Maryland Emergency Medical System Operations Fund Fiscal 2020 Budget Overview

Department of Legislative Services
Office of Policy Analysis
Annapolis, Maryland

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

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Maryland Emergency Medical System Operations Fund
Fiscal 2020 Budget Overview

Funding for Maryland's emergency medical services (EMS) system is provided from a variety of State, local, and volunteer sources. Annual State budget support for EMS is provided from the Maryland Emergency Medical System Operations Fund (MEMSOF). The source of revenue for MEMSOF is a biennial surcharge of $29 on motor vehicle registrations for certain classes of vehicles, as specified in Section 13-954 of the Transportation Article. Funding from a $7.50 moving violation surcharge has also been credited to MEMSOF since fiscal 2014. Interest earned annually on the fund balance is credited to the fund.

Uses of MEMSOF

As stated in Section 13-955 of the Transportation Article, the money in MEMSOF shall be used solely for the following components of Maryland's EMS program:

- ***Maryland State Police Aviation Command (MSPAC):*** The mission of MSPAC is to protect and improve the quality of life through the airborne delivery of emergency medical, law enforcement, homeland security, and search and rescue services. Special funds from MEMSOF support the medically oriented mission of MSPAC, as required by statute. General funds support law enforcement and homeland security functions. The funding split for MSPAC has remained at 80% in special funds and 20% in general funds since fiscal 2003. The funding split is based on the ratio of medically oriented functions to nonmedical functions; search and rescue missions have been considered medically oriented functions since fiscal 2007. According to the Governor's fiscal 2020 Managing for Results submission, medically oriented missions accounted for 80.4% of total operational activities in fiscal 2018. The fiscal 2020 allowance covers slightly less than 78.8% of MSPAC's operating expenses.

- ***Maryland Institute for Emergency Medical Services Systems (MIEMSS):*** MIEMSS was established as a State agency in 1993. MIEMSS had been in existence for 20 years prior to that – first under the Maryland Department of Health and then under the University of Maryland, Baltimore Campus. MIEMSS oversees and coordinates all components of the statewide EMS system.

- ***R Adams Cowley Shock Trauma Center (Shock Trauma Center):*** The Shock Trauma Center, operated by the University of Maryland Medical System, is the core element of the State's EMS system and serves as the State's Primary Adult Resource Center for the treatment of trauma. MEMSOF funds are provided as an operating subsidy to the Shock Trauma Center, which was level funded at $3.0 million from fiscal 2010 through 2014. In some years, the Shock Trauma Center received an annual inflationary increase. Chapter 429 of 2013 expressed the intent to increase the Shock Trauma Center operating subsidy from $3.0 million to $3.2 million in fiscal 2015.

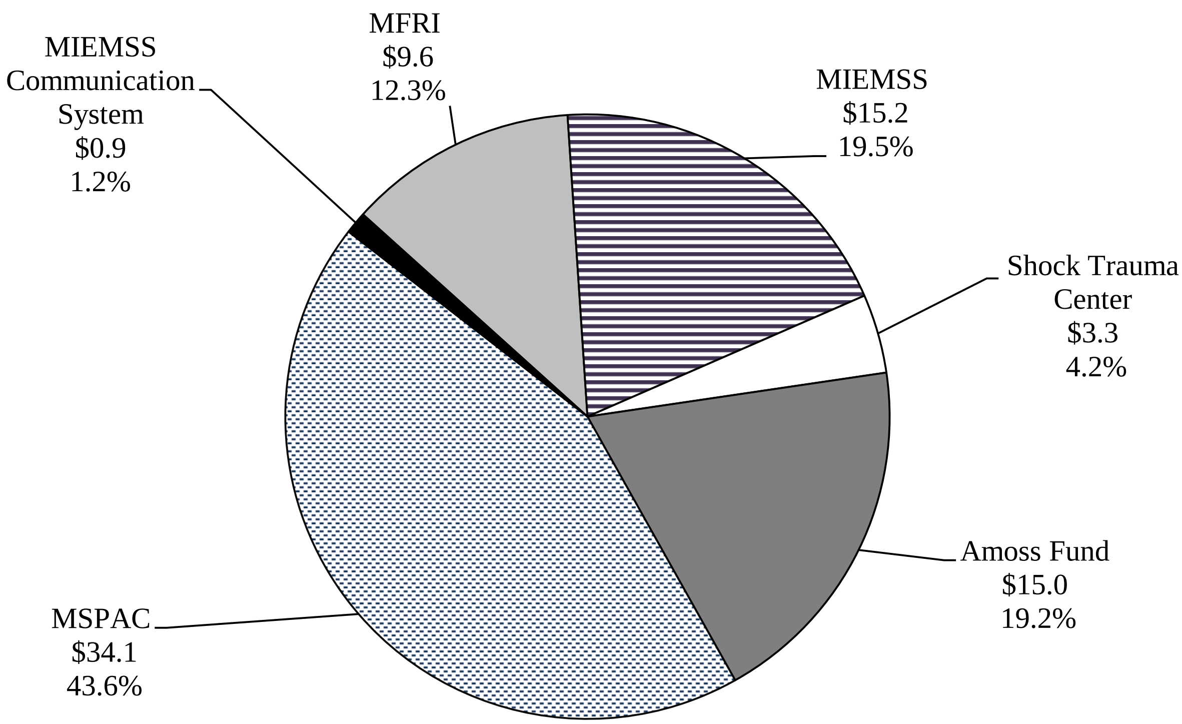
- ***Maryland Fire and Rescue Institute (MFRI):*** MFRI is the State's fire and emergency service training agency responsible for the majority of basic level pre-hospital training and education for EMS providers.

- ***Local Grants under the Senator William H. Amoss Fire, Rescue, and Ambulance Fund (Amoss Fund):*** The Amoss Fund provides grants to local jurisdictions for the purchase of fire and rescue equipment and building rehabilitation. These grants are administered by the Maryland Emergency Management Agency (MEMA). Distributions are made according to each county's percentage of total property tax accounts. Each county receives a minimum of 2% of the total and must expend funds for fire protection from its own sources that are at least equal to the amount of State funds to be received and at least equal to the average amount expended in the prior three years. The fiscal 2020 allowance authorizes $15.0 million for the Amoss Fund, reflecting intent from Chapter 429 to increase the Amoss Fund from $10.0 million to $15.0 million over three years, beginning in fiscal 2015.

MEMSOF Fiscal 2020 Allowance

The fiscal 2020 allowance provides for $78.1 million in total expenditures funded from MEMSOF. **Exhibit 1** provides the percentage breakdown of each MEMSOF entity relative to total spending. MSPAC (43.6%), the Amoss Fund (19.2%), and MIEMSS (19.5%) make up the largest portions of MEMSOF expenditures.

Exhibit 1
MEMSOF 2020 Expenditures
($ in Millions)



Total = $78.1 Million

Amoss Fund: Senator William H. Amoss Fire, Rescue, and Ambulance Fund
MEMSOF: Maryland Emergency Medical System Operations Fund
MFRI: Maryland Fire and Rescue Institute
MIEMSS: Maryland Institute for Emergency Medical Services Systems
MSPAC: Maryland State Police Aviation Command
Shock Trauma Center: R Adams Cowley Shock Trauma Center

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

Source: Governor's Fiscal 2020 Budget Books; Department of Legislative Services

MEMSOF Oversight

EMS Board

The EMS Board consists of 11 members appointed by the Governor to serve four-year terms, ending on June 30. The EMS Board is tasked with developing, adopting, and monitoring a statewide plan to ensure effective coordination and evaluation of EMS. The EMS Board appoints the Executive Director of MIEMSS, who serves as the administrative head of the State's EMS system and the operations of MIEMSS. MIEMSS implements the plan developed by the EMS Board. The EMS Board prepares an annual budget proposal that takes into account the estimated income of MEMSOF and budget requests from MIEMSS, the Shock Trauma operating fund, MFRI, and MSPAC.

EMS Advisory Council

The State EMS Advisory Council (SEMSAC) consists of 31 members appointed by the EMS Board with approval by the Governor. SEMSAC serves as the principal advisory body, assists with the EMS plan (criteria and guidelines for delivery of EMS), and provides means to address EMS issues regionally and statewide.

MEMSOF Entities without EMS Board Oversight

The Amoss Fund is not bound by a review and approval process by the EMS Board.

Amoss Fund

In the fiscal 2020 allowance, the Amoss Fund receives $15 million from MEMSOF. Funding is distributed by MEMA, within the Maryland Military Department, to the counties and Baltimore City to purchase fire and rescue equipment and for capital building improvements. Distributions are made according to each county's percentage of total property tax accounts (*e.g.*, the fiscal 2020 allocation will be based on property tax data published by the State Department of Assessments and Taxation in July 2019). Qualified municipalities in a county receive a percentage of the funds received by a county equal to one-half of the proportion that the municipality's expenditures bear to the county's expenditures. All counties receive a minimum of 2% of the annual appropriation in addition to the amounts distributed to qualified municipalities. Chapters 331 and 332 of 2013 further required that, beginning in fiscal 2015, counties must spend a percentage of Amoss Fund money received on volunteer fire, rescue, and ambulance companies that equals the percentage spent in fiscal 2011 on volunteer companies or at least 51% of the funds received, whichever is greater.

The Director of MEMA is also responsible for enforcing the Maintenance of Effort (MOE) provisions, which require counties to spend an amount greater than or equal to the amount of State funds received for fire protection from their own sources and require that counties spend an amount at least equal to the average amount expended in the prior three years by the county. Chapter 225 of 2014 provided additional guidance on how MOE requirements should be enforced. The legislation specified the following.

- The Director of MEMA may withhold funds allocated for the second subsequent fiscal year from a county that does not comply with MOE requirements.

- If a jurisdiction does not comply with MOE requirements for two consecutive years, and no waiver is granted by the Board of Public Works (BPW) or the General Assembly, then the director must withhold funds.

- The penalty for noncompliance is equal to the percentage by which the county failed to meet the MOE requirement.

- A county may request a waiver from the MOE requirement based on a determination that the county's fiscal condition significantly impedes the county's ability to fund the MOE requirement, but a waiver does not relieve a county of the requirement.

Chapter 225 also changed the calculation of fire protection expenditures beginning in fiscal 2015 to exclude capital expenditures. Therefore, in order to fairly calculate the three-year average, fiscal 2015 must be the base year of the three-year period, making fiscal 2018 the first year of a required penalty for not meeting MOE requirements. According to MEMA, fiscal 2021 will be the first year any potential reductions would be reflected in the budget.

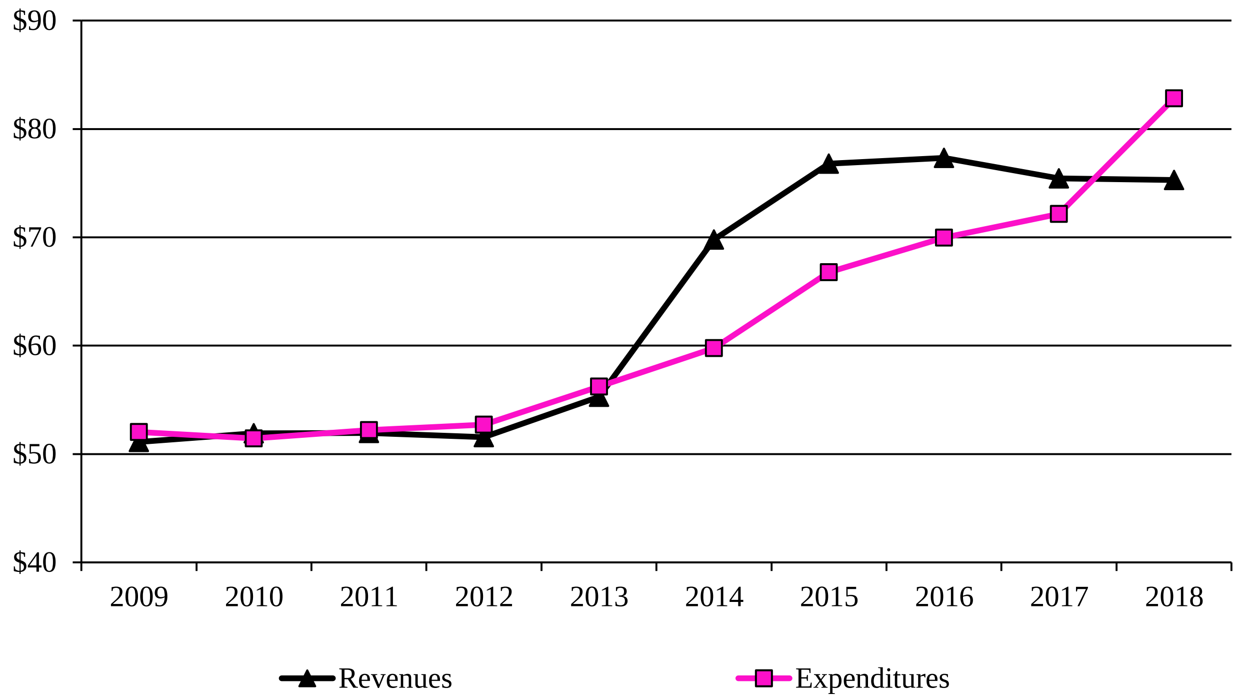
MEMA annually sends out instructions to all counties updating any changes to the law and reiterating all rules and requirements. Counties are required to report on expenditures for fire protection from the prior fiscal year (Schedule A) and report the amount of money distributed to each recipient and purpose of the expenditure, including unencumbered/unexpended funds and the amount and nature of any in-kind assistance made by the county to volunteer fire, rescue, and ambulance companies.

History of Revenues and Expenditures

Exhibit 2 provides a history of MEMSOF revenues and expenditures from fiscal 2009 through 2018.

Revenues and expenditures have fluctuated over the past decade with revenues exceeding expenditures in 5 of the 10 years. Revenues and expenditures stayed very close from fiscal 2009 to 2013 with expenditures exceeding revenues slightly in all but one fiscal year. As a result of the increase in the Motor Vehicle Administration (MVA) registration fee in fiscal 2014, revenues exceeded expenditures by an average of $9.1 million annually between fiscal 2014 and 2017. Fiscal 2018 is the first year since the fee increase that expenditures have outpaced revenues, leaving a gap of approximately $7.5 million. The significant spending increase in fiscal 2018 is largely the result of ongoing spending increases for personnel and other MSPAC and MIEMSS operating expenses.

Exhibit 2
MEMSOF Actual Revenues versus Expenditures
Fiscal 2009-2018
($ in Millions)



MEMSOF: Maryland Emergency Medical System Operations Fund

Source: Department of Legislative Services

MVA Registration Fee Increase

The MVA registration fee supporting MEMSOF was originally established at $8.00 per year in 1992. The fee increased by $3.00 in 2001, raising it to $11.00 per year. Attempts were made to again raise the fee during the 2012 legislative session, but legislation failed to pass. There was concern that without a fee increase, MEMSOF would be insolvent by fiscal 2014. During the 2013 session, a fee increase of $3.50 per year was included in the Transportation Infrastructure Investment Act (Chapter 429). This raised the fee from $11.00 to $14.50 per year, or $29.00 collected biennially.

In addition to sustaining the long-term viability of MEMSOF, the General Assembly expressed the intent to enhance the funding provided to the user agencies of MEMSOF with the fee increase. These enhancements included:

- funding the upgrade and maintenance of the MIEMSS communications system;
- increasing the base salary for MSPAC pilots and maintenance technicians to $70,000 and $60,000, respectively;
- hiring 20 additional MSPAC pilots to improve the safety of flight operations;
- increasing the annual operating subsidy to the Shock Trauma Center to $3,200,000;
- purchasing high temperature tiles for MFRI;
- increasing the salary of MFRI field instructors by $2.00 per hour; and
- increasing the Amoss Fund to $15.0 million by fiscal 2017 with a gradual phase-in starting in fiscal 2015.

To date, all of these enhancements have been addressed, although revisions to the funding estimate for the MIEMSS communications system upgrade will require additional funding through fiscal 2022.

Exhibit 3 shows MEMSOF expenditures from fiscal 2018 to 2020. The fiscal 2020 allowance for all MEMSOF expenditures decreases by nearly $1.5 million, or 1.8%, from the fiscal 2019 working appropriation. The 79% reduction in funding for the MIEMSS communications system upgrade masks increases in operating expenses for all other MEMSOF recipients with the exception of the Amoss Fund and the Shock Trauma Center.

Funding for the MIEMSS communications system upgrade was initally split between fiscal 2018 and 2019 with the bulk of the funding ($8.7 million) provided in fiscal 2018. The fiscal 2019 budget provided $3.4 million to fund the remainder of the estimated project costs. Despite assurances from MIEMSS and the Department of Information Technology (DoIT) during the 2019 session that the $12.1 million originally appropriated in fiscal 2018 and 2019 would be sufficient, the project cost appears to have increased to a total of $15.8 million. A four-year contract was awarded for the project in May 2018 and allows for four one-year renewal options for the contractor to continue providing maintenance on the system. To smooth out the impact of the additional cost to MEMSOF, MIEMSS anticipates appropriating $924,700 annually for the project for fiscal 2019 through 2022.

Exhibit 3
MEMSOF Expenditures
Fiscal 2018-2020 Allowance
($ in Thousands)

	2018 Actual	2019 Working	2020 Allowance	2019-2020 Change	2019-2020 % Change
MFRI R75T00.01	$8,795	$9,162	$9,595	$433	4.73%
MIEMSS D53T00.01	15,527	14,822	15,236	414	2.79%
Shock Trauma Center M00R01.01	3,200	3,300	3,300	0	0.00%
Amoss Fund D50H01.06	15,000	15,000	15,000	0	0.00%
MSPAC W00A01.04	31,657	32,975	34,075	1,100	3.34%
MIEMSS Communications System	8,650	4,325	925	-3,400	-78.61%
Total	**$82,829**	**$79,584**	**$78,131**	**-1,453**	**-1.83%**

Amoss Fund: Senator William H. Amoss Fire, Rescue, and Ambulance Fund
MEMSOF: Maryland Emergency Medical System Operations Fund
MFRI: Maryland Fire and Rescue Institute
MIEMSS: Maryland Institute for Emergency Medical Services Systems
MSPAC: Maryland State Police Aviation Command
Shock Trauma Center: R Adams Cowley Shock Trauma Center

Source: Governor's Fiscal 2020 Budget Books; Department of Legislative Services

MFRI funding reflects the largest percentage increase in fiscal 2020 and the second largest dollar increase. Adjustments are made to account for employee compensation enhancements in fiscal 2019 and 2020 that are currently budgeted in the Department of Budget and Management (DBM). These enhancements provide approximately $283,000 in additional funding across the two budget years. The remainder of the increase in fiscal 2020 is related to general operating expenses.

The fiscal 2020 allowance for MIEMSS operating expenses and MSPAC provides modest growth over the fiscal 2019 working appropriation with increases of 2.8% and 3.3%, respectively. Personnel expenses account for the vast majority of the adjustments made in both agencies to reflect the one-time $500 employee bonus and 0.5% general salary increase in fiscal 2019 as well as the annualization of the fiscal 2019 salary increase and 3% cost-of-living increase for all State employees. In addition, MSPAC also receives an adjustment in fiscal 2020 for enhancements currently budgeted in DBM for members of the State Law Enforcement Officers Labor Alliance (SLEOLA).

Although the DBM MEMSOF forecast reflects a $100,000 increase in the grant to the Shock Trauma Center in fiscal 2020 to $3.4 million, this increase is not actually included in the appropriation. The center received a $100,000 increase, to $3.3 million, in fiscal 2019, and the allowance maintains the grant at that level. As is noted further in the Issues section of this analysis, the MEMSOF forecast presented by DBM increases Shock Trauma Center funding by $100,000 annually through fiscal 2023 for a total appropriation of $3.7 million in fiscal 2023 and beyond in order to account for inflationary increases and other growth in operating costs. It is estimated that the current grant covers slightly more than half of the center's operating expenses.

Issues

1. MEMSOF Forecasts

Appendix 1 provides DBM's MEMSOF forecast from fiscal 2018 through 2025. DBM revised the growth rate assumptions used in creating the out-year forecast for MEMSOF. As opposed to applying an average growth rate using expenditures from the past 10 years, DBM instead utilized the average growth rate from the three most recent years of actual spending. This change in calculation was applied to the assumed growth rates for MFRI, MIEMMS, and MSPAC. According to the department, concerns were raised that overall growth in agency spending was being inappropriately skewed by the fiscal 2014 fee increase and enhanced spending that resulted from that fee increase. Based on this change calculation, the DBM forecast includes the following assumptions.

- ***MFRI:*** Expenditures grow at a rate of 2.5%.

- ***MIEMSS:*** Expenditures grow at a rate of 0.4%.

- ***Shock Trauma Center:*** The DBM forecast provides the Shock Trauma Center with a $100,000 increase in fiscal 2020, reflecting a total grant amount of $3.4 million; however, this is not consistent with the actual appropriation provided in the allowance. The fiscal 2020 budget only allocated $3.3 million to the Shock Trauma Center. The out-year projections for the forecast also provide the center with a $100,000 increase each year through fiscal 2023, providing a total of $3.7 million in fiscal 2023 and beyond. This is to accommodate inflation and other operating expense increases for operating room standby and Go-Team costs.

- ***Amoss Fund:*** Grants provided to local jurisdictions total $15.0 million in fiscal 2020 per legislative intent in Chapter 429.

- ***MSPAC:*** Expenditures grow at a rate of 3.3%.

- ***MIEMSS Communications System:*** The fiscal 2020 allowance does not provide funding for the upgrade costs for the MIEMSS communications system project, consistent with original cost projections. However, revised cost estimates from DoIT based on the actual contract indicate the need for additional funding in fiscal 2021, which is not recognized in the DBM forecast.

With the calculation of lower growth rates, the DBM forecast predicts a closing balance of $15.0 million in fiscal 2025. As a point of comparison for understanding the impact of the change, the forecast developed by DBM for the 2018 session estimated a closing balance of $7.3 million at the end of fiscal 2024. The revised forecast offered at the 2019 session estimated the fund having $18.9 million at the close of fiscal 2024.

Appendix 2 provides the Department of Legislative Services' (DLS) MEMSOF forecast from fiscal 2018 through 2025. The DLS forecast continues to use the 10-year average rate of growth for projecting future agency operating expenses. In addition to offering a point of comparison from the DBM forecast, using a longer period for determining the average growth rate provides for more smoothing to account for significant or unique year-over-year changes. With the different calculation for rate of growth, significant variance results between the DBM and DLS forecasts. The assumptions that differ for the DLS forecast include the following.

- ***Fiscal 2018 Fund Balances:*** The DLS forecast shows a higher beginning and ending fund balance for fiscal 2018 due to the recognition of $1.7 million in additional revenues collected by the Judiciary from the moving violation surcharge that should be credited to fiscal 2017. These funds were mistakenly recognized in fiscal 2018 because of an information technology error within the Judiciary. The DBM forecast does not recognize these additional revenues at all.

- ***MVA Registration Fees:*** The DLS forecast shows that from fiscal 2019 through 2025, registration revenues will grow by 0.5% based on the anticipated year-to-year changes assumed in the Maryland Department of Transportation's fiscal 2018 *Final Consolidated Transportation Program* forecast. This is a minor variance from the 0.6% growth assumed by DBM.

- ***Moving Violation Surcharge:*** The DLS forecast recognizes the additional $25,000 provided to the Widows and Orphans Fund in fiscal 2019 and 2020, increasing the total appropriation for the fund to $325,000. This funding increase reduces the amount of revenue credited to MEMSOF from the moving violation surcharge. As this increased level of funding is a policy decision that should be made annually based on the health of MEMSOF, the DLS forecast does not recognize the enhanced level of funding beyond fiscal 2020. The DBM forecast assumes a 14% increase in surcharge revenues in fiscal 2019 and carrying forward despite the number of citations issued having declined by more than 24% since fiscal 2015.

- ***MFRI:*** Expenditures grow at a rate of 2.7%, slightly higher than the DBM forecast; however, in addition to utilizing the actual average annual growth for the past 10 years versus the most recent three years, the DLS forecast allocates funding in fiscal 2019 and 2020 for employee compensation enhancements that are not allocated in the DBM forecast.

- ***MIEMSS:*** The DLS forecast applies an expenditure growth rate of 3.6% to MIEMSS operating expenses. According to DBM, a growth rate of 0.4% was applied in the department's forecast. The DLS assumed rate of growth is based on average expenditures for fiscal 2009 through 2018. It is not clear how DBM calculated a growth rate of 0.4% as operating expenses for the three most recent years of actual spending (fiscal 2016 through 2018) reflect average annual growth of 0.1%. Operating expenses for MIEMSS in the DLS forecast do reflect one-time bonus funding in fiscal 2019 along with general salary increases in fiscal 2019 and 2020, which are not reflected in the DBM forecast. In addition, the DLS expenditures include operating expenses to maintain the agency's communications system, which had previously been budgeted separately from the MIEMSS general operations budget. These expenses have occurred for several years and are anticipated to be ongoing; therefore, DLS incorporated them into the general expenditures for the agency. The DLS forecast also assumes a $989,000 increase in operating expenses for the communications system beginning in fiscal 2024 based on the terms of the contract for the project.

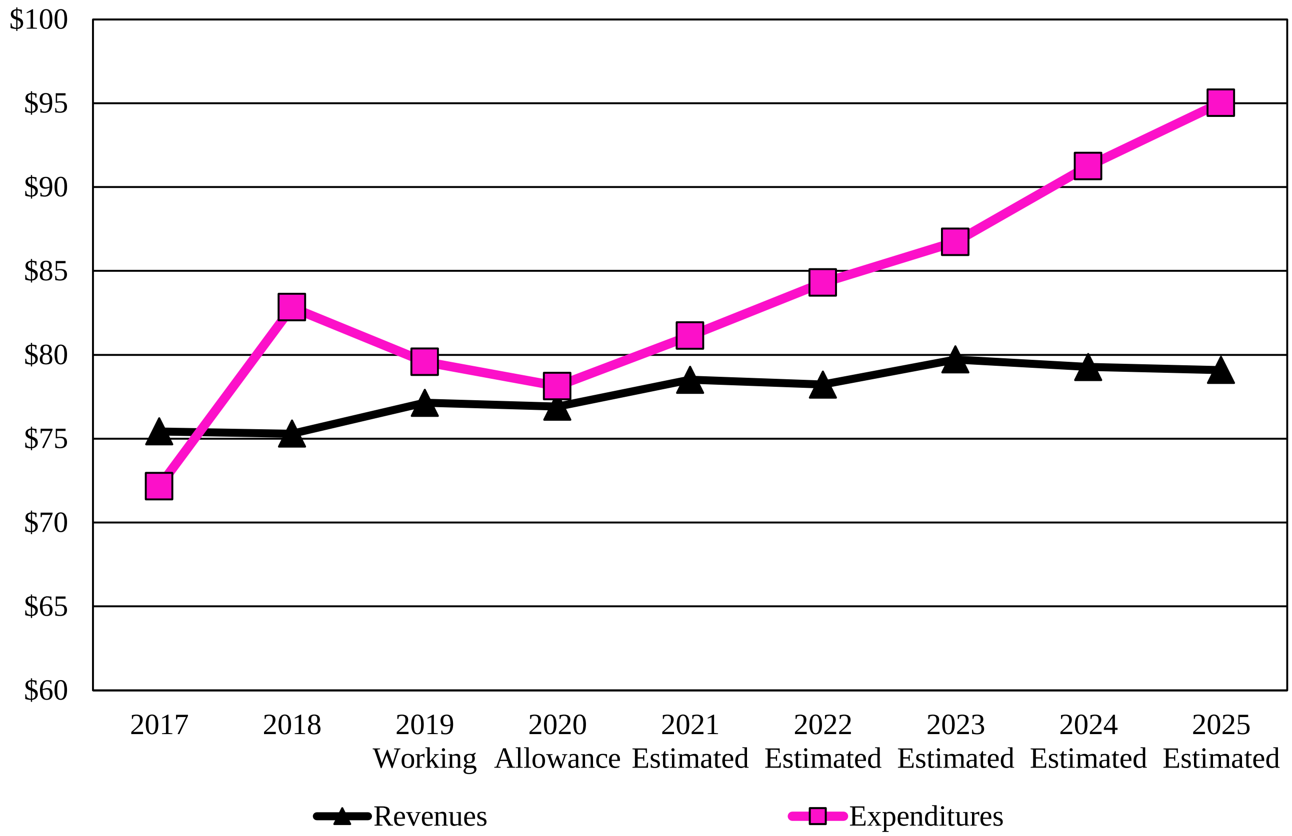
- ***Shock Trauma Center:*** The Shock Trauma Center receives $3.3 million in fiscal 2020, which is consistent with the budget but not the DBM forecast. DLS also does not assume the same increased funding in the out-years of the forecast. Providing funding above the $3.2 million minimum grant amount expressed through legislative intent in Chapter 429 is a policy decision that should be made annually based on the overall health of MEMSOF. As such, DLS recommends concurring with and maintaining the funding level in fiscal 2020 but does not reflect a continued increase beyond the current budget year being considered.

- ***MSPAC:*** Expenditures grow at a rate of nearly 6.5%, which is nearly double the DBM assumed rate of growth. The DLS forecast is based on 10-year average expenditures for fiscal 2009 through 2018, the most recent years of actual expense data available. The DBM assumed growth rate is based on expenditures for fiscal 2016 through 2018, figuring that the three most recent years reflect the full phase-in of the helicopter fleet and associated operating expenses, along with reasonable asumptions for growth in personnel expenditures. However, the 3.3% rate assumed by the department seems too low given that Department of State Police spending, exclusive of MSPAC, has grown at a rate of 4.6% over the past 10 years. The DLS forecast does allocate funding for employee bonuses, cost-of-living increases, and SLEOLA bargaining agreement provisions in fiscal 2019 and 2020, which are not reflected in the DBM forecast.

Based on these assumptions, the DLS forecast projects that MEMSOF will remain solvent through fiscal 2023 with an estimated closing balance of $7.8 million. Primarily due to enhanced spending on employee compensation, which are ongoing costs, the fund reaches insolvency one year earlier than was predicted in the 2018 session forecast. Assuming the increased funding level to the Shock Trauma Center presented in the DBM forecast and that the higher grant to the Widows and Orphans Fund is maintained, the fiscal 2023 fund balance would be reduced to about $6.7 million. In addition, the DLS forecast assumes an increase in interest rates to 2.4% in fiscal 2019 and beyond. To the extent that these higher interest rates are not realized, it could also impact the solvency of the fund in fiscal 2023.

MEMSOF revenue sources are not inflation sensitive. As shown in **Exhibit 4**, expenditures exceeded revenues for the first time since the fee increase in fiscal 2018 and are expected to remain that way for the duration of the forecast. The fiscal 2020 forecast has ongoing expenditures outpacing revenues by 3.4 percentage points, generating a spending gap of $15.9 million by fiscal 2025 and an overall shortfall in the closing fund balance of $20.1 million. This necessitates periodic revenue increases similar to that adopted at the 2013 session. Using DLS' current assumptions, MEMSOF will face insolvency in fiscal 2024.

Exhibit 4
MEMSOF Revenues versus Expenditures
Fiscal 2017-2025 Estimated
($ in Millions)



MEMSOF: Maryland Emergency Medical System Operations Fund

Source: Department of Legislative Services

2. Addressing MSPAC Long-term Helicopter Maintenance Needs Would Significantly Impact MEMSOF

Acquiring and maintaining a fleet of 10 AW139 helicopters has been a significant undertaking for MSPAC, from both a fiscal and operational perspective. Currently, maintenance of the fleet, located at seven locations throughout the State, is performed by MSPAC maintenance personnel and by an outside vendor, as needed, under master services contracts approved by BPW in January 2017. As of the end of fiscal 2018, the entire fleet is no longer under the original warranties.

In the 2018 *Joint Chairmen's Report*, MSPAC was asked to report to the budget committees on the long-term costs associated with maintaining the fleet, including the future need to overhaul engines and tail rotors, as these costs would likely have a significant impact on MEMSOF. In addition, MSPAC was asked to explore options for limiting the overall fiscal impact for providing this necessary maintenance.

Current and Future Maintenance Needs

Currently, MSPAC spends approximately $5.0 million maintaining the helicopter fleet. This includes parts and materials required to perform the maintenance, not the cost of MSPAC labor. Examples of recurring maintenance tasks include:

- ***Inspections:*** can occur at varying intervals, (*e.g.*, daily, after 100 hours of flight time, after a certain number of landings, every two years, *etc.*);

- ***Service Life Limit (SLL) Part Replacements:*** a part has reached its known maximum life, regardless of condition, and must be retired from use;

- ***On Condition Part Replacements:*** maintenance activities that occur outside of an inspection, specific interval, need for an overhaul, or having reached the service life limit;

- ***Major Component Overhauls:*** components or parts of the helicopter that will, at some future point, require a complete overhaul; and

- ***Engine Restoration:*** includes base maintenance to the engine completed at specific flight time intervals and more extensive overhauls.

MSPAC estimates that the more expensive maintenance requirements, primarily major overhauls of the engine and main gear box, would be required beginning in fiscal 2029 and span through fiscal 2034. In total, using calendar 2018 pricing, MSPAC estimates additional maintenance costs of $23.1 million for major overhauls, in addition to the $5.0 million spent on standard maintenance annually, not accounting for inflation. This brings expected maintenance costs, not including MSPAC labor or unforeseen/unscheduled maintenance expenses, to nearly $100 million over the next 15 years.

Options for Addressing Long-term Maintenance Needs

One solution explored by MSPAC to avoid some of the expense of the long-term maintenance costs was enrollment in a service program that includes an initial buy-in, along with a monthly fee based on flight hours and/or landings per flight hour but would provide access to spare parts and maintenance services, including coverage for any unplanned or expensive overhaul maintenance events.

MSPAC explored three options for maintenance plans through the AW139 manufacturer, Leonardo, which would not include overhaul of the engines. A separate plan offered through Pratt & Whitney would cover engine overhauls. The three plans offered through Leonardo include:

- ***Essential Plan (EP):*** covers the main drive components of the basic aircraft configuration, includes materials and spare parts for scheduled and unscheduled maintenance, replacement of all parts reaching SLL, and exchange of components that have reached their discard time;

- ***Full Components Plan (FCP):*** covers all components of the basic aircraft configuration (including structures), same materials and parts coverage as EP, plus part support for mandatory technical bulletins; and

- ***Operational Support Plan:*** provides the same coverage as FCP, in addition to maintenance support for executing all basic maintenance scheduled inspections (*i.e.*, flight hour or annual inspections) that occur at a Leonardo facility.

All service plan options would not cover any work required for the helicopter engines, avionics, or mission equipment (*e.g.*, hoist assembly, infrared cameras, searchlights, medical components, *etc*.). In addition, most day-to-day or general wear-and-tear maintenance would not be included. This includes issues with paint, interiors, ground support equipment, troubleshooting labor, *etc.* Transportation costs for getting the fleet and/or parts between Leonardo and the MSPAC facility are also excluded from the cost. Finally, any damage or wear found due to corrosion or the environment would not be covered.

According to MSPAC, the minimum term of the initial agreement with Leonardo would last four years, assuming a minimum of 200 flights hours per year per aircraft, regardless of the actual number of flight hours accrued. MSPAC is currently averaging approximately 300 flight hours with its fleet. The terms would also require an annual escalation in the plan rate at the start of each calendar year based on indexes published by the U.S. Department of Labor, which range between 1.5% and 3% annually.

Exhibit 5 provides a comparison of the costs associated with each service plan. Each plan includes a buy-in to account for years not enrolled in a service plan. The buy-in amount is negotiable based on varying factors and, therefore, is only an estimate as of March 2018.

In order to cover all major components and potentially significant maintenance events, MSPAC would need to purchase separate service plan agreements with Leonardo and Pratt & Whitney. As the exhibit shows, the cost of both agreements would require a minimum of $16.4 million in year one (including the one-time buy-in amounts) for the base service plan and $3.1 million for each subsequent year, not accounting for inflationary increases.

In its analysis, MSPAC recommends pursuing the FCP option, which would provide more complete coverage of the helicopters but not overpay for scheduled maintenance services that could otherwise be performed by MSPAC maintenance staff. FCP, along with the Pratt & Whitney engine service plan, would require upfront costs of $21.6 million in year one of the agreement and $4.1 million for each subsequent year, absent any inflationary growth.

Exhibit 5
Maryland State Police Aviation Command
Helicopter Fleet Maintenance Service Plan Options

	Essential Plan	Full Components Plan	Operational Support Plan
Hourly Rate	$562	$867	$1,478
Delta Rate Landings (Landing Per Flight Hour Fee)	32	32	32
Estimated Buy-in	7,500,000	11,800,000	TBD
Estimated Annual Fee Based on 3,000 Flight Hours Per Year	1,782,000	2,697,000	4,530,000
Leonardo Subtotal (Fee + Buy-in)	**9,282,000**	**14,497,000**	**TBD**
Pratt & Whitney Engine Maintenance Annual Fee	1,353,480	1,353,480	1,353,480
Pratt & Whitney Engine Maintenance Initial Buy-in	5,749,815	5,749,815	5,749,815
Pratt & Whitney subtotal (Fee + Buy-in)	**7,103,295**	**7,103,295**	**7,103,295**
Total Year One Cost, All Plans	**16,385,295**	**21,600,295**	**TBD**
Ongoing Annual Costs, All Plans	3,135,480	4,050,480	5,883,480

TBD: to be determined

Source: Maryland State Police Aviation Command; Department of State Police

MSPAC argues that pursuing the FCP and Pratt & Whitney plans would eliminate capital costs for spare parts, allow for more predictable budgeting by eliminating the impact of unforeseen or unscheduled maintenance, and eliminate the need for maintaining a high volume of component inventory. These plans would not reduce the need for MSPAC maintenance staff in any way, as the overhauls and component repairs that would be covered under the plans are beyond the skill scope of the MSPAC technicians and would require outside maintenance support regardless of whether a service plan was in place. In addition, basic care for the helicopters provided by existing MSPAC staff is not included in the plans and would continue to need to be provided.

Potential Concern for the Health of MEMSOF

MSPAC estimates that purchasing these service plans would save the State between $5 million and $10 million over the next 15 years. These plans would be more beneficial if the fleet were to encounter costly unscheduled or unforeseen maintenance issues. Of concern is how such a large expense, particularly in year one, would be absorbed by MSPAC and MEMSOF. The DLS forecast predicts a closing balance of $23.7 million at the end of fiscal 2020. On its own, the estimated buy-in of $17.5 million would nearly deplete the fund. The report submitted by MSPAC provides no suggestions or recommendations for how to pay for the recommended service plans. In lieu of purchasing any maintenance support plans, MSPAC has indicated that it will continue with utilizing the master services contracts and internal staff.

MSPAC should be prepared to discuss the findings of its report, the current state of the helicopter fleet, any significant maintenance issues that have been encountered to date, and potential solutions for how to cover the expense of these plans.

Appendix 1
Maryland Emergency Medical Services Operations Fund Statements
Department of Budget and Management
Fiscal 2018-2025 Estimated

	2018 Actual	2019 Working	2020 Allowance	2021 Estimated	2022 Estimated	2023 Estimated	2024 Estimated	2025 Estimated
Beginning Balance (7/1)	**$33,066,643**	**$25,536,707**	**$23,586,620**	**$24,151,595**	**$24,629,253**	**$23,300,069**	**$22,038,668**	**$18,943,977**
MVA Registration Fees	$72,231,494	$73,893,000	$73,671,000	$75,107,000	$74,886,000	$76,602,000	$76,381,000	$77,283,724
Interest Income	412,803	486,370	472,656	482,979	474,548	448,898	405,769	376,128
Moving Violations Surcharge	2,655,008	3,014,167	3,014,167	3,014,167	3,014,167	3,014,167	3,014,167	3,014,167
Replenishments and Transfers (Citations)								
Current Year Revenues	**$75,299,305**	**$77,393,537**	**$77,157,823**	**$78,604,146**	**$78,374,715**	**$80,065,065**	**$79,800,936**	**$80,674,019**
MFRI (UMCP)	$8,795,184	$9,112,859	$9,361,859	$9,598,143	$9,840,390	$10,088,751	$10,343,381	$10,604,437
MIEMSS	13,884,416	13,890,605	14,083,765	14,138,430	14,193,307	14,248,398	14,303,702	14,359,220
Shock Trauma Center	3,200,000	3,300,000	3,400,000	3,500,000	3,600,000	3,700,000	3,700,000	3,700,000
Grants to Local Fire, Rescue, and Ambulance	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000
MSP – Aviation Division	31,656,881	32,845,115	32,952,179	34,041,019	35,165,838	36,327,824	37,528,206	38,841,629
MIEMSS Communication System Upgrade	8,649,999	3,400,000						
MIEMSS Communication System Upgrade Maintenance	1,642,761	1,795,044	1,795,044	1,848,895	1,904,362	1,961,493	2,020,338	2,080,948
Current Year Expenditures	**$82,829,241**	**$79,343,623**	**$76,592,847**	**$78,126,487**	**$79,703,897**	**$81,326,466**	**$82,895,627**	**$84,586,234**
Ending Balance (6/30)	**$25,536,707**	**$23,586,621**	**$24,151,596**	**$24,629,254**	**$23,300,071**	**$22,038,668**	**$18,943,977**	**$15,031,762**

MFRI: Maryland Fire and Rescue Institute
MIEMSS: Maryland Institute for Emergency Medical Services Systems
MSP: Maryland State Police
MVA: Motor Vehicle Administration
Shock Trauma Center: R Adams Cowley Shock Trauma Center
UMCP: University of Maryland, College Park Campus

Source: Department of Budget and Management

Appendix 2
Maryland Emergency Medical Services Operations Fund Statements
Department of Legislative Services
Fiscal 2018-2025 Estimated

	2018 Actual	2019 Working	2020 Allowance	2021 Estimated	2022 Estimated	2023 Estimated	2024 Estimated	2025 Estimated
Beginning Balance (7/1)	**$34,725,246**	**$27,195,309**	**$24,750,631**	**$23,530,094**	**$20,909,083**	**$14,834,346**	**$7,834,365**	**-$4,144,947**
MVA Registration Fees	$72,231,494	$73,892,818	$73,708,086	$75,329,664	$75,148,873	$76,802,148	$76,617,823	$76,433,940
Interest Income	412,803	615,960	572,499	526,947	423,835	268,799	0	0
Moving Violations Surcharge	2,655,008	2,630,008	2,630,008	2,655,008	2,655,008	2,655,008	2,655,008	2,655,008
Replenishments and Transfers In	0	0	0	0	0	0	0	0
Current Year Revenues	**$75,299,305**	**$77,138,786**	**$76,910,593**	**$78,511,618**	**$78,227,716**	**$79,725,955**	**$79,272,831**	**$79,088,948**
MFRI (UMCP)	$8,795,184	$9,162,098	$9,595,348	$9,851,806	$10,115,119	$10,385,469	$10,663,046	$10,948,041
MIEMSS	15,527,177	14,821,519	15,235,891	15,782,159	16,348,012	16,934,154	18,530,312	19,194,698
Shock Trauma Center	3,200,000	3,300,000	3,300,000	3,300,000	3,300,000	3,300,000	3,300,000	3,300,000
Grants to Local Fire, Rescue, and Ambulance.	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000
MSP – Aviation Division	31,656,881	32,975,147	34,075,190	36,273,965	38,614,621	41,106,312	43,758,785	46,582,415
MIEMSS Communication System Upgrade	8,650,000	4,324,700	924,700	924,700	924,700			
Current Year Expenditures	**$82,829,242**	**$79,583,464**	**$78,131,129**	**$81,132,630**	**$84,302,452**	**$86,725,936**	**$91,252,143**	**$95,025,154**
Ending Balance (6/30)	**$27,195,309**	**$24,750,631**	**$23,530,094**	**$20,909,083**	**$14,834,346**	**$7,834,365**	**-$4,144,947**	**-$20,081,153**

MIEMSS: Maryland Institute for Emergency Medical Services Systems
MFRI: Maryland Fire and Rescue Institute
MSP: Maryland State Police

MVA: Motor Vehicle Administration
Shock Trauma Center: R Adams Cowley Shock Trauma Center
UMCP: University of Maryland, College Park Campus

Source: Department of Legislative Services