F50
Department of Information Technology

Operating Budget Data

($ in Thousands)

	FY 15 Actual	FY 16 Working	FY 17 Allowance	FY 16-17 Change	% Change Prior Year
General Fund	$39,141	$47,651	$43,281	-$4,370	-9.2%
Deficiencies and Reductions	0	0	-29	-29	
Adjusted General Fund	**$39,141**	**$47,651**	**$43,252**	**-$4,399**	**-9.2%**
Special Fund	8,434	10,989	26,024	15,035	136.8%
Deficiencies and Reductions	0	0	-2	-2	
Adjusted Special Fund	**$8,434**	**$10,989**	**$26,022**	**$15,033**	**136.8%**
Federal Fund	582	632	397	-235	-37.2%
Adjusted Federal Fund	**$582**	**$632**	**$397**	**-$235**	**-37.2%**
Reimbursable Fund	51,036	57,392	62,518	5,126	8.9%
Adjusted Reimbursable Fund	**$51,036**	**$57,392**	**$62,518**	**$5,126**	**8.9%**
Adjusted Grand Total	**$99,193**	**$116,664**	**$132,189**	**$15,526**	**13.3%**

- After adjusting for the across-the-board health insurance reduction, total costs increase by $15.5 million in fiscal 2017.

- Operations account for $2.8 million of the increase while major information technology (IT) projects account for the remaining $12.7 million in additional costs.

Note: Numbers may not sum to total due to rounding.

For further information contact: Patrick S. Frank   Phone: (410) 946-5530

Analysis of the FY 2017 Maryland Executive Budget, 2016

<u>*Personnel Data*</u>

	FY 15 **Actual**	**FY 16** **Working**	**FY 17** **Allowance**	**FY 16-17** **Change**
Regular Positions	136.00	134.00	154.60	20.60
Contractual FTEs	<u>0.80</u>	<u>1.00</u>	<u>1.00</u>	<u>0.00</u>
Total Personnel	**136.80**	**135.00**	**155.60**	**20.60**

Vacancy Data: Regular Positions

Turnover and Necessary Vacancies, Excluding New Positions	8.10	6.09%
Positions and Percentage Vacant as of 12/31/15	16.00	11.94%

- Fiscal 2017 regular positions increase by a total of 20.6 positions.

- A total of 21.6 positions are being transferred into the department from other agencies to support consolidated IT services.

- The department also lost an assistant director in the Networks Division that had been vacant since September 2014.

Analysis in Brief

Major Trends

Oversight of Major IT Projects: The Department of Information Technology (DoIT) oversees State agency major IT projects. Since fiscal 2009, measures established to judge project success suggest that progress is being made as more projects remain on schedule and on budget. The number of projects whose costs deviated from the baseline scope or cost increased to 20% in fiscal 2015.

State Agency Support: The department also supports systems used by State agencies, such as telecommunications systems, wireless networks, a data network, and statewide financial and personnel systems. Surveys suggest that the service provided is perceived to be satisfactory. No surveys have been taken in the last year. DoIT has implemented new software that asks individuals to rate their satisfaction after a service has been provided.

Web Systems Indicators in Transition: The Internet is essential in engaging citizens and providing services. In fiscal 2013, agencies transferred regular positions and funds into the department to support web services. DoIT also contracts with a private vendor to develop web services. The department has not developed any indicators that show progress toward offering more services on the Internet.

Issues

Statewide Consolidation of Information Technology Support Operations: A major initiative is for DoIT to adopt an "enterprise model" for day-to-day agency IT operations. The objective is for DoIT to provide these services for all cabinet-level agencies. The DoIT expectation is that this will reduce costs and improve services. DoIT provided these services for some agencies prior to when this new initiative begun. At the end of fiscal 2015, approximately 1,300 positions were served by DoIT. This increases to 10,900 at the end of fiscal 2017. **The department should be prepared to brief the budget committees on its initiative to expand the support services that it is offering to State agencies. DLS also recommends that the General Assembly adopt language requiring DoIT to report on the progress of its initiative to expand the number of agencies to whom the department provides IT support services.**

Cybersecurity Audits Detect Weaknesses: Cybersecurity is a major concern for the State. The media is routinely reporting cybersecurity breaches, and many incidents are unreported. Audits have found weaknesses in State procedures. Chapter 358 of 2015 established the Maryland Cybersecurity Council to work with federal agencies, businesses, and cybersecurity experts to improve the State's response to cybersecurity threats. **The department should be prepared to brief the committees on its role in the Maryland Cybersecurity Council.** In recent years, the department has made efforts to identify weaknesses and make improvements. **In spite of all the training, increased resources, and improved policies, audits still reveal critical security weaknesses. The department should brief the committees on how it plans to address these weaknesses.**

Election System – Changing Plans: The State Board of Elections (SBE) is developing a new voting system that should be operational for the 2016 elections. On Thursday, February 4, 2016, the board unanimously voted to use paper ballots instead of the election machines at the April 2016 primary election. The DoIT mission is to assist agencies as they develop major IT projects so that projects are on time and on budget. **The department should be prepared to brief the committees on its role in supporting the SBE voting system project. This should include a discussion of problems identified and actions taken to fix problems.**

Recommended Actions

		<u>**Funds**</u>
1.	Delete implementation funds for the Department of Human Resources' Automated Financial System major information technology project.	$ 1,000,000
2.	Defer funding for the State Board of Elections' Agency Election Management System Modernization Project.	578,906
3.	Add language to restrict funds pending a report on the department's statewide information technology consolidation.	
	Total Reductions	**$ 1,578,906**

Updates

Internet Advertising Policy Adopted in Response to an Information Request in the Joint Chairmen's Report: DoIT has adopted the same policies as the federal government with respect to Internet advertising. These policies prohibit nongovernment advertising and political campaign information.

Response to Request in the Joint Chairmen's Report to Provide an Update of Personnel Actions: The department notes that vacancies are down and some key positions have been filled.

F50
Department of Information Technology

Operating Budget Analysis

Program Description

Chapter 9 of 2008 created the Department of Information Technology (DoIT). The department contains the following divisions:

- **State Chief of Information Technology** – responsible for executive direction.

- **Enterprise Information Systems (EIS)** – responsibilities include developing statewide infrastructure and security standards. EIS also provides a range of services for the Office of the Governor, the Department of Budget and Management (DBM), the Department of General Services (DGS), and the Maryland Emergency Management Agency (MEMA).

- **Application Systems Management (ASM)** – responsibilities include the operating mainframe computer agency-based accounting, purchasing, budgeting, personnel, and asset management systems, such as the Financial Management Information System (FMIS).

- **Networks** – responsible for operating networkMaryland, the State's data network, and the State's telecommunications and wireless systems.

- **Strategic Planning** – responsible for the oversight of information technology (IT) procurement, project management, and policies and planning.

- **Major Information Technology Projects** – development of major IT projects.

- **Web Systems** – operates the State web portal as well as developing and administering web standards and procedures.

- **Telecommunications Access of Maryland (TAM)** – provides telecommunications relay service for Maryland's hearing and speech disabled citizens. The program also provides assistance telephone equipment for financially qualifying citizens with a variety of needs.

The department administers the Major Information Technology Development Project Fund (MITDPF). This is a nonlapsing fund that supports large IT initiatives as defined in Sections 3A-301 and 3A-302 of the State Finance and Procurement Article. Major Information Technology Development Projects are projects that meet one or more of the following criteria:

- the estimated total cost of development equals or exceeds $1 million;

- the project is undertaken to support a critical business function associated with the public health, education, safety, or financial well-being of the citizens of Maryland; or

- the Secretary of DoIT determines that the project requires the special attention and consideration given to a major IT development project.

Description of Systems Development Life Cycle Methodology

A key component of the DoIT mission is to provide oversight for the State's major IT systems development. The need to develop safe, secure, and reliable systems is heightened by an increasing dependence on technology to provide services, develop products, administer programs, and perform management functions. To establish procedures and practices for IT project development, the department has implemented the Systems Development Life Cycle (SDLC) methodology. It is used for all major IT projects.

The SDLC methodology provides IT project managers with the tools to help them implement systems that satisfy agency objectives. The documentation requires that executive leadership, functional managers, and users sign-off on the requirements and implementation of the system.

The SDLC methodology is a two-step approval process for major IT projects. Initially, an agency submits a Project Planning Request. After the requirements analysis has been completed and a project has completed all of the planning required through Phase Four of the SDLC (Requirements Analysis), including a baseline budget and schedule, the agency may submit a Project Implementation Request and begin designing and developing the project when the request is approved. **Exhibit 1** identifies the SDLC phases.

Exhibit 1
Systems Development Life Cycle Phases

Phase   **Description**

Project Planning Request

Initiation   Management determines that a system may be necessary. Significant assumptions and constraints are identified. A project team is formed. A Concept Proposal identifies the needs and opportunities to improve business functions. The Information Technology Project Request, which is the formal budget request, is prepared.

System   This phase begins when the Concept Proposal has been formally approved by the agency
   Concept   Chief Information Officer. The project team analyzes needs, risks, and alternatives. The
   Development   System Boundary Document (that limits the scope) and Risk Management Plan are prepared. The agency decides to proceed into the next life cycle phase, continue additional conceptual phase activities, or terminate.

Phase	**Description**
Planning	The Project Management Plan (PMP) is developed in this phase. (The plan documents the project scope, tasks, schedule, resources, and interrelationships with other projects. The plan includes an acquisition planning section to show how all government human resources, contractor support services, hardware, software, and telecommunications capabilities are acquired during the life of the project.) The internal management, engineering, business management, and contract management processes that will be used by the project office for all subsequent life cycle phases are also determined in the phase.
Requirements Analysis	This phase begins when the PMP is approved. The key product developed in this phase is the Functional Requirements Document (FRD). This is a user-oriented document that includes business process descriptions, a logical model that describes the fundamental processes and data needs, an analysis of business activities and data, an analysis to define the interaction between the business activities and business data, and a detailed analysis of the current technical architecture, application software, and data to ensure that limitations or unique requirements have not been overlooked. A Test and Evaluation Master Plan is also prepared. **The baseline is typically prepared at the end of this phase.**

Project Implementation Request

Design	The objective of the Design Phase is to transform the detailed, defined requirements into complete, detailed specifications for the system to guide the work of the Development Phase. Tasks include beginning the maintenance manual, user manual, training manual, and contingency plan. Ideally, the project's tasks are divided into two-week segments.
Development	The programming of the system occurs in this phase. Although much of the activity in this phase addresses the computer programs that make up the system, this phase also puts in place the hardware, software, and communications equipment.
Integration and Test	The objective of this phase is to determine if the developed system satisfies the requirements defined in the FRD. This includes system, security, and acceptance testing.
Implementation	The system is installed and made operational.
Operation and Maintenance	The system is in use. As problems are detected, needs occur, or software is upgraded, the system is updated.
Disposition	This is implemented to either eliminate a large part of a system or, in most cases, close down a system and end the life cycle process.

Source: Department of Information Technology, January 2016

Performance Analysis: Managing for Results

The DoIT Managing for Results (MFR) data reflect the mission of the office, providing statewide IT oversight as well as operating/overseeing the operation of statewide information systems and networks.

1.   Oversight of Major IT Projects

A major responsibility with long-term statewide implications is the DoIT review of major IT projects that are planned and implemented in State agencies. The department has a series of output measures that examine the extent to which major IT projects remain on schedule, on scope, and on budget.

Exhibit 2 shows that the number of projects that were on schedule at the end of the fiscal year increased markedly from fiscal 2009 to 2012, from 39% in fiscal 2009 to 73% in fiscal 2012. Since then, the number of on schedule projects has ranged from 73% in fiscal 2014 to 81% in fiscal 2015.

Progress was also made with projects that need changes to the scope in the project's baseline. The number of projects with a rebaselined[1] scope declined from 33% in fiscal 2009 to 14% in fiscal 2010. Since fiscal 2010, the range has ranged between 8% and 19%.
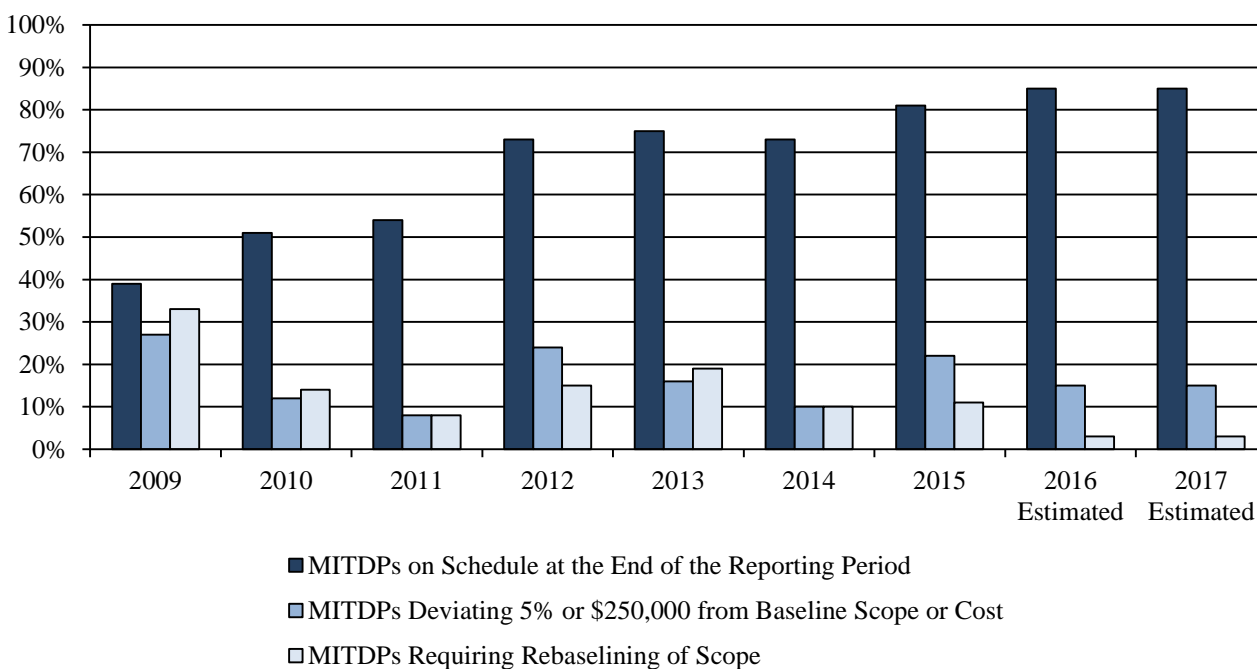
Though the percentage of projects deviating from costs (either 5% or $250,000) has tended to decline, the swings are more pronounced than projects with changes in scope. Since reaching its nadir of 8% in fiscal 2011, the percent of cost changes increased to 24% in fiscal 2012, then declined to 10% in fiscal 2014, and increased to 22% in fiscal 2015. Recognizing that costs changes are inevitable, DoIT projects that the cost of 15% of projects will change. This is consistent with the average from fiscal 2010 to 2014, which is 14%.

---

[1] A baseline can be prepared for the scope, schedule, or budget. It is the initial measurement that a project team manages and holds accountable. Deviation from the baseline in any of those areas is likely to result in a compensating action to get back into alignment with the baseline. For instance, if a project begins to slip from its baseline schedule, to get back on track, the project manager may need to add more resources or reduce the scope. Either of these actions could cause a baseline problem in the scope or cost areas. At that point, an effort is made to determine, according to the Project Management Plan (prepared in Phase 3, planning), how to mitigate risks that cause scope, schedule, or cost risks and then to establish a plan of action in the event that a risk becomes an issue. If circumstances make it necessary or desirable to establish a new baseline of cost, schedule, or scope, the process by which this is achieved is referred to as rebaselining.

Exhibit 2
Major Information Technology Project Planning Performance Measures
Fiscal 2009-2017 Estimated

■ MITDPs on Schedule at the End of the Reporting Period

■ MITDPs Deviating 5% or $250,000 from Baseline Scope or Cost

□ MITDPs Requiring Rebaselining of Scope

MITDP: Major Information Technology Development Project

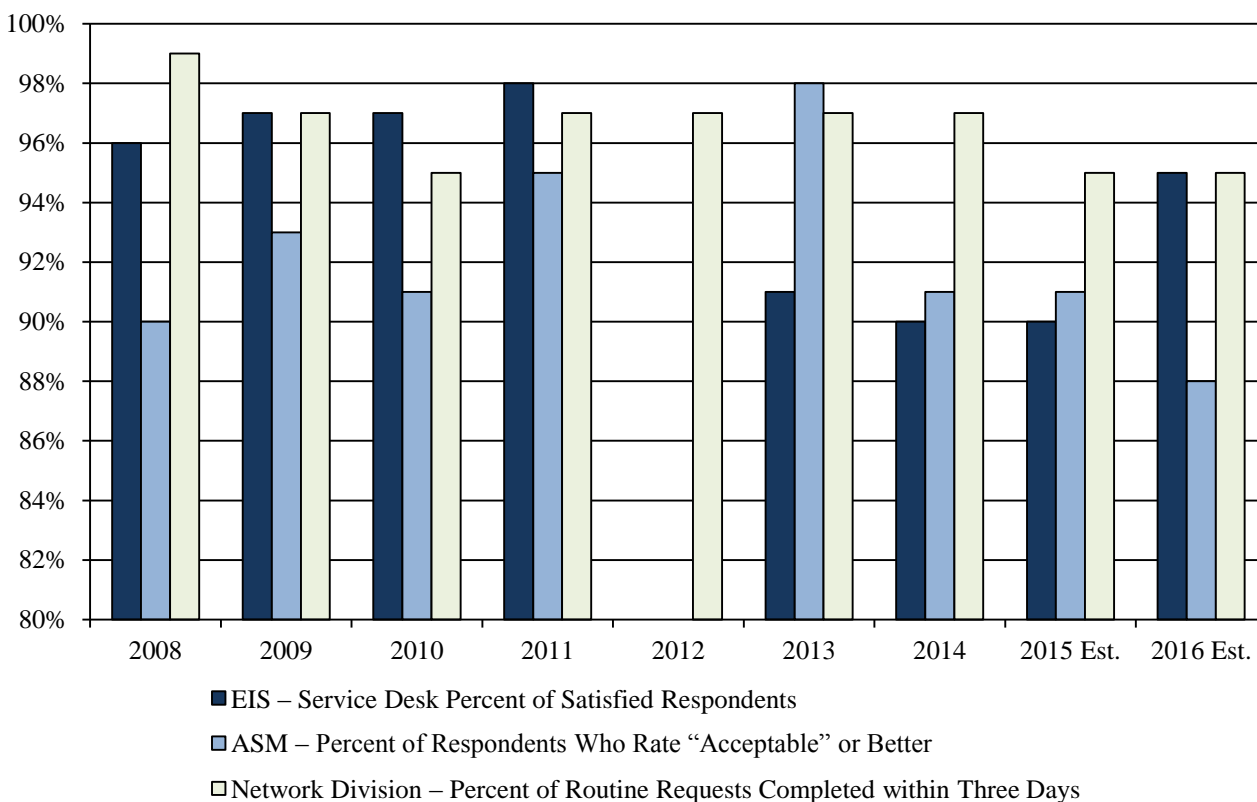Source: Department of Information Technology

2.   State Agency Support

DoIT supports systems that State agencies use. EIS operates a help desk and the local area networks in Annapolis and Baltimore. The department supports IT operations in a number of agencies, including the Governor's Office, MEMA, and DGS. ASM operates the FMIS, which supports the agency-based financial systems, and human resources systems, such as the new Statewide Personnel System. The Networks Division operates telephone systems, networkMaryland, and the State's wireless system. The department's MFR initiative also measures the effectiveness of these services.

DoIT has not conducted satisfaction surveys in the past year, so there is not any new data available this year. In place of the surveys, the department advises that it recently launched a new tool. The tool is linked with service tickets and asks individuals to rate their experience. This new data should be available next year. The most recent data that is available, is included in this analysis.

Exhibit 3 shows that from fiscal 2008 to 2011, at least 96% of EIS help desk respondents rated the service favorable. There was no survey in fiscal 2012, and the favorable rating dropped to 91% in fiscal 2013. The drop is attributable to a change in the survey. Beginning in fiscal 2013, the choices were expanded to include "neutral." DoIT advises that 7% of respondents chose "neutral." In fiscal 2014, the number of satisfied responses dropped to 90%.

Exhibit 3
Agency Support Systems Performance Indicators
Fiscal 2008-2016 Est.

■ EIS – Service Desk Percent of Satisfied Respondents

☐ ASM – Percent of Respondents Who Rate "Acceptable" or Better

☐ Network Division – Percent of Routine Requests Completed within Three Days

ASM: Applications Systems Management
EIS: Enterprise Information Systems

Note: No EIS survey was prepared in fiscal 2012 due to resources being reassigned to Google email implementation.

Source: Department of Information Technology, January 2016

Since fiscal 2008, over 90% of ASM respondents rated their systems acceptable or better. With respect to the Networks Division, at least 95% of its routine requests for voice services have been completed within three days. Routine requests include adding, disconnecting, moving, and removing telephone lines and voice mailboxes.

3.   Web Systems Indicators in Transition

The State's IT master plan identifies the Internet as essential in engaging citizens and providing services. Web services are one of the strategies by which higher standards can be realized. The objective is to use these resources for projects that "improve the delivery of services to citizens and visitors as well as the business processes of the State." The Internet has become ubiquitous, and there are growing expectations from citizens that services are to be provided online.

In fiscal 2013, 8 regular positions and approximately $1 million from other State agencies were transferred into the DoIT budget as part of a centralized IT support initiative. Specific initiatives include:

● 	expanding State government's presence by using standard development and design tools. This involves developing templates for agencies to use, expanding Geographic Information Systems (GIS), and providing multimedia services such as video services;

● 	improving the form of content delivered and measuring the success. This includes developing social media portals for agency public information officers, improving usability so that users can find what they need, and adopting web statistics that allow for common measurement tools, surveys, and forms to track usage and interests;

● 	developing efficiencies through shared platforms, procedures, and service levels. This involves providing common development tools and a code library, as well as assisting agencies with configuration of websites and applications; and

● 	improving collaboration and training, which includes skills training and quarterly meetings of web managers.

DoIT advises that agencies will still be responsible for the content on their websites. The DoIT role will be to develop standards and provide resources for agencies. **The department should brief the committees on the progress made since the transfer of these positions.**

Missing from the measures is any indication of the quality of Maryland.gov. There are numerous factors that contribute to a good website, including accessibility, navigation, content, security, speed, accuracy, and currency (up-to-date data). **In addition to providing resources for agency websites, the department should direct some of its MFR efforts to developing indicators that measure the quality of State websites.**

DoIT has made efforts to expand the number of services offered on the Internet. In August 2011, the Board of Public Works approved a master contract with NICUSA, Inc. (NIC) to develop websites, online services, and secure payment processing applications for State agencies. NIC has been developing eGovernment applications for over a decade and is developing them for at least 24 states. The State is not charged for this service; NIC generates revenues by implementing some commercially valuable services and pooling these revenues to support other applications. NIC advises

that nonrevenue generating applications account for approximately 80% of applications. Maryland State agencies have begun developing applications with NIC, such as the Department of Commerce's Central Business Licensing and Registration portal, the Motor Vehicle Administration's (MVA) Android Driver Practice Exam, and the MEMA Maryland Prepares application.

This contract provides the State an opportunity to expand web services. But from the MFR data, it is unclear to what extent the State is expanding the number of services offered on the Internet. The web systems programs have a vision of "providing citizens with easy access to Maryland government data and State agencies with secure and reliable statewide web applications."

Every two years the Center for Digital Government, the research and advisory arm of *Government Technology* magazine, evaluates state governments' ability to improve internal processes and better serve citizens. In the 2014 survey, Utah received an A grade. In Utah, the "public expects to be able to interact with their government using new convenient technologies." The report notes that Utah now offers over 1,100 online services. Maryland's grade was a B. Positive comments were that Maryland is implementing a new Public Safety Communication System and has an Open Data Council. But it it is unclear how many services Maryland offers.

Fiscal 2016 Actions

Cost Containment

Like other agencies, DoIT was subject to a 2% across-the-board cost containment reduction. The amount applied to the department was $1.3 million. **Exhibit 4** shows that most of these reductions affected major IT projects. The Medicaid Enterprise Restructuring Project was suspended and the funds were no longer needed. Contracted work was also reduced.

Exhibit 4
Allocation of Fiscal 2016 2% Across-the-board Reductions

Description	Amount
Major IT project reduction to Medicaid Enterprise Restructuring Project	$823,731
Reduce major IT project review contracts	250,000
Reduce GIS contracts for development support	100,000
Reduce maintenance services supporting enterprise and web services	86,269
Reduce Financial Management Information System support	50,000
Total	**$1,310,000**

GIS: Geographic Information System
IT: information technology

Source: Department of Budget and Management

Proposed Budget

The fiscal 2017 allowance proposes $132.2 million in spending. The largest fund sources are reimbursable funds ($62.5 million) and general funds ($43.3 million). **Exhibit 5** shows that the fiscal 2017 allowance is $15.5 million more than the fiscal 2016 working appropriation. A large and volatile share of the budget is funding for major IT projects, which total $67.4 million in fiscal 2017. Cash flow requirements for these projects change substantially from year to year. The fiscal 2017 major IT project spending is $12.7 million more than budgeted in fiscal 2016. Costs for departmental operations increase by $2.8 million.

Excluded from the exhibit are costs associated with employee increments. Employee increments and associated fringe benefits are included in the budget of DBM. These funds, which total $206,287, will be distributed to each agency by budget amendment for the start of the fiscal year.

Exhibit 5
Proposed Budget
Department of Information Technology
($ in Thousands)

How Much It Grows:	General Fund	Special Fund	Federal Fund	Reimb. Fund	Total
Fiscal 2015 Actual	$39,141	$8,434	$582	$51,036	$99,193
Fiscal 2016 Working Appropriation	47,651	10,989	632	57,392	116,664
Fiscal 2017 Allowance	43,252	26,022	397	62,518	132,189
Fiscal 2016-2017 Amount Change	-$4,399	$15,033	-$235	$5,126	$15,526
Fiscal 2016-2017 Percent Change	-9.2%	136.8%	-37.2%	8.9%	13.3%

Where It Goes:

Personnel Expenses

21.6 positions transferred from other agencies	$1,774
Abolished transferred position	-94
Realign personnel spending to reflect salary changes and reduce one-time funds for reclassifications	-556
Pension costs	247
Employee and retiree health insurance	303
Turnover adjustments	-145
Other fringe benefit adjustments	-4

Operating Contracts

Network Division maintenance and consulting contracts	1,326

Where It Goes:

Google software applications	946
Major IT project consulting services	658
NetworkMaryland and wireless service contracts	306
New capital budget system maintenance contract	126
Google migration..	-900
Reduce State application systems contract to reflect fiscal 2015 actual costs....................	-453
Telecommunications Access of Maryland	
New tablet program at Telecommunications Access of Maryland.....................................	529
Telecommunications Access of Maryland service contract	-1,441
Maryland Accessible Telecommunications program purchases...	-270
Operating Costs	
Annapolis Data Center charges	300
Electricity cost for wireless activities in the Networks Division.....................................	210
Department of Information Technology Major IT Projects	
Statewide Personnel System...	2,256
Enterprise Budget System	1,914
Central Collection Unit system modernization..	-1,298
Major Information Technology Development Project Fund	
State agency major IT projects	9,861
Other changes	-69
Total	**$15,526**

IT: information technology

Note: Numbers may not sum to total due to rounding.

Across-the-board Reductions

The fiscal 2017 budget bill includes an across-the-board reduction for employee health insurance, based on a revised estimate of the amount of funding needed. This agency's share of these reductions is $29,068 in general funds and $1,853 in special funds. There is an additional across-the-board reduction to abolish vacant positions statewide, but the amounts have not been allocated by agency.

Personnel

DoIT is consolidating statewide IT operations. Ultimately, all cabinet level agencies will be included. Though not required to be included, some other agencies (State Department of Assessment and Taxation, for example), may choose to be included in the consolidation.

To support this effort, 21 regular positions and 1 part-time position were transferred into DoIT. These positions are supported with general funds. **Exhibit 6** lists the transferred positions. Issue 1 provides an overview of the consolidation.

Exhibit 6
Positions Transferred into the Department of Information Technology

Title	Position Count	Salary and Fringe Benefits
Administrators	2.00	$168,953
Computer Information Services Specialist	2.00	145,715
Computer Network Specialists	5.00	419,205
Computer Network Specialists Manager	1.00	85,201
Computer Network Specialists Supervisor	1.00	97,062
Computer Operators	2.00	117,024
Database Specialist	1.00	77,029
Database Specialist Supervisor	1.00	80,961
Information Technology (IT) Assistant Director	1.00	129,195
IT Functional Analyst	3.00	235,048
IT Programmer	0.60	61,099
IT Programmer Analyst Lead	1.00	77,029
IT Systems Technical Specialist	1.00	80,961
Total	**21.60**	**$1,774,482**

Sources: Department of Budget and Management; Department of Information Technology
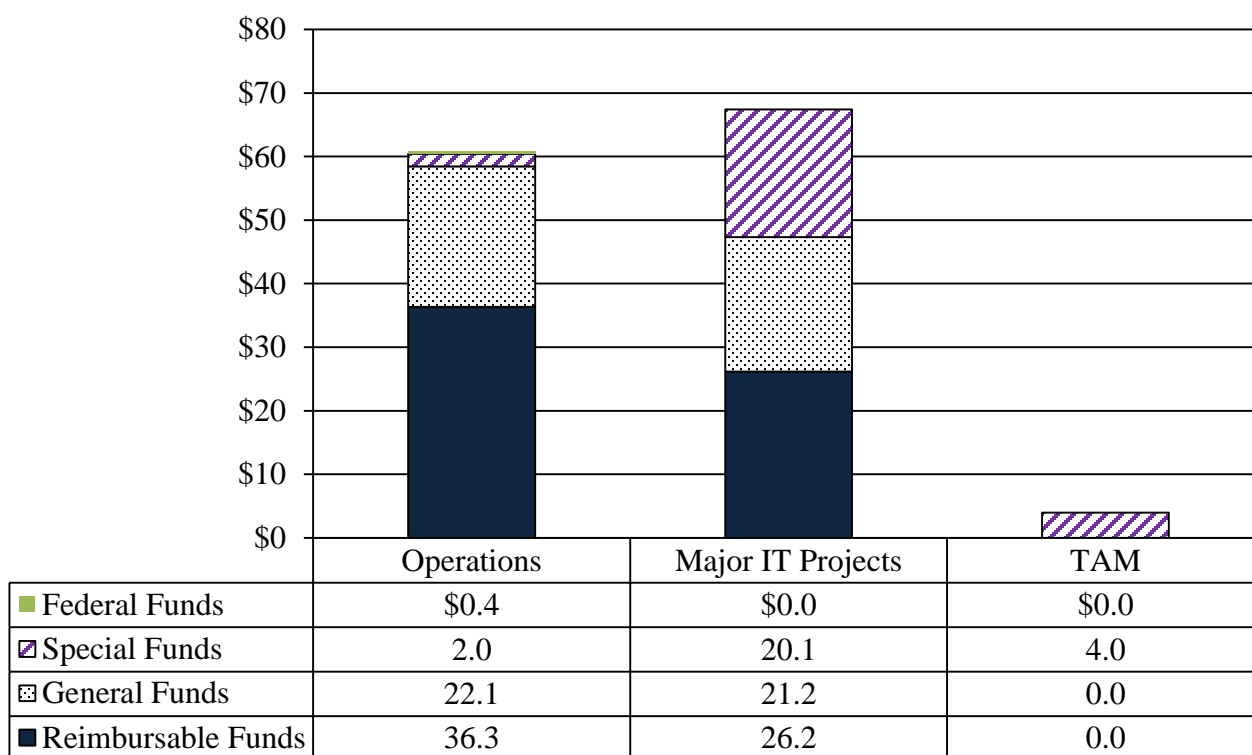

In May 2015, DoIT also lost 4 positions through the Voluntary Separation Program (VSP). One position was lost in the Applications Systems Management, Enterprise Information Systems, Networks Division, and Web Systems. Fiscal 2015 salaries for the positions totaled approximately $281,000.

Operations and Project Spending

DoIT activities can be divided into three distinct functions: TAM provides telecommunications relay service for Maryland's hearing and speech disabled citizens; Major IT Projects provides oversight for State agencies developing major IT projects; and Operations supports the ongoing telecommunication and IT services in State agencies. **Exhibit 7** shows that the largest share of the DoIT appropriation supports major IT projects, which receive $67.4 million in total funds, which is 51.0% of spending. Operations are supported by $60.8 million, 46.0%, of spending. Another $4.0 million (3.0% of spending) supports TAM.

Exhibit 7
Spending by Purpose and Fund
Fiscal 2017
($ in Millions)

	Operations	Major IT Projects	TAM
■ Federal Funds	$0.4	$0.0	$0.0
☑ Special Funds	2.0	20.1	4.0
▨ General Funds	22.1	21.2	0.0
■ Reimbursable Funds	36.3	26.2	0.0

IT: information technology
TAM: Telecommunications Access of Maryland

Note: Adjusted to reflect reductions proposed by in the Governor's budget plan.

Source: Department of Budget and Management

Major IT Development Project Fund and Major IT Project Expenditures

Chapters 467 and 468 of 2002 created the MITDPF. The fund replaced the Information Technology Investment Fund; required all general funds appropriated for major IT projects to be held in the fund; and enhanced the oversight role of DoIT (known then as the Office of Information Technology) in approving projects from the fund.

MITDPF Funded Projects

Exhibit 8 shows fund transactions for the MITDPF for fiscal 2014 through the proposed budget in fiscal 2017. Fiscal 2017 includes a $21.2 million general fund appropriation, $18.2 million in special fund appropriations, and $0.3 million in interest earnings.

Exhibit 8
Major Information Technology Development Project Fund Data
Fiscal 2014-2017

	2014	2015	2016	2017
Opening Fund Balance	$27,232,042	$31,269,245	$32,730,531	$0
Revenues				
General Fund	$20,100,566	$21,668,423	$28,493,336	$21,158,248
Special Fund – Investment Interest	431,186	563,358	300,000	300,000
Special Fund – Appropriations	673,818	6,950,963	0	18,217,128
Cost Containment		-433,368	-823,731	
Total Available Revenues	**$48,437,612**	**$60,018,621**	**$60,700,136**	**$39,675,376**
Expenditures				
Transferred to Agencies	-$17,168,367	-$27,288,090		
Fiscal 2015 Obligations				
Anticipated Transfers			-$60,700,136	-$39,375,376
End-of-year Fund Balance	**$31,269,245**	**$32,730,531**	**$0**	**$300,000**

Source: Department of Legislative Services; Department of Information Technology; Department of Budget and Management

The special fund appropriations includes $14.7 million from reallocated projects, as seen in **Exhibit 9**. The largest source is $12.7 million from the Medicaid Enterprise Restructuring Project. The project's objective was to replace the legacy Maryland Medicaid Information System. By fiscal 2016, costs totaled $186.0 million, including $25.0 million in general funds. There were concerns about the project for a number of years. The Department of Health and Mental Hygiene (DHMH) issued multiple cure notices. The vendor was unable to remediate them. The project was suspended in August 2014. Early in the second quarter of fiscal 2016, the project was ended. These unspent funds

are being reappropriated for other projects. DoIT advises that $3.9 million of State funds was spent on the project, and the Attorney General's office is reviewing the State's options. There is an issue about the project in the Medicaid analysis.

Exhibit 9
Special Funds from Canceled Projects
($ in Thousands)

Project	Amount
The DHMH Medicaid Enterprise Restructuring Project	$12,737
The GOC State Children, Youth, and Families Information System	398
The SDAT Assessment Administration and Valuation System	55
The DHMH Electronic Vital Records System	90
The DPSCS Offender Case Management System	240
Department of Human Resources' Cares Changes	175
Department of Human Resources' Enterprise Content Management	606
Maryland Higher Education Commission's Student Financial Aid System	19
Department of State Police's E-911	131
Project Oversight	286
Total	**$14,736**

DHMH: Department of Health and Mental Hygiene
DPSCS: Department of Public Safety and Correctional Services
GOC: Governor's Office for Children
SDAT: State Department of Assessments and Taxation

Source: Department of Information Technology

Another canceled project is the Governor's Office for Children's (GOC) State Children, Youth and Families Information System project. Concerns had been raised about the project's slow progress. GOC advised that finishing the project required another $3 million in appropriations. There were also concerns that this was insufficient to fix all issues with the current system. The new executive director ended the project. Unspent funds are reappropriated. Based on DoIT documents, DLS estimates that approximately $300,000 was spent on this project.

Fiscal 2016 appropriations are detailed in **Exhibit 10**. The fiscal 2017 allowance includes funding for four new projects, the State Board of Election's (SBE) Agency Election Management System, the DHMH Computerized Hospital Record and Information System, the DHMH Medicaid

Management Information System, and the Department of Public Safety and Correctional Services' (DPSCS) Computerized Criminal History Replacement Phase II.

Exhibit 10
Major Information Technology Development Project Fund
Projects Receiving New Fiscal 2017 Funding (Excluding Carryover Project Funding)

Agency	Project Name	Project Description	MITDPF Funding	Comment
Ongoing Projects				
Comptroller	Integrated Tax System	Replace current State of Maryland Tax, Computer Aided Collection System, and other systems. Objective is to integrate systems to simplify taxpayer compliance as well as improving reporting for office staff.	$13,200,000 [1]	Currently, the project is attempting to get a new project manager on board, which has delayed the project. The project is expected to begin implementation in fiscal 2017. Project includes some high-risk factors, such as interdependencies (needs to be compatible with different systems), organizational culture (resistance to change), and implementation (complicated requires high level of coordination). **DLS recommends approval.**
State Board of Elections (SBE)	New Voting System Replacement Project	Replace an aging voting system that has reached the manufacturer's useful life.	5,040,956	The project is being implemented and is scheduled to be operational for the 2016 primary elections. SBE entered into a lease for the equipment in December 2014. DoIT advises that there have been delays in completing documentation, training staff, and upgrading to pollbook software. **DLS recommends approval.**
DHMH	Long-term Services and Support Tracking System	Implement a system to track long-term care services as well as develop a standardized assessment and in-home services verification tool.	2,936,037	The appropriation supports development, integration and testing, operation and maintenance, and oversight costs. The transition from operations and maintenance vendors was delayed from December 2015 to January 2016. The scope has increased to include the Developmental Disabilities Administration and testing components, adding $1.5 million to general funds and $30.5 million to federal funds. The State is receiving $12.5 million in federal funds in fiscal 2017. The project is generally considered low risk. **DLS recommends approval.**
DHR	Automated Financial System	Replace the fiscal system that tracks payments, maintains transaction history, generates reports,	1,245,000	Project is still in the planning phase. The DHR fiscal 2017 appropriation also includes $1,127,532 in federal funds. The documents show integration beginning in May 2018, yet

Agency	Project Name	Project Description	MITDPF Funding	Comment
		and produces data for other systems. The new system will interface with the Internet. The system is widely used by local offices.		$2 million in funds are requested in fiscal 2017. **DLS recommends reducing the appropriation by $1.0 million so that the funding corresponds with the project schedule.**
Department of State Police (DSP)	Public Safety Communication System	Purchase radios for the 700-MHz communication system.	9,506,391 [1]	Purchase of radios for DHMH, DJS, Comptroller, DSP, and DNR. **DLS recommends approval.**
DSP	Automated Licensing and Registration Tracking System	Automate and streamline the process by which a citizen requests approval to purchase a firearm.	2,100,000	The project is generally low- or medium-risk, the exception is organizational culture. Since this project will result in a shift from a paper to an electronic process, detailed training and new procedures are expected. This is the last appropriation for development; next year's appropriation is for operations. The project is on schedule. **DLS recommends approval.**
MDE	Permit Tracking System Modernization	Enhance permit tracking by adding a component that allows access through the Internet.	1,490,000	MDE advises that the system is expected to use proven technology, which reduces risk. An objective is to reduce the burden on industry and enhance regulatory customer service. This is the last appropriation. The project is on schedule. **DLS recommends approval.**
Subtotal			*$35,518,384*	
New Projects				
SBE	Agency Election Management System Modernization Project	Replace legacy ballot system that was developed in 1985. Integrate the new system with the new voting system and other systems, such as voter and candidate systems. Subject matter experts and project managers should be procured early in fiscal 2017.	$578,906	The current system vendor's sole source contract expires in December 2016. The current system is poorly documented and difficult to maintain. Concerns are obtaining resources (subject matter experts will be required and may be difficult to procure on time), custom software may need to be developed (which can complicate development and add to costs), aging legacy systems are often difficult to replace (organization may be slow to adapt), and the schedule is tight (must be ready for 2018 statewide primary elections). **DLS recommends deferring this project and deleting the funds.**
DHMH	Statewide Electronic Health Records System	Replace a legacy Computerized Hospital Record and Information System. The current system is over 25 years old. The goal is to procure a COTS	550,000	The current system's deficiencies include the inability to process electronic records (including doctor's care instructions), inability to access the web, need for additional software to access other hospitals' systems, and outdated operating systems.

Agency	Project Name	Project Description	MITDPF Funding	Comment
		product. Reviewing available products should begin spring 2016.		High risks include interdependencies (interfaces with numerous hospitals and agencies), organizational culture (new web system to replace long-established system), and flexibility (COTS and agency will need to adapt). **DLS recommends approval.**
DHMH	Medicaid Management Information System	Update Medicaid Systems.	2,592,086 [1]	The Medicaid Enterprise Restructuring Project (MERP) was ended early in the second quarter of fiscal 2016. MERP was intended to replace the existing legacy MMIS system. The proposed funding is for a series of mandated changes to the existing MMIS system as well as two upgrades: a data warehouse capacity and improved case management tracking. **DLS recommends approval.**
DPSCS	Computerized Criminal History Replacement	Replace the 30-year-old Identification Index and Arrest Disposition Reporting Systems. The project is early in development with work beginning in fiscal 2016. The goal is to find a COTS product.	136,000	Concerns about the current systems are that the technology is antiquated, so it is difficult to recruit staff to maintain the systems and that it is becoming increasingly difficult to provide adequate criminal history and background check data to law enforcement agencies. At this point, it is unclear what solutions are available, so it is difficult to assess risks, but any new system is likely to require retraining and changes in organizational practices. **DLS recommends approval.**

Subtotal		*$3,856,992*
Total Fiscal 2017 Allowance		**$39,375,376**
Fund Sources		
General Funds		$21,158,248
Special Funds		18,217,128
Total Funds		**$39,375,376**

COTS: commercial off the shelf
DHMH: Department of Health and Mental Hygiene
DHR: Department of Human Resources
DJS: Department of Juvenile Services
DLS: Department of Legislative Services

DNR: Department of Natural Resources
DoIT: Department of Information Technology
DPSCS: Department of Public Safety and Correctional Services
MDE: Maryland Department of the Environment
MMIS: Medicaid Management Information System II

[1] Supported with special funds.

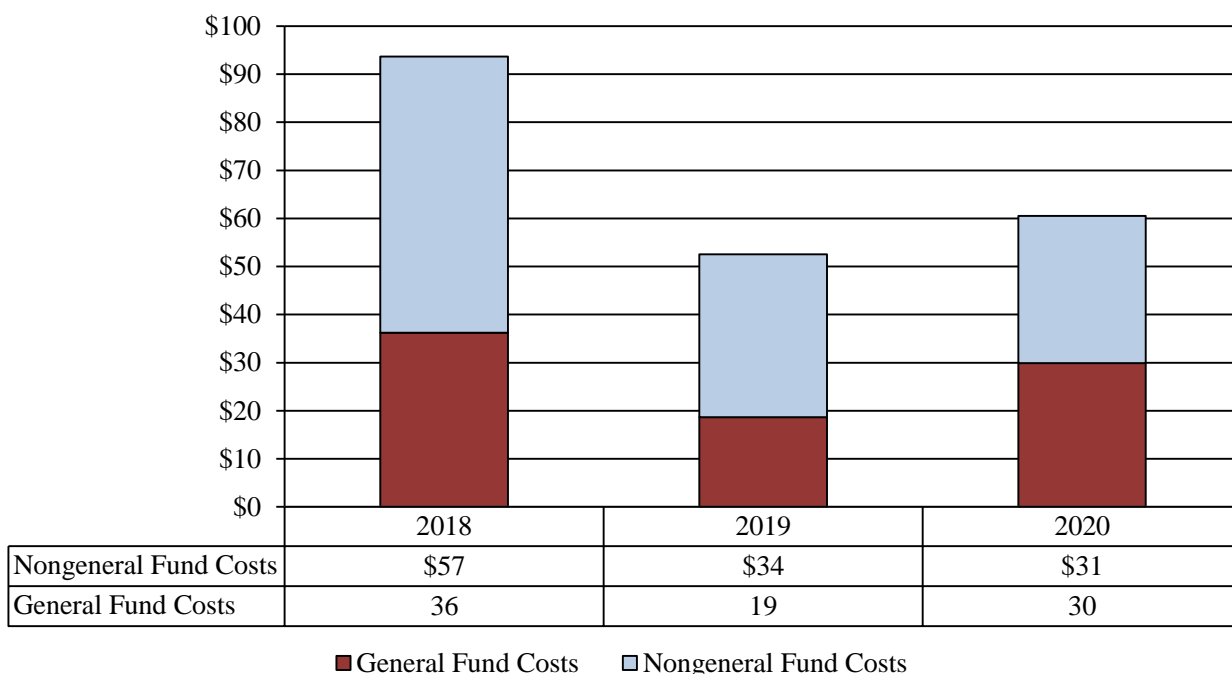Source: Department of Legislative Services; Department of Information Technology; Department of Budget and Management

MITDPF Out-year Commitments

Major IT projects require substantial financial commitments and require years to complete. The department has developed the SDLC methodology to guide the planning process. This process produces documents that support the planning process and estimate out-year costs. In the Budget Highlights of the Governor's budget books, the department provides a list of all projects that have received appropriations. Costs are based on the current projects that are being planned. As new projects are approved out-year costs could increase.

Exhibit 11 shows the expected out-year costs of projects that are in the SDLC. In fiscal 2018, $93 million in total appropriations and $36 million in general fund appropriations are expected. This amount is consistent with previous projections. These costs include the following projects with substantial commitments in fiscal 2018:

- Department of Labor, Licensing, and Regulations' Unemployment Insurance modernization estimates $23.6 million in federal fund costs and $0.5 million in special fund costs;

- Integrated Tax System expects $22.0 million in total costs and $13.2 million in general fund costs;

- Enterprise Budget System anticipates $10.9 million in total costs and $7.8 million in general fund costs;

- Long-term Support and Services Tracking requires $10.6 million total costs and $2.1 million in general funds;

- Voting System Replacement Project anticipates $7.4 million in total costs, of which $3.7 million is general fund costs; and

- Statewide Personnel System anticipates $6.4 million in total fund costs and $5.3 million in general fund costs.

Exhibit 11
Major Information Technology Development Project Fund
Projected Out-year Expenditures
Fiscal 2018-2020
($ in Millions)

	2018	2019	2020
Nongeneral Fund Costs	$57	$34	$31
General Fund Costs	36	19	30

■ General Fund Costs   □ Nongeneral Fund Costs

Note: This excludes transportation and higher education projects.

Source: Department of Legislative Services; Department of Budget and Management; Department of Information Technology

There are also a number of projects that are being planned whose total project costs have not been estimated. These projects have not progressed far enough in the planning process to have estimated implementation costs. As agencies complete the planning process and implement these projects, out-year costs are also expected to increase. **Exhibit 12** lists planning projects whose total project costs have not been identified.

Exhibit 12
Planning Projects
All Funds
($ in Thousands)

		Prior Funds	2017	2018	Remainder to Complete	GF Share
SBE	Election Management System	$0	$1,158	$1,550	$783	50%
DJS	ASSIST	n/a	0	0	0	n/a
BCCC	Enterprise Resource Planning System	2,584	3,571	3,766	2,660	0%
Lottery	Central Monitoring and Control System	100	50	24,000	48,000	0%
DLLR	Unemployment Insurance Modernization	22,705	23,048	24,058	10,129	0%
MIA	Enterprise Complaint Tracking System	2,195	355	0	0	0%
DPSCS	MCE ERPIP	1,740	1,500	550	275	0%
Total		**$29,324**	**$29,681**	**$53,925**	**$61,847**	

ASSIST: Automated Statewide Support and Information System Tools
BCCC: Baltimore City Community College
DJS: Department of Juvenile Services
DLLR: Department of Labor, Licensing, and Regulation
DPSCS: Department of Public Safety and Correctional Services
GF: general funds
MIA: Maryland Insurance Administration
MCE: Maryland Correctional Enterprises
ERPIP: Enterprise Resource Planning Implementation Project
SBE: State Board of Elections
UI: Unemployment Insurance

Source: Department of Information Technology, January 2016

Issues

1. Statewide Consolidation of Information Technology Support Operations

The major initiative in the DoIT budget is to adopt an "enterprise model" for day-to-day agency IT operations. The kinds of services that DoIT will support include Internet connections, application software, security, help desk, servers, and hardware. DoIT advises that it will be keeping staff near the agencies that it supports so that someone does not need to be dispatched every time there is a problem. The objective is for DoIT to provide these services for all cabinet-level agencies. The DoIT expectation is that this will reduce costs and improve services.

DoIT provided these services for some agencies prior to this new initiative was begun. Over the years, DoIT slowly added to the agencies that it was serving. Significantly, DGS was added in fiscal 2015. **Exhibit 13** shows that by the end of fiscal 2015, almost 1,300 employees were supported by DoIT.

Exhibit 13
Agency Information Technology Support Consolidation Schedule

Agency	Number of Employees
Previously Consolidated Agencies	
Governor's Office	85
Office of Minority Affairs	10
Governor's Office of Community Initiatives	26
Governor's Grants Office	3
Governor's Office for Children	16
Ethics Commission	12
Banneker – Douglass Museum	4
Department of General Services	582
Department of Budget and Management	326
Department of Information Technology	155
Maryland Emergency Management Agency	61
Subtotal	*1,277*
Agencies to Consolidate in Fiscal 2016	
Department of Aging	48
Department of Assessments and Taxation	615
Department of Disabilities	27

Agency	Number of Employees
Maryland Energy Administration	30
Secretary of State	25
Maryland Higher Education Administration	56
Office of Deaf and Hard of Hearing	3
Office of State's Prosecutor	13
Department of Veterans Affairs	84
Department of Agriculture	376
Department of Juvenile Services	2,051
Department of Natural Resources	1,341
Office of Crime Control and Prevention	38
Subtotal	*4,706*
Agencies to Consolidate in Fiscal 2017	
Department of Commerce	206
State Department of Education	1,447
Department of the Environment	934
Department of Housing and Community Development	339
Department of Labor, Licensing, and Regulation	1,589
Military Department	243
Department of Planning	145
Subtotal	*4,903*
Agencies to Consolidate after Fiscal 2017	
Department of Health and Mental Hygiene	6,283
Department of Human Resources	6,337
Department of Public Safety and Correctional Services	11,014
Department of State Police	2,436
Department of Transportation	9,259
Subtotal	*35,329*
Less: Positions Abolished by Section 20	-657
Total	**45,558**

Source: Department of Information Technology

To provide additional services, 21 regular full-time and one regular part-time IT positions are transferred into DoIT from other agencies in fiscal 2017. **Exhibit 14** lists which agencies donated positions. Interestingly, one agency transferring positions (Interagency Committee on Public School Construction) will not be participating in the consolidation efforts and some other agencies (such as DPSCS, DHMH, and the Department of Human Resources (DHR)) will not have services consolidated until after fiscal 2017.

Exhibit 14
Transferred Positions

Agency	Number
Department of Information Technology	21.60
Secretary of State	-1.00
Interagency Committee on Public School Construction	-1.00
Department of Aging	-2.00
Department of Health and Mental Hygiene	-4.60
Department of Human Resources	-2.00
Department of Public Safety and Correctional Services	-4.00
Department of Planning	-1.00
Higher Education Commission	-1.00
Department of Juvenile Services	-2.00
Maryland State Police	-1.00
Maryland Department of the Environment	-2.00

Source: Department of Information Technology

While this new initiative has the potential to reduce costs and improve services, there are a number of unanswered questions, including:

- *Is This Initiative Getting Too Big, Too Soon:* At the end of fiscal 2015, approximately 1,300 positions were served by DoIT. This increases to 6,000 at the end of fiscal 2015 and 10,900 at the end of fiscal 2017. In two years, the number of positions served will be 8.5 times larger. This is a substantial increase in operations that could go through some growing pains. The concern is that such a rapid expansion could lead to a deterioration of services and a slower approach may be more effective. How will DoIT ensure that service is maintained? Will DoIT add agencies more slowly if the quality of service deteriorates?

- ***Can Quality Be Measured:*** Through its service desk, DoIT now automatically sends those served, a satisfaction rating survey. The department should also develop measures for these new day-to-day support services that it will be providing and should report these measures with its MFR data provided in the budget. The concern is that service could be deteriorating, but we are unaware because there are no reliable measures. How will DoIT measure the quality of the services it provides?

- ***Will High Vacancies Cause Problems:*** DoIT has had vacancy rates in excess of 15% in recent years. In January 2016, the vacancy rate is 12%. How will the department keep vacancies down to maintain services?

- ***What Will This Cost and What Will Be Saved:*** DoIT anticipates that it will receive a mix of general funds appropriated in its budget and reimbursable funds from other agencies. The department also anticipates that savings will be realized. However, DoIT advises that cost and savings estimates have not yet been prepared. When will we know the costs and savings associated with this project?

The department should be prepared to brief the budget committees on its initiative to expand the support services that it is offering to State agencies. DLS also recommends that the General Assembly adopt language requiring DoIT to report on the progress of its initiative to expand the number of agencies to whom the department provides IT support services.

2.   Cybersecurity Audits Detect Weaknesses

Cybersecurity is a major concern for the State. The media is routinely reporting cybersecurity breaches, and many incidents are unreported. In recent years, the State has made efforts to identify weaknesses and make improvements. These include scrutinizing practices in audits and requesting improved performance measures.

Office of Legislative Audits Reviews Data Security

In September 2012, the Office of Legislative Audits (OLA) released an audit of State *Information System Data Security*. The audit had two objectives:

- to evaluate State law and the DoIT 2010 *Information Security Policy* against best practices as well as the federal government and other states' policies; and

- to assess compliance with certain aspects of the DoIT policy by selected State agencies.

OLA reviewed DoIT policies and practices from May to December 2011. It also reviewed and tested the policies and practices of the Comptroller of Maryland, DHMH, DHR, DPSCS, and MVA. These are all agencies with substantial amounts of confidential information.

The audit identified the following 12 findings:

- current State law governing protections for personal identifiable information did not apply to State agencies;

- DoIT did not have a formal process to enforce its security policy;

- DoIT needs to be more responsive to emerging technologies;

- DoIT could improve guidance to help agencies address security issues;

- DoIT had not developed recommended practices for implementing data loss prevention solutions;

- State agencies did not consistently document security categorization;

- lack of agency-specific security policies in some agencies;

- risk management policies were not fully implemented;

- security awareness training was not always provided;

- data on portable devices was not always properly protected;

- agencies were in various stages of implementing data loss prevention tools and techniques; and

- agencies had varied practices in implementing vulnerability scanning and penetration testing.

Budget Committees Express Intent to Improve Cybersecurity Indicators

In the 2014 *Joint Chairmen's Report* (JCR), DoIT was asked to develop MFR cybersecurity indicators. In its MFR submission, the department has added the goal that it "provide leadership and support to state agencies in the areas of cybersecurity policy, risk and vulnerability assessment, technology implementation, awareness training and incident response." As requested, the department also added five performance measures. **Exhibit 15** shows the initial measures and the targets from fiscal 2015 to 2017.

Exhibit 15
Cybersecurity Performance Indicators
Fiscal 2015-2017

	Actual 2015	Est. 2016	Est. 2017
Employees Compliant with Cybersecurity Awareness Training Program	90%	90%	90%
Agencies with Vulnerability Assessment, Penetration Test, or Audit	20	20	18
Certified Security Information Professionals Employed by the State	1	1	1

Source: Department of Information Technology

Maryland General Assembly Establishes the Maryland Cybersecurity Council

Chapter 358 of 2015 establishes the Maryland Cybersecurity Council. This council was the successor to the now defunct Maryland Commission on Cybersecurity Innovation and Excellence. The council must consist of several executive department secretaries and directors (or their designees), as well as representatives appointed by the Attorney General from businesses and companies around the State. In addition to the required members of the council, the President of the Senate and the Speaker of the House of Delegates may each appoint 2 legislative members to serve on the council. Finally, the Attorney General must also invite, as appropriate, specified directors and secretaries of federal security agencies to serve on the council. The council must be chaired by the Attorney General or the Attorney General's designee. A member of the council may not receive compensation as a member of the council but is entitled to reimbursement for standard travel expenses. University of Maryland University College provides staff for the council.

The Maryland Cybersecurity Council works with the National Institute of Standards and Technology[2] (NIST), as well as other federal agencies, private-sector businesses, and private cybersecurity experts to:

- for critical infrastructure not covered by federal law or Executive Order 13636, review and conduct risk assessments to determine which local infrastructure sectors are at the greatest risk of cyber attacks and need the most enhanced cybersecurity measures;

- use federal guidance to identify categories of critical infrastructure as critical cyber infrastructure if cyber damage or unauthorized cyber access to the infrastructure could result in catastrophic consequences;

---

[2] NIST is an agency within the U.S. Department of Commerce that supports scientific research.

- assist infrastructure entities that are not covered by the executive order in complying with federal cybersecurity guidelines;

- assist private-sector cybersecurity businesses in adopting, adapting, and implementing the NIST cybersecurity framework of standards and practices;

- examine inconsistencies between State and federal laws regarding cybersecurity; recommend a comprehensive State strategic plan to ensure a coordinated and adaptable response to and recovery from cybersecurity attacks; and

- recommend any legislative changes considered necessary by the council to address cybersecurity issues.

The department should be prepared to brief the committee on its role in the Maryland Cybersecurity Council.

Department's Efforts to Enhance Its Cybersecurity Program

In calendar 2013, DoIT agreed to make security a greater priority. When the cybersecurity audit was released in fall 2012, DoIT had a few resources allocated, and none dedicated directly to cybersecurity. In response, DoIT added positions dedicated to cybersecurity and procured contractors. State positions include the director, a chief information security officer, and a security engineer. The contractors are primarily focused on statewide cybersecurity, with DoIT providing daily management and execution of day-to-day system and data security functions for DoIT, DBM, and other agencies under the DoIT umbrella.

In summer 2013, the Governor created a statewide Director of Cybersecurity. The director has created a statewide cybersecurity advisory forum comprised of a dozen chief information officers from small, medium, and large agencies to review policy and assist with security matters across State government. One recent product of this group was the implementation of a systematic framework on how to classify, and when to report, cybersecurity incidents. As part of the summer 2013 agency IT master planning process, an annex was created and distributed in which agencies were required to self-assess their compliance, with evidence, to State security controls as delineated in policy. The information gathered was compiled and assessed by the Director of Cybersecurity, thereby allowing agencies to be measured against overall compliance to policy as well as against each other. This served as a baseline exercise. The DoIT security team is in the process of preparing and conducting a follow-up exercise that will allow agencies to more comprehensively demonstrate that they comply with State policy, validate that they possess documented security plans, and quantify the gains made from the initial baseline.

Recognizing that the "insider" threat is the most prevalent cyber risk in State government, the State implemented a monthly, modularized cybersecurity training and awareness program in September 2013 for all Executive Branch employees. The department's MFR indicator shows that 90% of employees are compliant with this training.

The new Administration also recognizes the importance of enhanced cybersecurity efforts. In its fiscal 2016 strategic plan, DoIT lists cybersecurity as its first strategic goal. The department has adopted performance measures and developed strategies. A performance measure is to double the number of firewalls through the use of Security-as-a-Service contracts. DoIT has also developed the following strategies:

- establish a cybersecurity office;

- restructure agency chief information model so that DoIT has authority over strategic direction of IT implementations;

- establish risk-based policies and procedures that prioritize controls, assess risks, track mitigation, and adapt to changing threats;

- establish enterprise visibility into statewide IT assets, systems, capabilities, and data;

- establish enterprise risk and security assessments, incident response, and reporting capabilities; and

- collaborate with industry leaders and partner with commercial vendors to deliver products and services.

Recent Audit Findings

OLA continues to review cybersecurity in its audits. **Exhibit 16** lists all the agencies with cybersecurity audit findings in audits released since January 2015.

Exhibit 16
Cybersecurity Audit Findings
Audits Released Since January 2015

Agency	Report Date	Number of Findings
DPSCS – Information Technology and Communications Division	1/6/16	3
Department of State Police	11/23/15	3
DPSCS – Office of the Secretary	11/18/15	2
Maryland Health Benefit Exchange	10/2/15	4
Office of the Governor	9/4/15	1
USM – University College	6/8/15	2
DBM – Office of Personnel Services and Benefits	5/19/15	1

Analysis of the FY 2017 Maryland Executive Budget, 2016

Agency	Report Date	Number of Findings
USM – University of Maryland, College Park (not data center)	5/11/15	1
USM	5/6/15	2
Salisbury University	5/6/15	3
Department of Budget and Management	4/17/15	1
State Lottery and Gaming Control Agency	4/14/15	3
Comptroller Information Technology Division Annapolis Data Center	3/31/15	3
DLLR – Division of Unemployment Insurance	2/27/15	2
DHMH – Office of the Secretary	2/19/15	4
Department of the Environment	1/6/15	1

DBM: Department of Budget and Management
DHMH: Department of Health and Mental Hygiene
DLLR: Department of Labor, Licensing, and Regulation
DPSCS: Department of Public Safety and Correctional Services
USM: University System of Maryland

Source: Office of Legislative Audits, February 2016

Exhibit 17 lists the number of findings in each type of finding. The conclusion is that there is room to improve.

Exhibit 17
Number of Audit Instances
Audits Released Since January 2015

Type of Audit Finding	Instances
Personal Identifiable Information	8
Log/Monitor Security Events	7
Firewall	5
Intrusion Detection Prevention System Problems	4
Virtual Private Network Access Problems	1
Windows XP Still Used	1
Administration Rights[1]	6
Software Not Updated	5
Service Organization Controls Review Was Not Performed or Obtained	2

Type of Audit Finding	Instances
Password Controls	4
Unnecessary User/File Access	10
Excessive Network Level Access	2
Backup files problems	1
Disaster Recovery Plan	1
Anti-malware	5
Data Loss Prevention	1

[1] Users had unnecessary administrative rights on their local computers.

Source: Office of Legislative Audits, February 2016

In spite of all the training, increased resources, and improved policies, audits still reveal critical security weaknesses. The department should brief the committees on how it plans to address these weaknesses.

3.   Election System – Changing Plans

SBE is developing a new voting system that should be operational for the 2016 elections. The initial IT project request was prepared in September 2012. The system has been tested, and SBE advised that deficiencies were being corrected. In November 2015, DoIT expressed the following concerns about this project:

- the implementation contractor is not being held to the performance standards set in the contract;

- the recently held mock election was not an "end to end" test that reflects a true election;

- numerous hardware and software issues continue to mount; as of today there are 86 open issues;

- there remain uncertainties around the ability of the system to function at full capacity;

- manual workarounds to key software functionalities will likely be required;

- the same day registration component was removed from the mock election and has still not been tested;

- SBE is reluctant to consider contingency planning, which must be implemented no later than December 1, 2015;

- no verification of the security has been completed or even scheduled;

- distribution of the new voting system to all counties remains incomplete; and

- process and procedural documentation is missing or inaccurate.

In early session briefings, SBE did not express any concerns about deficiencies that could affect the system operation in the April primary or November general elections. However, on February 4, 2016, the board unanimously voted to use paper ballots, instead of the election machines at the April 2016 primary election. The key issues seems to be that all of the candidates do not fit on one screen in races with large numbers of candidates. SBE attempted to fix the issue by requiring that voters view all of the candidates on multiple screens before casting a vote; however, SBE found issues with how the touch screen system handled returning to a previous page, which could not be rectified in time for the primary election.

The DoIT mission is to assist agencies as they develop major IT projects so that projects are on time and on budget. This project is clearly not on time. **The department should be prepared to brief the committees on its role in supporting the SBE voting system project. This should include a discussion of problems identified and actions taken to fix problems.**

Recommended Actions

		Amount Reduction
1.	Delete implementation funds for the Department of Human Resources' Automated Financial System major information technology project. The project schedule shows implementation occurring in fiscal 2018. Funding is provided in fiscal 2017. Consistent with the schedule, it is recommended that funds supporting implementation be deleted.	$ 1,000,000 GF
2.	Defer funding for the State Board of Elections' (SBE) Agency Election Management System Modernization Project. The board is currently implementing its election system. Problems have been detected that the board believes cannot be overcome before the primary election. In February 2016, the board unanimously voted to use paper ballots, instead of the touch screen machines, in the April 2016 primary election. There are concerns about funding a second project before the first project is completed. The agencies' resources are stretched as it works on the project. The agency will need to focus resources on the primary and general elections. The project request notes that "the availability of the SBE subject matter experts are a concern due to their priorities and responsibilities of supporting the 2016 Presidential election cycle and the implementation of the new voting system."	578,906 GF

3. Add the following language to the general fund appropriation:

, provided that $500,000 of this appropriation made for the purposes of funding the State Chief of Information Technology may not be expended until the Department of Information Technology (DoIT) submits a report to the budget committees on its efforts to consolidate information technology services. The report should discuss which agencies are supported by DoIT, the cost to DoIT for supporting these agencies, costs saved or avoided, and how the quality of the support provided by DoIT will be measured. The report shall be submitted by January 1, 2017, and the budget committees shall have 45 days to review and comment. Funds restricted pending the receipt of the report may not be transferred by budget amendment or otherwise to any other purpose and shall revert to the General Fund if the report is not submitted to the budget committees.

Explanation: The Administration is increasing the number of State agencies whose IT services are supported by DoIT. The number of employees supported by DoIT is expected to increase from approximately 1,300 in fiscal 2015 to 10,900 in fiscal 2017. Eventually, 45,600 positions will be supported by DoIT. The department should provide a status report on the progress made. The report should discuss which agencies are supported by DoIT, the cost to DoIT for supporting these agencies, costs saved or avoided, and how the quality of the support provided by DoIT will be measured. This report should be submitted to the budget committees by January 1, 2017.

Information Request	Author	Due Date
Report on the department's statewide information technology consolidation	DoIT	January 1, 2017

Total General Fund Reductions　　　　　　**$ 1,578,906**

Updates

1. Internet Advertising Policy Adopted in Response to an Information Request in the *Joint Chairmen's Report*

Background Information

DoIT has been tasked with reporting to the legislature on statewide Internet advertising policies. This was in response to the State Department of Assessments and Taxation (SDAT) advertisements. SDAT entered into an agreement with Towson University's Office of Information Services. Under the agreement, the university hosts and markets the SDAT website for commercial advertising sales that generate revenues.

DoIT Response

DoIT has determined that all executive agency websites should be built upon common templates and exist within a common domain naming convention that easily and reliably identifies the site as part of the State of Maryland Enterprise. Specifically, all agency sites should reside within the "maryland.gov" domain space. The U.S. General Services Administration (GSA) develops the policies that regulate the use of .gov domains: (https://www.dotgov.gov/portal/web/dotgov/program-guidelines). These policies prohibit nongovernment advertising and political campaign information. DoIT has been delegated as the administrative authority for the maryland.gov subdomain by GSA, and reviews all requests for maryland.gov subdomains.

The SDAT Website

DoIT concurs with the GSA policy of prohibiting State websites from displaying nongovernment advertisements. In support of this policy, the department worked with SDAT in fall 2015 to remove all advertisements from its websites. As a result, DoIT approved the use of dat.maryland.gov.

Additional Policies

As DoIT has determined that executive agencies will exclusively use the domain maryland.gov and are required to follow GSA policies, there is no need to develop strategies for private advertising. If GSA modifies it stance on advertising, the department will reevaluate as needed.

2. Response to Request in the *Joint Chairmen's Report* to Provide an Update of Personnel Actions

The fiscal 2016 JCR required that DoIT provide an update on personnel actions. DoIT advises that, as of November 2015:

- the department had 17 vacancies, 2 of which were newly created positions;

- had reclassified 3 vacant positions to better match them with market compensation realities; and

- filled 2 crucial positions, the statewide chief information security officer and the Director of Statewide Interoperable Communications.

Current and Prior Year Budgets

Current and Prior Year Budgets
Department of Information Technology
($ in Thousands)

	General Fund	**Special Fund**	**Federal Fund**	**Reimb. Fund**	**Total**
Fiscal 2015					
Legislative Appropriation	$40,622	$8,260	$969	$52,045	$101,895
Deficiency Appropriation	0	1,155	0	0	1,155
Cost Containment	-1,540	0	0	0	-1,540
Budget Amendments	83	4,064	0	3,926	8,072
Reversions and Cancellations	-24	-5,046	-387	-4,934	-10,390
Actual Expenditures	**$39,141**	**$8,434**	**$582**	**$51,036**	**$99,193**
Fiscal 2016					
Legislative Appropriation	$47,507	$10,981	$632	$57,392	$116,512
Budget Amendments	144	8	0	0	152
Working Appropriation	**$47,651**	**$10,989**	**$632**	**$57,392**	**$116,664**

Note: The fiscal 2016 working appropriation does not include deficiencies or reversions. Numbers may not sum to total due to rounding.

Fiscal 2015

Spending in fiscal 2015 totaled $99.2 million. This is $2.7 million less than appropriated by the General Assembly in the fiscal 2015 budget bill. A special fund deficiency appropriation added $1.2 million in major IT project expenditures. The funds supported the new voting system project. Cost containment reduced general funds by $1.5 million. Specific actions include reducing:

- major IT projects, primarily 700 MHz equipment purchases, by $433,368;

- general departmental costs, such as maintaining vacancies by $372,708;

- GIS and cybersecurity by $300,000;

- telecommunications equipment leases by $244,000;

- software maintenance by $184,000; and

- the Maryland Time System by $5,769.

    Budget amendments added a net total of $8.1 million. Adjustments included:

- $2,225,000 in additional special funds to construct four towers in Hagerstown and Hereford;

- $1,835,000 in additional special funds for an AT&T audit settlement ($570,000) and a Verizon audit settlement ($1,265,000);

- $1,500,000 in additional reimbursable funds to support the workload in the Networks Division;

- $1,450,000 in additional reimbursable funds for the Enterprise Budget System major IT project;

- $975,677 in additional reimbursable funds to provide IT support for DGS;

- $90,909 in additional general funds consistent with Section 17 of the budget bill;

- $80,000 reduction in general funds for positions lost through the VSP; and

- $71,641 in additional general funds and $4,149 in special funds for a 2% salary increase.

Fiscal 2015 cancellations and reversions totaled $10.4 million. The most significant cancellations and reversions include approximately:

- $22,000 in general funds for the Networks Division's personnel and other operating costs;

- $2.1 million in special funds for major IT projects, much of which is 700 MHz equipment;

- $2.0 million in special funds supporting TAM, a large share of which is for a tablet program that was delayed;

- $407,000 in special funds supporting the Central Collection Unit modernization project;

- $1.9 million in reimbursable funds for major IT projects;

- $1.0 million in reimbursable funds supporting the Networks Division's personnel and other operating costs; and

- $813,000 in reimbursable funds for major IT project oversight.

Fiscal 2016

To date, expenditures have increased by $152,000 ($144,000 in general funds and $8,000 in special funds. The funds were transferred through budget amendment 001-16, which restored a 2% salary reduction proposed by the Administration in its initial budget submittal.

Major Information Technology Projects

Department of Information Technology
Statewide Personnel System

Project Status	Implementation.	New/Ongoing Project:	Ongoing.
Project Description:	The project includes modules such as recruiting, human resources, compensation, performance management, employee self-service, benefits administration, and timekeeping. The first phase has been deployed. The second phase includes timekeeping and payroll. There is now a third phase for benefits management.		
Project Business Goals:	The system should modernize an antiquated legacy system (from 1975), enable automated personnel-related reporting and business analysis, provide centralized data management, reduce administrative redundancies, and provide web-based employee self-service. A successful system will provide faster processing times, increased efficiencies, and robust current and historical reporting.		

Estimated Total Project Cost:	$72,266,446	Estimated Planning Project Cost:	$11,309,909
Project Start Date:	January 2008	**Projected Completion Date:**	June 2017

Schedule Status:	The benefits module was initially scheduled for October 2015, but due to vendor (Workday) product performance issues, benefits functionality is now scheduled to be implemented as phase III that will go-live in March 2017.
Cost Status:	Costs increased due to benefits module delays.
Scope Status:	No changes in scope are projected.
Project Management Oversight Status:	Because the Department of Information Technology is the implementing and oversight agency, the project poses some unique challenges. To address this, project managers have been procured.
Identifiable Risks:	Risk concerns include user interface (almost all State agencies will be using the system), the organizational culture (the current system has been in place for more than 30 years), and the availability of staff with the skills necessary to manage the system when it is implemented.
Additional Comments:	Project status is discussed in the Department of Budget and Management Personnel analysis.

Fiscal Year Funding ($ in Thousands)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Balance to Complete	Total
Professional and Outside Services	$52,719.2	$13,168.6	$6,378.6	$0.0	$0.0	$0.0	$0.0	$72,266.4
Other Expenditures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0.0
Total Funding	**$52,719.2**	**$13,168.6**	**$6,378.6**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$72,266.4**

Major Information Technology Projects

Department of Information Technology
Enterprise Budget System

Project Status	Planning.		New/Ongoing Project:	Ongoing.
Project Description:	Replace Hands on Budget Office (HOBO), the Department of Budget and Management's (DBM) legacy budget system.			
Project Business Goals:	Goals are to replace the State legacy budget system that is in danger of failing due to antiquated technology that is difficult to staff with skills needed to support, and streamline and improve efficiency of budget preparation, analysis, and approval.			
Estimated Total Project Cost:	$37,050,000		Estimated Planning Project Cost:	$2,038,182
Project Start Date:	March 2013		Projected Completion Date:	n/a
Schedule Status:	This project is in the Requirements Analysis phase. The project management team was replaced in April 2015. The project team held focus groups and brainstorming sessions with agency budget officers across the State. Upcoming project activities include the continued support of the procurement process (including the Request for Proposal response evaluations) and starting the analysis of the current data availability and data quality of the core HOBO system and major interface systems.			
Cost Status:	The total cost estimate of $37.1 million has not changed since last year. Planning costs are estimated at $2.0 million.			
Scope Status:	Scope has not changed.			
Project Management Oversight Status:	Because the Department of Information Technology is the implementing and oversight agency, the project poses some unique challenges. To address this, project managers have been procured.			
Identifiable Risks:	Interdependencies with other projects are a high risk since the project will need to interface with personnel and financial systems, which are being replaced. There are concerns about resource availability, since DBM staff may be occupied at certain times of the budget cycle.			
Additional Comments:	n/a.			

Fiscal Year Funding ($ in Thousands)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Balance to Complete	Total
Professional and Outside Services	$13,136.4	$13,000.0	$10,913.6	$0.0	$0.0	$0.0	$0.0	$37,050.0
Total Funding	$13,136.4	$13,000.0	$10,913.6	$0.0	$0.0	$0.0	$0.0	$37,050.0

Major Information Technology Projects

45

Appendix 4

Department of Information Technology
Central Collection Unit Systems Modernization

Project Status	Implementation.		New/Ongoing Project:	Ongoing.
Project Description:	Replace legacy Columbia Ultimate Business System, which is the system used to support the Central Collection Unit's (CCU) activities. The project's scope has been expanded to include comprehensive review processes and systems. The first part of the process involves the core debt collection software. The second part integrates the core system with other systems, such as document management, interactive voice response, payment processing, and other systems.			
Project Business Goals:	Provide direct support for collection activities to maximize debt collections. CCU expects to achieve the following quantifiable goals one year after implementation: a 15% to 20% increase in net profits on debt accounts; a 15% to 20% increase of debt accounts collected; and a 5% to 10% decrease in the cost of printing and mailing.			
Estimated Total Project Cost:	$17,490,965		Estimated Planning Project Cost:	$8,521,983
Project Start Date:	August 2008		Projected Completion Date:	August 2017
Schedule Status:	The Executive Steering Committee approved the team's recommendation to perform implementation services internally. Technical progress has included software upgrades and completion of three steps of configuration for the commercial off the shelf software consisting of base, workflow, and business rules configuration. The State will issue a new Request for Proposal to provide a complete Contact Center (telephony) solution that will impact cost and schedule of the project.			
Cost Status:	Overall, estimated total project costs have not changed since last year; however, increased funding for additional project resources is pending.			
Scope Status:	The scope of the project has increased to include an externally hosted dedicated telephony system.			
Project Management Oversight Status:	Because the Department of Information Technology is the implementing and oversight agency, the project poses some unique challenges. To address this, project managers have been procured.			
Identifiable Risks:	Major risks are interdependencies (over 400 agencies refer debt), technical (CCU has a unique mission, such as intercepting State or federal taxes, and the uniqueness of the mission complicates development), and organizational culture (current system is over 20 years old).			
Additional Comments:	None			

Fiscal Year Funding ($ in Thousands)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Balance to Complete	Total
Personnel Services	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Professional and Outside Services	15,616.0	1,875.0	0.0	0.0	0.0	0.0	0.0	17,490.1
Other Expenditures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Funding	$15,616.0	$1,875.0	$0.0	$0.0	$0.0	$0.0	$0.0	$17,490.1

Object/Fund	FY 15 Actual	FY 16 Working Appropriation	FY 17 Allowance	FY 16 - FY 17 Amount Change	Percent Change
Positions					
01 Regular	136.00	134.00	154.60	20.60	15.4%
02 Contractual	0.80	1.00	1.00	0.00	0%
Total Positions	**136.80**	**135.00**	**155.60**	**20.60**	**15.3%**
Objects					
01 Salaries and Wages	$ 13,315,902	$ 14,566,345	$ 16,122,516	$ 1,556,171	10.7%
02 Technical and Spec. Fees	53,160	48,123	48,123	0	0%
03 Communication	9,625,000	8,299,123	8,858,067	558,944	6.7%
04 Travel	103,057	83,243	87,376	4,133	5.0%
06 Fuel and Utilities	12,459	16,000	211,000	195,000	1218.8%
07 Motor Vehicles	22,527	6,840	4,410	-2,430	-35.5%
08 Contractual Services	74,165,366	83,503,070	95,814,459	12,311,389	14.7%
09 Supplies and Materials	144,280	48,600	96,175	47,575	97.9%
10 Equipment – Replacement	641,699	9,228,196	10,090,117	861,921	9.3%
11 Equipment – Additional	677,391	400,000	400,000	0	0%
12 Grants, Subsidies, and Contributions	0	29,948	0	-29,948	-100.0%
13 Fixed Charges	341,215	434,317	488,076	53,759	12.4%
14 Land and Structures	90,703	0	0	0	0.0%
Total Objects	**$ 99,192,759**	**$ 116,663,805**	**$ 132,220,319**	**$ 15,556,514**	**13.3%**
Funds					
01 General Fund	$ 39,140,974	$ 47,650,962	$ 43,281,410	-$ 4,369,552	-9.2%
03 Special Fund	8,433,592	10,988,833	26,023,772	15,034,939	136.8%
05 Federal Fund	581,805	632,267	397,075	-235,192	-37.2%
09 Reimbursable Fund	51,036,388	57,391,743	62,518,062	5,126,319	8.9%
Total Funds	**$ 99,192,759**	**$ 116,663,805**	**$ 132,220,319**	**$ 15,556,514**	**13.3%**

Note: The fiscal 2016 working appropriation does not include deficiencies or reversions. The fiscal 2017 allowance does not include contingent reductions.

Program/Unit	FY 15 Actual	FY 16 Wrk Approp	FY 17 Allowance	Change	FY 16 - FY 17 % Change
0A Major Information Technology Development Project Fund	$ 21,235,055	$ 29,514,147	$ 39,375,376	$ 9,861,229	33.4%
0B Office of Information Technology	77,957,704	87,149,658	92,844,943	5,695,285	6.5%
Total Expenditures	**$ 99,192,759**	**$ 116,663,805**	**$ 132,220,319**	**$ 15,556,514**	**13.3%**
General Fund	$ 39,140,974	$ 47,650,962	$ 43,281,410	-$ 4,369,552	-9.2%
Special Fund	8,433,592	10,988,833	26,023,772	15,034,939	136.8%
Federal Fund	581,805	632,267	397,075	-235,192	-37.2%
Total Appropriations	**$ 48,156,371**	**$ 59,272,062**	**$ 69,702,257**	**$ 10,430,195**	**17.6%**
Reimbursable Fund	$ 51,036,388	$ 57,391,743	$ 62,518,062	$ 5,126,319	8.9%
Total Funds	**$ 99,192,759**	**$ 116,663,805**	**$ 132,220,319**	**$ 15,556,514**	**13.3%**

Note: The fiscal 2016 working appropriation does not include deficiencies or reversions. The fiscal 2017 allowance does not include contingent reductions.