

D53T00
Maryland Institute for Emergency Medical Services Systems

Operating Budget Data

(\$ in Thousands)

	<u>FY 15</u> <u>Actual</u>	<u>FY 16</u> <u>Working</u>	<u>FY 17</u> <u>Allowance</u>	<u>FY 16-17</u> <u>Change</u>	<u>% Change</u> <u>Prior Year</u>
Special Fund	\$14,449	\$15,857	\$15,893	\$36	0.2%
Deficiencies and Reductions	0	0	-28	-28	
Adjusted Special Fund	\$14,449	\$15,857	\$15,866	\$9	0.1%
Federal Fund	1,594	2,950	2,355	-595	-20.2%
Adjusted Federal Fund	\$1,594	\$2,950	\$2,355	-\$595	-20.2%
Reimbursable Fund	300	279	504	225	80.9%
Adjusted Reimbursable Fund	\$300	\$279	\$504	\$225	80.9%
Adjusted Grand Total	\$16,342	\$19,085	\$18,724	-\$361	-1.9%

- The fiscal 2017 allowance for the Maryland Institute for Emergency Medical Services Systems (MIEMSS) decreases by 1.9% (\$361,000) when compared to the fiscal 2016 working appropriation.
- Federal funds received for the Emergency Response System program decline by more than 20.0%, or \$595,000, in the upcoming fiscal year. This program supports the creation of an operational system at the local level to respond to a terrorist incident or other emergency requiring mass casualty response or special care of casualties. The decrease is in line with estimated project costs for the upcoming fiscal year.
- Reimbursable funds increase by a net \$225,000, primarily due to the correction of a budgeting error capturing a \$250,000 grant received from the Maryland Emergency Management Agency. The purpose of the grant is to address the gaps in emergency response to mass casualties.

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

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Personnel Data

	<u>FY 15 Actual</u>	<u>FY 16 Working</u>	<u>FY 17 Allowance</u>	<u>FY 16-17 Change</u>
Regular Positions	95.00	95.00	95.00	0.00
Contractual FTEs	<u>12.51</u>	<u>19.55</u>	<u>19.60</u>	<u>0.05</u>
Total Personnel	107.51	114.55	114.60	0.05

Vacancy Data: Regular Positions

Turnover and Necessary Vacancies, Excluding New Positions	5.69	5.99%
Positions and Percentage Vacant as of 12/31/15	7.00	7.37%

- MIEMSS currently has 1.3 regular positions in excess of what is required to meet budgeted turnover; however, all 7 of the positions vacant on December 31, 2015, have been vacant for less than one year.

Analysis in Brief

Major Trends

Maryland Trauma Care Continues to Exceed the National Norm: Maryland continues to demonstrate consistent outcomes above the national norm as measured by the survivability rate of trauma care center admissions.

Emergency Department Overcrowding Continues to Be an Issue in Certain Regions of the State: Hospitals in Region III, consisting of Central Maryland, and Region V, consisting of the Washington, DC metropolitan area, experience high levels of emergency department demand and overcrowding. In calendar 2015, the measures evaluating overcrowding, the number of reported hours a hospital was experiencing a yellow or red alert, increased by 37% and 45%, respectively. **MIEMSS should discuss the factors driving the increase in both red and yellow alert hours in fiscal 2015, whether the upward trend is expected to continue, and the fiscal and operational impact this has on emergency services.**

Recommended Actions

1. Concur with Governor's allowance.

D53T00 – Maryland Institute for Emergency Medical Services Systems

Analysis of the FY 2017 Maryland Executive Budget, 2016

D53T00

Maryland Institute for Emergency Medical Services Systems

Operating Budget Analysis

Program Description

The Maryland Institute for Emergency Medical Services Systems (MIEMSS) oversees and coordinates all components of the State's emergency medical services (EMS) system in accordance with State statute and regulations. MIEMSS provides guidance on medical direction, conducts EMS educational programs, licenses commercial ambulance services, and participates in EMS-related public education and prevention programs. Chapter 592 of 1993, known as the EMS Law, established MIEMSS as an independent State agency under the direction of the EMS Board. Prior to Chapter 592, MIEMSS was housed within the Department of Health and Mental Hygiene and, subsequently, the University of Maryland, Baltimore.

Chapter 592 also established the EMS Board, consisting of 11 members appointed by the Governor to serve four-year terms. The EMS Board oversees the State's EMS plan and appoints the executive director of MIEMSS, who serves as the administrative head of the State's EMS system. The EMS Board prepares an annual budget proposal, taking into account the estimated income of the Maryland Emergency Medical System Operations Fund (MEMSOF), MIEMSS' primary fund source, and budget requests from MIEMSS and other agencies that participate in the State's EMS system.

MIEMSS coordinates a statewide EMS system that includes over 30,000 licensed or certified EMS providers. MIEMSS works to integrate the delivery of pre-hospital emergency care with the State's 48 hospital emergency departments, 11 trauma centers, specialty referral centers, primary stroke centers, and perinatal centers.

The EMS system is divided into five regions:

- Region I: Allegany and Garrett counties;
- Region II: Frederick and Washington counties;
- Region III: Central Maryland, including Baltimore City;
- Region IV: the Eastern Shore; and
- Region V: Metropolitan Washington.

MIEMSS operates a complex network communication system that facilitates communication between ambulances, helicopters, dispatch centers, hospital emergency departments, trauma centers, and law enforcement. The communications system includes (1) the Emergency Medical Resource Center (EMRC), which is a medical channel radio communications system that links EMS providers in the field with hospital-based medical consultation; and (2) the System Communications Center (SYSCOM), which is responsible for helicopter dispatch and monitoring of the transport of critically ill or injured patients by helicopter to area hospitals. The MIEMSS communication system handles nearly 400,000 telephone and radio calls annually.

Performance Analysis: Managing for Results

1. Maryland Trauma Care Continues to Exceed the National Norm

A key goal of MIEMSS is to provide high-quality, systematic medical care to individuals receiving emergency medical services. The agency measures the achievement of this goal by maintaining the system's trauma patient care performance above the national norm and monitoring the survivability rate of patients that are admitted to a trauma center, as shown in **Exhibit 1**. Since the measure was first reported in calendar 2009, the likelihood of survival for an individual admitted to a Maryland trauma center has exceeded 96.0%. Most recently, the survivability rate experienced a marginal increase from 96.3% to 96.7% between calendar 2013 and 2014.

Exhibit 1
Trauma Care Performance
Calendar 2009-2014

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Maryland Trauma Patient Care Exceeds National Norm	Yes	Yes	Yes	Yes	Yes	Yes
Survivability Rate for Trauma Center Admissions (%)	96.5%	96.5%	96.6%	96.7%	96.3%	96.7%

Source: Maryland Institute for Emergency Medical Services Systems

Maryland’s nine adult and two pediatric designated trauma centers maintain electronic registry data on all patients transported for trauma care services. Patients are coded according to a Trauma and Injury Severity Score (TRISS). TRISS data is used to run reports to show mortality/morbidity among trauma center patients. These reports are reviewed by both the hospitals and MIEMSS to monitor trends in outcomes and to identify any deviations. Notable deviations are flagged and reviewed with the respective trauma center.

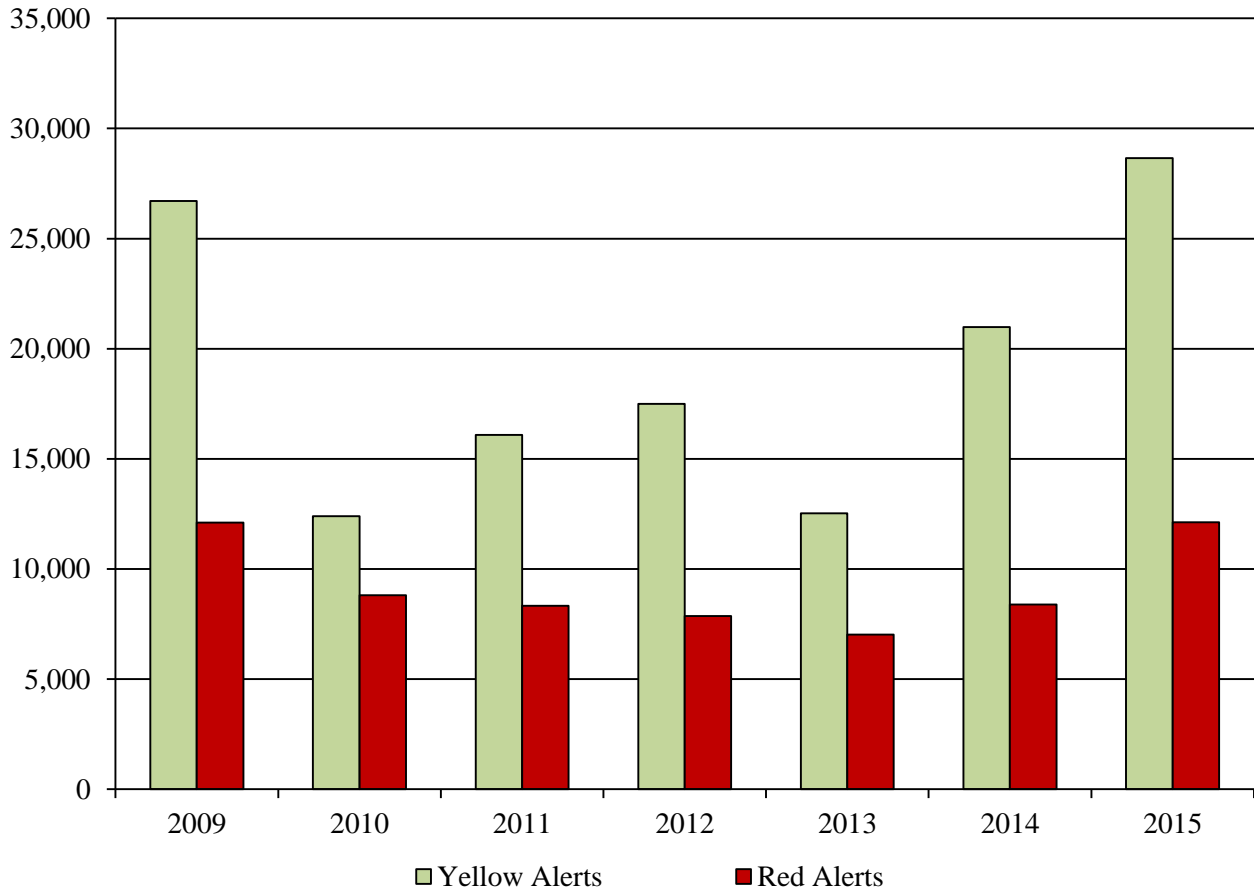
2. Emergency Department Overcrowding Continues to Be an Issue in Certain Regions of the State

The County Hospital Alert Tracking System (CHATS) is a real-time computerized monitoring system of emergency department status throughout Maryland. Hospital emergency departments that are temporarily unable to accept ambulance-transported patients due to overcrowding or hospital overload are identified so that ambulances can be diverted to other, less crowded emergency department facilities.

MIEMSS utilizes the CHATS to determine hospital bed availability. While participation is not mandatory, the reporting system aids MIEMSS in diverting ambulances to hospitals with adequate capacity. MIEMSS tracks “yellow” alerts, when an emergency room requests to receive absolutely no patients in need of urgent medical care by ambulance with the exception of certain priority cases, and “red” alerts, when a hospital has no inpatient electrocardiogram-monitored beds available. **Exhibit 2** shows the total number of hours of yellow and red alerts across the State from calendar 2009 through 2015. Hospitals in Washington, DC are not included in this chart, though MIEMSS does track and report this information as well. Combined, Regions III and V accounted for more than 95% of total alerts in calendar 2015.

Both yellow and red alert hours experienced a significant decrease between calendar 2009 and 2010, primarily due to improvements in hospital procedures to facilitate the movement of patients from emergency rooms to other parts of the hospital in order to keep space available for new patients that need emergency room care. Between calendar 2010 and 2013, red and yellow alert hours remained well below calendar 2009 levels. According to MIEMSS, a nationwide influenza epidemic caused both alert categories to increase in fiscal 2014; yellow alert hours exceeded the 20,000 hours mark for the first time since calendar 2009. As seen in the exhibit, the upward trend continued in calendar 2015, with yellow and red alerts increasing by 37% and 45%, respectively. **MIEMSS should discuss the factors driving the increase in both red and yellow alert hours in fiscal 2015, whether the upward trend is expected to continue, and the fiscal and operational impact this has on emergency services.**

Exhibit 2
Total Hours of Yellow and Red Alerts in the State
Calendar 2009-2015



Source: Maryland Institute for Emergency Medical Services Systems

Proposed Budget

As shown in **Exhibit 3**, the fiscal 2017 allowance decreases by approximately \$361,000, or 1.9%, when compared to the fiscal 2016 working appropriation.

**Exhibit 3
Proposed Budget
Maryland Institute for Emergency Medical Services Systems
(\$ in Thousands)**

How Much It Grows:	<u>Special Fund</u>	<u>Federal Fund</u>	<u>Reimb. Fund</u>	<u>Total</u>
Fiscal 2015 Actual	\$14,449	\$1,594	\$300	\$16,342
Fiscal 2016 Working Appropriation	15,857	2,950	279	19,085
Fiscal 2017 Allowance	<u>15,866</u>	<u>2,355</u>	<u>504</u>	<u>18,724</u>
Fiscal 2016-2017 Amount Change	\$9	-\$595	\$225	-\$361
Fiscal 2016-2017 Percent Change	0.1%	-20.2%	80.9%	-1.9%

Where It Goes:

Personnel Expenses

Increments and other compensation.....	-\$86
Employee and retiree health insurance	74
Employees’ Retirement System.....	192
Turnover adjustments	-76
Other fringe benefit adjustments.....	5

Other Changes

Emergency Response System funding.....	-595
Department of Budget and Management paid telecommunications	-267
Supply and equipment purchases.....	-26
Emergency Medical Resource Center/System Communications Center maintenance costs.....	24
Equipment repairs and maintenance	68
Shared Services Initiative – human resources	88

Where It Goes:

Correction of budgeting error to capture Maryland Emergency Management Agency grant to address gaps in emergency medical services response to mass casualties	250
Other	-12
Total	-\$361

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 \$27,590 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 Expenses

Personnel expenses for MIEMSS increase by \$109,329 in fiscal 2017, accounting for the across-the-board reduction for employee health insurance. Regular employee earnings decrease by approximately \$86,000 due to the agency’s human resources functions being consolidated within the Department of Budget and Management (DBM) as part of the new Shared Services Initiative. The position associated with providing human resources services to MIEMSS employees was transferred to DBM in fiscal 2016. There is an offsetting \$88,000 appropriation for the shared services budgeted elsewhere in the agency’s allowance. The new initiative will be discussed in greater detail in the DBM – Personnel analysis.

Employee increments and associated expenses are included in the DBM budget; it is estimated that \$143,510 in total funds will be distributed to MIEMSS by budget amendment for the start of the fiscal year. The agency receives a 7.1% increase in funding for employee overtime, although this appropriation is still more than \$56,000 below actual overtime expenses in fiscal 2015. Health insurance increases by a net \$74,000 and retirement funding increases by approximately \$192,000 in fiscal 2017. The agency receives a higher budgeted turnover rate of nearly 6.0%, requiring 5.7 positions to be held vacant. As of December 31, 2015, MIEMSS had 7.0 vacancies, although all the positions had been vacant for less than 12 months.

Communication System Replacement and SYSCOM Renovation Project

MIEMSS relies on two primary communication systems to coordinate emergency care in Maryland. The EMRC communications system is responsible for coordinating medical consultation between emergency personnel at the scene and hospital emergency department physicians. SYSCOM

is responsible for helicopter dispatch and monitoring the helicopter transport of critically ill or injured patients from the scene to area hospitals.

After a fiscal 2012 evaluation found the MIEMSS communication system obsolete and in jeopardy of failure, a conceptual design to replace the system was proposed, which would cost roughly \$12.2 million and take five years to install. It was also estimated that the upgrade would require \$1.6 million annually for maintenance beginning in the second year of the project. The process to replace the communication system was initiated by a budget amendment in fiscal 2013, which authorized funding from MEMSOF for the first year of the project. The bulk of the upgrade costs would be experienced in years two and three, which correspond to fiscal 2014 and 2015. Chapter 429 of 2013 expressed intent that funds for this project and ongoing maintenance be provided from MEMSOF, in conjunction with a revenue increase to MEMSOF provided through that legislation.

The initial plan intended to upgrade the statewide communications systems first, followed by renovations to the communication center; however, MIEMSS had an opportunity to receive equipment from the State that enabled the agency to join the State's new 700-megahertz radio communication system early in its implementation. Thus, the facility renovation became the initial component of the project followed by the upgrade to the communications systems.

In fiscal 2013, MIEMSS contracted with a consultant to assist in the development of both the systems upgrade and the facility renovation. The facility renovation was the primary focus until work was complete at the end of fiscal 2015. MIEMSS and Maryland State Police Aviation Command staff occupied the upgraded EMRC/SYSCOM Communication Center in May 2015. With the completion of the facility improvements, focus has shifted toward the upgrade of the statewide communications system. Currently, MIEMSS is working with the consultant to assess the current system and develop the necessary specifications for the new system. The agency anticipates acquiring a system integrator to begin the upgrade in the first half of fiscal 2017. The current estimated completion date for the project is April 2018.

With the reordering of the components of the project, a significant portion of the anticipated expenditures has been deferred, as the upgrade to the communications systems accounts for the majority of the cost. **Exhibit 4** provides the revised expenditure projections for the project. The fiscal 2017 allowance does not reflect the \$11 million in anticipated expenditures for the project. After cancelling significant portions of the appropriations in fiscal 2014 and 2015, MIEMSS has opted to wait to appropriate funding until the system integrator is in place and a more reasonable cost estimate and timeline for the project has been developed. It is anticipated that a budget amendment to reauthorize the funding will be submitted during fiscal 2017.

Exhibit 4
MIEMSS Communication System Upgrade and Maintenance Costs
2015 Session Assumptions vs. 2016 Session Assumptions

<u>Fiscal Years</u>	<u>Upgrade Costs</u> <u>2015 Session</u>	<u>Maintenance Costs</u> <u>2015 Session</u>	<u>Revised</u> <u>Upgrade Costs</u> <u>2016 Session</u>	<u>Revised</u> <u>Maintenance Costs</u> <u>2016 Session</u>
2013	\$344,292	\$0	\$344,292	\$0
2014	1,680,887	0	1,680,887	0
2015	8,555,806	1,594,874	406,003	398,785
2016	1,583,563	1,642,720	37,500	1,642,720
2017	12,500	1,692,001	11,012,500	1,692,001
Total Costs	\$12,177,048		\$13,481,182	

MIEMSS: Maryland Institute for Emergency Medical Services Systems

Note: The fiscal 2017 allowance does not reflect these estimated costs. A budget amendment to reauthorize previously cancelled funds will be requested at a later date.

Source: Maryland Institute for Emergency Medical Services Systems

The allowance does include nearly \$1.7 million in maintenance funding to support new and existing equipment. This amount is budgeted in line with the estimates provided in the initial consultant report and reflects an increase of approximately \$24,000. In addition, the \$68,000 increase for equipment repairs and maintenance reflects the agency's effort to complete ongoing minor upgrades and repairs in order to keep the system operational while the systemwide upgrade is underway.

MIEMSS should provide the committees with an update on the status of the communication system upgrade, including when the agency anticipates having a more accurate cost estimate and timeline for the project. MIEMSS should also provide an estimate of how much additional funding has been spent on repairs as a result of the delays in implementing the new statewide systems. Additionally, MIEMSS should discuss how the completed facility renovation has impacted EMS operations.

Emergency Response System Program

The Emergency Response System (ERS) program, formerly known as the Metropolitan Medical Response System program, is funded through the Urban Area Security Initiative federal grant. The ERS program seeks to create an operational system at the local level to respond to a

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terrorist incident or other emergency requiring mass casualty response or special care of casualties. State funding for the ERS program is administered by MIEMSS and covers intangible procurement (e.g., staff salaries, offices, technology, training, exercises, conferences, etc.). ERS State projects include digital EMS telephone expansion, EMRC enhancement, and mobile applications for first responders. The fiscal 2017 allowance decreases by approximately \$595,000 based on specific project cost estimates.

Recommended Actions

1. Concur with Governor's allowance.

Current and Prior Year Budgets

Current and Prior Year Budgets Maryland Institute for Emergency Medical Services Systems (\$ in Thousands)

	<u>General Fund</u>	<u>Special Fund</u>	<u>Federal Fund</u>	<u>Reimb. Fund</u>	<u>Total</u>
Fiscal 2015					
Legislative Appropriation	\$0	\$23,466	\$1,286	\$302	\$25,054
Deficiency Appropriation	0	0	0	0	0
Cost Containment	0	0	0	0	0
Budget Amendments	0	74	1,881	250	2,205
Reversions and Cancellations	0	-9,092	-1,573	-252	-10,917
Actual Expenditures	\$0	\$14,448	\$1,594	\$300	\$16,342
Fiscal 2016					
Legislative Appropriation	\$0	\$15,710	\$2,950	\$279	\$18,938
Budget Amendments	0	147	0	0	147
Working Appropriation	\$0	\$15,857	\$2,950	\$279	\$19,085

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

Fiscal 2015

The budget for MIEMSS closed at approximately \$16.3 million in fiscal 2015, which is \$8.7 million less than the legislative appropriation.

The special fund appropriation decreased by a net \$9.0 million. An increase of approximately \$74,000 was provided for employee cost-of-living-adjustments. This was offset by the cancellation of nearly \$9.1 million due to delays and reordering of the project schedule for the upgrade of the MIEMSS Communication System. It is anticipated that this funding will be needed in fiscal 2016 and 2017.

The federal fund appropriation increased by a net \$308,000 in fiscal 2015, primarily due to an amendment authorizing \$1.9 million for the ERS program to support the agency's transition from a traditional to an integrated response system. The appropriation decreased by nearly \$1.6 million in cancelled funds due to timing differences between the State and federal fiscal year, vacancies, and the agency's reevaluation of its patient tracking implementation plan.

The agency's reimbursable fund appropriation remained largely unchanged in fiscal 2015. The Maryland Emergency Management Agency provided \$250,000 to support a mass casualty grant application program; however, an accounting error resulted in the cancellation of the purchase orders that would have allowed the funds to be encumbered at the end of the fiscal year. MIEMSS anticipates a budget amendment to reauthorize those funds for fiscal 2016.

Fiscal 2016

The special fund working appropriation reflects an increase of \$147,000, restoring the 2% salary reduction for State employees.

Audit Findings

Audit Period for Last Audit:	March 2, 2011 – September 21, 2014
Issue Date:	March 2015
Number of Findings:	2
Number of Repeat Findings:	1
% of Repeat Findings:	50%
Rating: (if applicable)	

Finding 1: MIEMSS lacked adequate procedures to account for commercial ambulance license decals and related fees.

Finding 2: **Physical inventory results were not fully reconciled to the detail records.**

*Bold denotes item repeated in full or part from preceding audit report.

**Object/Fund Difference Report
Maryland Institute for Emergency Medical Services Systems**

<u>Object/Fund</u>	<u>FY 15 Actual</u>	<u>FY 16 Working Appropriation</u>	<u>FY 17 Allowance</u>	<u>FY 16 - FY 17 Amount Change</u>	<u>Percent Change</u>
Positions					
01 Regular	95.00	95.00	95.00	0.00	0%
02 Contractual	12.51	19.55	19.60	0.05	0.3%
Total Positions	107.51	114.55	114.60	0.05	0%
Objects					
01 Salaries and Wages	\$9,056,627	\$9,381,908	\$9,518,827	\$136,919	1.5%
02 Technical and Spec. Fees	1,151,032	1,866,348	1,921,558	55,210	3.0%
03 Communication	1,394,876	1,162,795	847,985	-314,810	-27.1%
04 Travel	393,022	632,913	679,618	46,705	7.4%
06 Fuel and Utilities	131,114	128,903	134,600	5,697	4.4%
07 Motor Vehicles	236,545	235,004	235,062	58	0%
08 Contractual Services	2,412,038	4,378,159	3,897,621	-480,538	-11.0%
09 Supplies and Materials	165,553	120,837	114,237	-6,600	-5.5%
10 Equipment – Replacement	370,246	122,278	115,004	-7,274	-5.9%
11 Equipment – Additional	95,450	39,050	26,985	-12,065	-30.9%
12 Grants, Subsidies, and Contributions	828,592	905,000	1,145,000	240,000	26.5%
13 Fixed Charges	107,377	112,273	115,504	3,231	2.9%
Total Objects	\$16,342,472	\$19,085,468	\$18,752,001	-\$333,467	-1.7%
Funds					
03 Special Fund	\$14,448,523	\$15,857,154	\$15,893,384	\$36,230	0.2%
05 Federal Fund	1,593,585	2,949,776	2,354,744	-595,032	-20.2%
09 Reimbursable Fund	300,364	278,538	503,873	225,335	80.9%
Total Funds	\$16,342,472	\$19,085,468	\$18,752,001	-\$333,467	-1.7%

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