Data Act by July 15, 2015.

### Financial Transparency Suite

Montgomery County partnered with our open data vendor (Socrata) in the developing a new and innovative standard in displaying government financial data to the public.

- budgetMontgomery: launched in August 2014, provides a drilldown, dynamic view of both the Operating and CIP budgets. To date, 20 other jurisdictions across the country have implemented Socrata's open budget product using the data standard developed by Montgomery County.
- spendingMontgomery: launched in December 2014, provides a guided view of how we spend our money, who spends it, what types of things we buy, and with whom we conduct business. To date, 3 other jurisdictions across the country have implemented Socrata's open spending product using the data standard developed by Montgomery County.
- Online Budget Book: launched in August 2014 to replace the mass production of CE Recommended and Council Approved budget books with an easy to navigate, interactive web based view of the County budget publications.

### Open Performance

Montgomery County's CountyStat team has been working with our open data vendor to implement an Open Performance Dashboard designed to replace the current CountyStat website on the County homepage. The new Open Performance website will provide an easy-to-navigate dashboard displaying Montgomery County Priority Objectives, Cross-Department Initiatives, County Department Performance Measures and Non-Principal County Office Performance Measures. This initiative is expected to launch in the last quarter of FY15.

### Taxonomy

Public Libraries staff has completed the development and public feedback review of the new dataset categorization structure. The effort to move existing datasets on dataMontgomery to the new structure will be incorporated into an overall website refresh based on Socrata's new user interface sometime this year, pending Socrata's release schedule.

### External Datasets

In coordination with the ITPCC Open Data pilot project, two external agencies have published data on dataMontgomery to-date: Housing Opportunities Commission and MCPS. All external agencies are participating and it is expected that the remaining agencies (Montgomery College, M-NCPPC Parks, M-NCPPC Planning and WSSC) will publish at least one dataset on dataMontgomery during the last quarter of FY15.

In addition to the publishing of at least one dataset per agency, the ITPCC Open Data pilot project included a comprehensive transfer of knowledge to the agencies on how to set up governance, dataset identification, dataset review and approval, etc. No doubt this knowledge transfer was heavily leveraged earlier this year when MCPS launched its own open data portal: OpenMCPS.

Over the last year, Montgomery County joined with other local jurisdictions in forming the Maryland Open Data User Group to discuss potential areas of data collaboration and federation across the state. Other participating jurisdictions include: State of Maryland, Prince George's County, Howard County and Baltimore City.

# Ultra Montgomery

Department of Technology Services  
Department of Economic Development

April 20, 2015



## CE's Six-Point Economic Plan

- Move/Build (Businesses into County)
- MC Squared (Nurture Start-ups)
- Independent Transit Authority (Fund Projects)
- Streamline Development (30-day Permitting)
- **Ultra Montgomery** (broadband networks)
- Workforce Development Coalition  
(Vocational Apprenticeships)



## Ultra Montgomery Launch

We live at a time when Internet connectivity and network infrastructure is just as fundamental to our economic future as are transportation systems, which requires us to have robust fiber networks to connect people with opportunities, and move our economy at the speed of our ideas.

I am, therefore, launching Ultra Montgomery, a high-speed fiber network that will connect our business, academic and federal institutions along major corridors and transit-oriented smart-growth communities.



County Executive Isiah Leggett  
Inaugural Address, December 5, 2014

April 20, 2015

3



## Gigabit Networks White Paper

To drive the next generation of economic success and improvements in our quality of life, Montgomery County should create ultra high-speed (100+ gigabits per second), ultra reliable, and ultra secure networks that connect our own centers of research and economic activity – our innovation districts – with similar centers around the region and globe. The networks, located in places such as White Oak, the Great Seneca Science Corridor, Bethesda and Silver Spring, will attract new entrepreneurs and employers to create data-intensive jobs in our community as well as enable our residents to enjoy the benefits of a lifestyle powered by emerging technology.



County Councilmember Han Riemer, August 7, 2014  
"Moving Montgomery Forward with Gigabit Speed Networks"

April 20, 2015

4





## Ultra Montgomery Focus

1. **Create Effective Policy Recommendations**  
*Promote Last Mile Fiber & Competitive Access to Buildings*
2. **Enhance Fiber Network Partnerships**  
*Enable Leasing of FiberNet Capacity & Build Fiber Partnerships*
3. **Build a 100 Gigabit Community**  
*Grow Public Awareness & Sector Networking by Using Events, Website, Test Beds, & Demonstration Projects*

April 20, 2015

5



## Work Plan

- **Broadband Report**
  - I. Current market for high speed broadband
  - II. Demand and interest in gigabit services
  - III. Gigabit broadband & economic development case studies
- **Hold individual meetings & business roundtables**
- **Host Broadband Summit**
- **Support public WiFi**
- **Engage Libraries & Business Incubators**
- **Facilitate civilian cybersecurity campus site selection**
- **Facilitate construction of direct fiber route to Ashburn, VA**
- **Launch "Ultra Gig," a wireless demonstration project**

April 20, 2015

6



## Initial Meetings



## Initial Findings – State of Market

- Businesses agree that 100G is the future and we are on the right track to position ourselves for 100G
  - But today, most business use less than 100M (0.1G)
  - Cost and What would we do with it?
- Demand will grow
  - Usage generally doubles every 18 months
  - Cost decreases at about the same rate
- The Cloud is changing everything
  - Greater demand for dedicated connectivity and fiber – controlling fiber (ownership or SLAs) to move away from best effort IP, and eliminate best effort middlemen



## Initial Findings (continued)


- Building owners are slow to respond to request to install fiber in building
  - Fiber is available in GSSC/WOSG roads but not buildings
  - General support for requiring conduit to new buildings
  - Unclear whether to create requirements or fund incentives to improve competitive access to existing buildings
- Strong interest in County conduit in transit/road projects
- Positive feedback on Ultra Montgomery Broadband Smart Map
  - Open Data group should review need for making FiberNet routes public

April 20, 2015

9



## Initial Findings (continued)

- General lack of awareness between fiber networks and potential customers
  - Strong support for convenings and education campaign
- Limited awareness of library business resources
- FiberNet can be used to support  thingstutute
- Interest in more direct fiber route to Ashburn, VA
  - Commercial/non-profit networks, NIST, Bytegrid
  - One fiber provider is working to build similar route
    - Not interested in joint build with other competitors

April 20, 2015

10



## Ultra Montgomery FY16 Budget

- FY16 CE Recommended Budget includes:
  - \$729k Network Operations Center (NOC) (necessary to enable monitoring & repairs to enable fiber partnerships)
  - \$439k Reallocate FiberNet CIP funding to support fiber system engineering design and construction. No specific recommendations, potential projects include:
    - FiberNet-to-NIST fiber connection
    - White Oak/East County fiber connections
    - WiFi in County Bldgs (incl. East Co. RSC, SSCB & Veteran's Plaza)
  - \$97k REC Center WiFi (8 locations)

April 20, 2015

11



## Additional FY15-16 Work Items

- Initiatives that will use existing resources:
  - UltraMontgomery Broadband SmartMap (DTS-GIS)
  - Potential Legislative/Policy Implementations (DED, DOT, DTS, DPS, LIB, OCA, OMB)
    - Conduit requirements in transit and road projects
    - Conduit requirements in new buildings
    - Incentives for making existing buildings gigabit-ready
    - Broadband-ready building certification
    - Fiber leasing (leasing form, service level agreement)
    - RFI – sponsored WiFi in outdoor spaces
    - Entrepreneur Centers in libraries

April 20, 2015

12



## Roundtable & Summit Timeline

- Roundtables – April & May 2015
  - Developers & Building Owners/Managers
  - Lifesciences & BioTech
  - Cybersecurity & Managed IT
  - Next Generation Internet Services, Applications & Devices
  - Federal Agencies
  - Healthcare
  - Fiber Providers & Data Centers
- Broadband Summit – Early Summer 2015

April 20, 2015

13



## Roundtable Goals

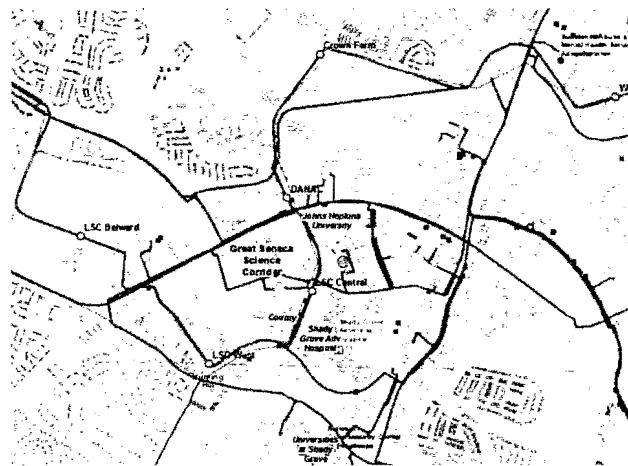
- Get business community feedback
  - Specific conduit requirements & building rating options
  - Incentives to promote access in existing buildings
  - Dark fiber vs lit services interest
  - Map attributes and information
  - Who are the businesses in federal agencies ecosystem?
  - Needs of research & development divisions of large entities
  - Who are the up and coming broadband-depend businesses and what else can the County to do nurture?

April 20, 2015

14



# Ultra Montgomery Broadband Smart Map



## Potential Uses:

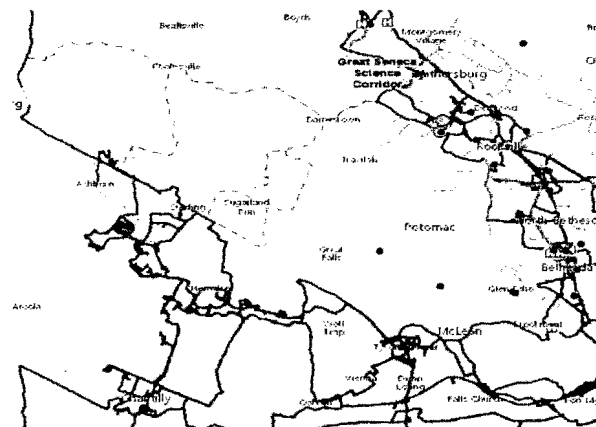
- Enable tenants to find broadband fiber and fiber-ready buildings
- Promote broadband-ready buildings
- Incentivize building owners to be broadband-friendly
- Promote broadband-readiness of Montgomery County
- Ultra high-speed fiber planning tool

April 20, 2015

15



# Ashburn Fiber Route



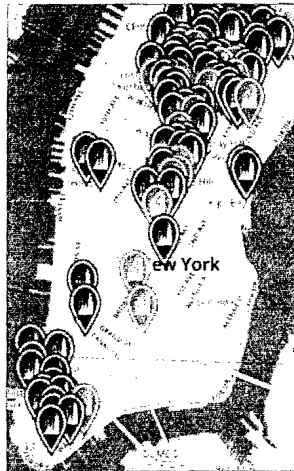
- Shorter route reduces latency and creates ability to keep traffic within own network
- Diverse route increases security
- Ashburn connectivity increases value of all fiber infrastructure within County (public & private)
- \$8-\$10 million
- Seeking private and federal partners

April 20, 2015

16



## Building Certification & Mapping



51 Astor Place

Need to determine whether to create a Montgomery County-specific rating system for Broadband-Ready Buildings or use a commercial product.

For example: WiredScore.com

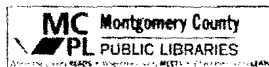
- Self-reported data not certified
- \$5k to \$10k engineering survey per building
- Repeat every 2 years at 50% of initial cost
- 700 surveys submitted (260 million sq ft of commercial office space)
- 400 opted to make data public
- 300 certified bldgs
- 200 in NYC

April 20, 2015

17

## Entrepreneur Centers in Libraries

- Leverages WiFi and technology upgrades
- Working to create a cool name for program
- Will support start-ups, entrepreneurs & pre-business plan cos.
- Map small business locations to determine EC locations
  - Working list: **Germantown, Gaithersburg, Rockville, Silver Spring, Wheaton, Long Branch**
  - May also include: **Praisner, Olney, Damascus, Poolesville**
- Collecting common questions asked by new businesses
  - DED will use questions to create a survey of needed services
- MCPL is drafting a resource guide (services for businesses offered in libraries) and chart of amenities offered at sites



April 20, 2015

18

# Gigabit Innovation Community

- The County is working to build partnerships with other broadband innovation ecosystems to:

- Support Advanced Research businesses
- Promote next-generation Internet innovation
- Identify and nurture forward-looking businesses



We come to Kansas City  
Home of Google Fiber



thingstutute

NEXT CENTURY  
CITIES

usignite



Tech Council of MD  
PROMOTING LIFE, SCIENCE AND TECHNOLOGY



April 20, 2015

19

# Innovation Partnerships

- **1776** is a global incubator and seed fund helping startups transform industries that impact lives

*"Our agreement with startup incubator 1776 again shows our dedication to the start-up culture, which we see as a crucial element in the economic growth of Montgomery County. The ideas, services and products that are developed as a result of the partnership will lead to the growth of small businesses and provide new workforce opportunities for our residents."*

County Executive Isiah Leggett

- **Kansas City Partnership**

Kansas City and the County are proud to enter into a partnership agreement to further explore the benefits of the cyber physical systems and the internet of things (IoT) for the public sector. The partnership envisions:

- Extended Test Facilities
- Local Partners
- Establish an IoT Council
- Awareness Events
- "Make-a-thons"



April 20, 2015

20



## Wireless "Ultra Gig" Demo

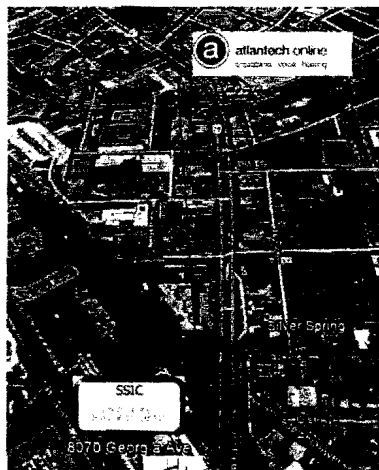
- DTS promoted Montgomery County as a test bed for FiberTower at 2014 SHLB conference (Schools, Libraries and Healthcare for Broadband coalition).
- FiberTower became an SSIC tenant in 2015.
- DTS/DED brokered a meeting between FiberTower and local company Atlantech Online, resulting a wireless gigabit demonstration project at SSIC (1<sup>st</sup> in the region)
  - FiberTower holds exclusive wireless spectrum licenses
  - Atlantech has data center, offers broadband/telco services
- Mid to late May event to launch demonstration project

April 20, 2015

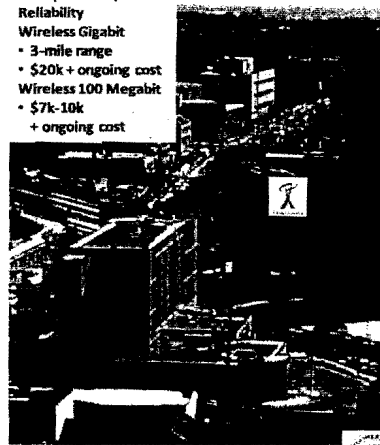
21



## Ultra Gig – May 2015



5 9's (.99999%)  
Reliability  
Wireless Gigabit  
• 3-mile range  
• \$20k + ongoing cost  
Wireless 100 Megabit  
• \$7k-10k  
+ ongoing cost



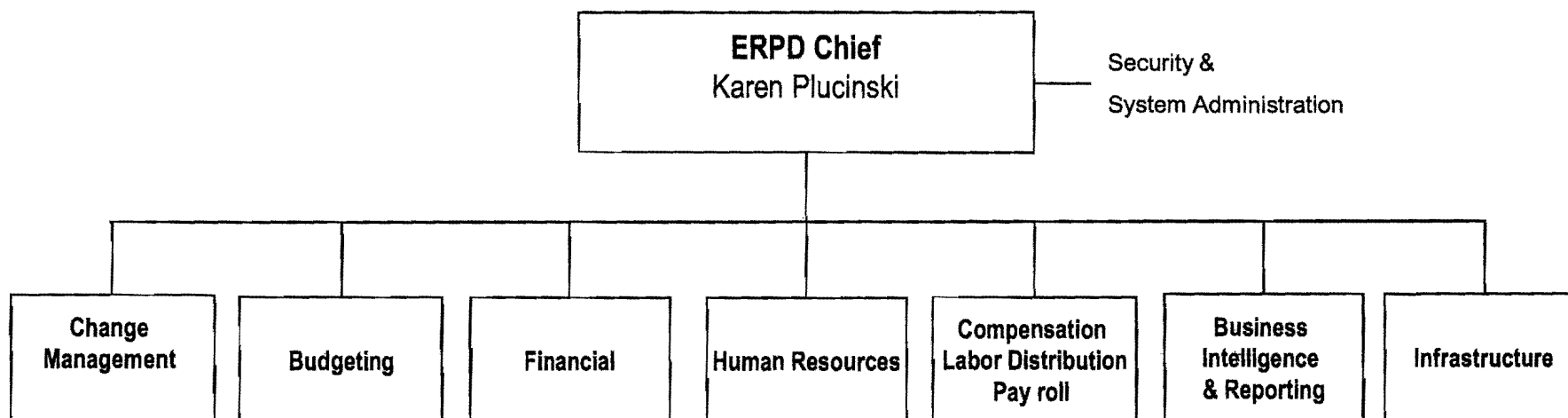
April 20, 2015

22

Atlantech Data Center



# Enterprise Resource Planning Division



**Environment & Challenges**

- DTS and Department IT Staff are charged with securing over 22,000 computer systems (desktops, laptops, servers, network devices, etc.) across 3 branches of government. Over 12,000 employees, contractors, and business partners use/access these systems each day.
- Tens of millions of cyber events are captured and logged daily.
- 15-20 County PCs are flagged for suspicious traffic incidents on a weekly basis; compromised PCs are re-imaged by DCM.
- Cyber attacks are becoming more common and sophisticated, with state and local governments being targeted for sensitive information and political activism (“hactivism”).
- The Information Technology environment is rapidly changing, with greater adoption of mobile and cloud services. County employee skill sets have to rapidly adapt to secure this new generation of technology.
- Security breaches have gained greater visibility due to public interest and notification requirements in regulations.

**Recent Accomplishments**

- Completed two cybersecurity assessments (Gartner Inc. and Corporate Executive Board).
- Completed inventory and information security criticality assessment of County applications (Watkins Meegan).
- Developed a Strategic Plan for Enterprise Security and Information Risk Management, FY14-17.
- Provided Cyber Security Awareness Training to over 12,000 (95%) County employees, contractors, and business partners with access to County IT systems.
- Accelerated the DCM PC replacement program to remediate vulnerabilities caused by MS-Windows XP operating system end of life.
- Accelerated PC and Server vulnerability remediation.

- Implemented a new Enterprise Wide Software Patching/Distribution Software. Deployed over 1,000,000 patches to County PCs thereby substantially reducing the number of outstanding vulnerabilities.
- Implemented an Enterprise e-Mail System (MS-Office 365) that improves Cybersecurity and regulatory compliance.
- Deployed an Enterprise Access and Identity Management Platform (AccessMCG) to better manage employee/contractor/associate access to critical County systems.
- Implemented enhanced controls for use of and access to County file shares (i.e., S drive, V drive etc.).
- Began deploying a new Enterprise Anti-Virus Protection Software.
- Continued the automation of data/file transfers both within and outside of County Government leveraging the Enterprise Service Bus (ESB), ensuring data encryption when needed.
- Initiated Cyber Development Program Pilot, providing employment for recent cybersecurity graduates wishing to enter the field. This program provides savings to the County and cyber job experience to the graduates.
- Implemented enhanced controls / safeguards for VPN access.
- Established new Enterprise policies to enable enhanced controls / safeguards for Outbound Internet Connections.
- Developed enhanced system vulnerability reports for Departments.