

R55Q00
Aid to University of Maryland Medical System

Operating Budget Data

(\$ in Thousands)

	<u>FY 02</u>	<u>FY 03</u>	<u>FY 04</u>	<u>FY 02-04</u> <u>Change</u>	<u>FY 05</u>	<u>FY 04-05</u> <u>Change</u>
Grants	\$9,513	\$9,329	\$9,677	\$164	\$9,786	\$109
General Funds	2,748	2,466	2,714	-35	2,822	109
Special Funds	6,765	6,863	6,964	199	6,964	0
Adjusted Grand Total	\$9,513	\$9,329	\$9,677	\$164	\$9,786	\$109
Annual % Change		-1.9%	3.7%		1.1%	

- The fiscal 2005 allowance increases by \$108,540 over the fiscal 2004 working appropriation due to an inflationary increase in the general fund subsidy for the Montebello Rehabilitation Center at Kernan Hospital.

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

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Analysis in Brief

Recommended Actions

	<u>Funds</u>
1. Reduce general funds for the State subsidy to the Montebello Rehabilitation Center at Kernan Hospital.	\$ 108,540
Total Reductions	\$ 108,540

Updates

Mass Casualty Preparedness and Military Partnership: The new definition of “emergency preparedness” has expanded beyond normal disaster situations such as train derailments and multi-vehicle interstate crashes. Mass casualty preparedness now requires planning, logistics, and skill sets to respond to the health and medical demands of explosive, chemical, biological, and nuclear/radiologic terror. The University of Maryland Medical System and the R Adams Cowley Shock Trauma Center (Shock Trauma Center) have participated in various drills to test preparedness. The Shock Trauma Center has also been actively exploring ways to expand military partnerships. The Shock Trauma Center has developed a partnership with the U.S. Air Force – the scope of preparedness work now incorporates the expertise, training, equipment, and funding of the U.S. Air Force.

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Operating Budget Analysis

Program Description

The University of Maryland Medical System (UMMS), a private nonprofit corporation, was created by legislation in 1984 to provide governance and management over the operation of the formerly State-run University of Maryland Hospital. The mission of the medical system is to provide tertiary care to the State and surrounding areas, to provide comprehensive care to the local community, and to serve as the primary site for health care education and research for the University System of Maryland. The system now includes the James Lawrence Kernan Hospital, the Marlene and Stewart Greenebaum Cancer Center, University Hospital, R Adams Cowley Shock Trauma Center (Shock Trauma Center), and University Specialty Hospital (formerly Deaton Specialty Hospital).

The Shock Trauma Center is the core element of the State's Emergency Medical Services (EMS) system and serves as the State's Primary Adult Resource Center (PARC) for the treatment of trauma. Specifically, the law mandates the Shock Trauma Center to serve as (a) the State's primary adult trauma center; (b) the statewide referral center for the treatment of head, spinal, and multiple trauma injuries; (c) the regional trauma center for Region III and the southwest quadrant of Baltimore City; and (d) the statewide referral center for patients in need of hyperbaric medical treatment. Eight other trauma centers are located throughout the State:

- one in Cumberland serving Western Maryland;
- one in Washington County;
- two serving the Washington metropolitan area, with one each in Montgomery and Prince George's counties;
- one in Salisbury serving the Peninsula region; and
- three others located in Baltimore City.

Aid to UMMS comes in the form of general funds for the Montebello Rehabilitation Center at Kernan Hospital and special funds for the Shock Trauma Center. The special funds for the Shock Trauma Center come from the Maryland Emergency Medical System Operations Fund (MEMSOF), created by the 1992 General Assembly. Support for the fund is from a surcharge on motor vehicle registrations, which was increased from \$8 to \$11 through enactment of Chapter 33, Acts of 2001. An EMS Board was created under Chapter 592, Acts of 1993 and consists of 11 members appointed by the Governor for a four-year term. The EMS Board is tasked with developing, adopting, and monitoring a statewide plan to ensure effective coordination and evaluation of EMS. The EMS

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Board is also required to review and approve budgets for Maryland Institute for Emergency Medical Services Systems (MIEMSS), the Maryland Fire and Rescue Institute (MFRI), the Maryland State Police Aviation Division, and the Shock Trauma Center.

Governor's Proposed Budget

The fiscal 2005 allowance for State aid to UMMS is \$9,785,809. This represents an increase of \$108,540 (1.1%) over the fiscal 2004 working appropriation. The allowance for general funds is \$2,822,052, an increase of \$108,540 (4.0%) over the fiscal 2004 general fund working appropriation. The fiscal 2005 special fund allowance of \$6,963,757 does not change from the fiscal 2004 special fund working appropriation. **Exhibit 1** provides information on total State aid to UMMS in fiscal 2005.

Exhibit 1
Fiscal 2005 State Aid to UMMS
(\$ in Thousands)

<u>State Aid</u>	<u>Amount</u>
Montebello Rehabilitation Center at Kernan Hospital aid for uncompensated care	\$2,072
Montebello Rehabilitation Center at Kernan Hospital capital debt service	750
General Fund Subtotal	\$2,822
Shock Trauma Center capital support for equipment and facility renewal	3,500
Shock Trauma Center operating subsidy	3,464
Special Fund Subtotal	\$6,964
Total	\$9,786

Source: State Budget Books, fiscal 2005

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Exhibit 2 shows the distribution of funds.

Exhibit 2
Governor's Proposed Budget
Aid to University of Maryland Medical System
(\$ in Thousands)

	<u>FY 03</u> <u>Actual</u>	<u>FY 04</u> <u>Approp.</u>	<u>FY 05</u> <u>Allowance</u>	<u>FY 04-05</u> <u>Change</u>	<u>FY 04-05</u> <u>% Change</u>
General Funds	\$2,466	\$2,714	\$2,822	\$109	4.0%
Special Funds	\$6,863	\$6,964	\$6,964	\$0	0.0%
Adjusted Grand Total	\$9,329	\$9,677	\$9,786	\$109	1.1%

Where It Goes:

Changes

Increase in general fund subsidy for the Montebello Rehabilitation Center at Kernan Hospital	\$109
Total	\$109

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

Montebello Rehabilitation Center at Kernan Hospital

The Montebello Rehabilitation Center at Kernan Hospital provides intensive rehabilitation services to patients with head and spinal cord injuries and other acute trauma, stroke, and rehabilitable disabilities. The total fiscal 2005 allowance for the Montebello Rehabilitation Center at Kernan Hospital is \$2,822,052. This amount includes \$2,072,052 in uncompensated care and \$750,000 in capital costs.

The methodology used to calculate the uncompensated care portion of the support is consistent with prior years. Through a Bad Debt Regression calculation prepared by the Health Services Cost Review Commission (HSCRC), the agreed upon State funding for uncompensated care is 4.29% of Kernan Hospital gross regulated revenue for fiscal 2003. Total gross regulated revenue for Kernan Hospital in fiscal 2003, adjusted downward to limit growth in State support, was \$48,299,580. Therefore, UMMS has requested \$2,072,052 in fiscal 2005 for uncompensated care.

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The \$750,000 for capital costs represents the scheduled annual portion for capital costs as agreed in prior years. When Montebello was transferred to UMMS in 1993, the Montebello Hospital was obsolete and had not been upgraded by the State. Rather than investing in the old physical plant at Montebello, the State and UMMS agreed that the Montebello Rehabilitation Program should be moved to Kernan Hospital and housed in the new William Donald Schaefer Rehabilitation Center which opened in 1996. The \$750,000 in capital costs for fiscal 2005 is for principal and interest on the bonds issued by Kernan to fund the construction of the Schaefer Rehabilitation Center at Kernan.

Operating Subsidy for the Shock Trauma Center

State funding for the Shock Trauma Center has been provided since 1982 to help offset uncompensated care, standby, and research and physician education costs resulting from the center's EMS activities which cannot be recovered through the current rate structure imposed by HSCRC. From fiscal 1988 through 2004, the Shock Trauma Center has received an annual average of \$3,035,000 in State operating support. Although the Shock Trauma Center has received between 2 to 3% in annual inflationary adjustments, the fiscal 2005 allowance does not increase over the fiscal 2004 working appropriation.

During the 2003 legislative session, significant interest was initiated in the Maryland trauma and emergency medical response system. Chapter 385, Acts of 2003 created the Maryland Trauma Physician Services Fund to reimburse trauma centers and trauma center physicians. The fund is financed through a \$2.50 annual surcharge on Maryland motor vehicle registrations. The fund is separate from the \$11 annual surcharge on motor vehicle registrations that goes toward MEMSOF. Along with the eight other trauma centers located throughout the State, the Shock Trauma Center receives an estimated \$3.1 million annually from the Maryland Trauma Physician Services Fund to reimburse physicians. The portion that Shock Trauma receives from the Maryland Trauma Physician Services Fund goes directly to trauma physicians through a professional association and does not influence any unrecoverable standby costs experienced by Shock Trauma. The Shock Trauma Center standby costs are only associated with nurses and admitting personnel in the Trauma Resuscitation Unit, Operating Room, and Post Anesthesia Care Unit. Therefore, the Maryland Trauma Physician Services Fund may help to stabilize the physician workforce, but it would not have a direct impact on the Shock Trauma Center's bottom line.

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Exhibit 3 shows actual and estimated unrecoverable costs for the Shock Trauma Center from fiscal 2002 through 2006. The Shock Trauma Center projects its unrecoverable costs will be \$11,248,000 for fiscal 2005. The requested subsidy of \$3,463,757 will offset 30.8% of the unrecoverable costs, leaving \$7,784,243 to be absorbed by UMMS.

Exhibit 3
Shock Trauma Center Costs Not Recoverable through Patient Rates
Fiscal 2002 – 2006
(\$ in Thousands)

	<u>FY 02</u> <u>Actual</u>	<u>FY 03</u> <u>Actual</u>	<u>FY 04</u> <u>Estimated</u>	<u>FY 05</u> <u>Estimated</u>	<u>FY 06</u> <u>Estimated</u>
Excess uncompensated care	\$6,619	\$7,568	\$8,036	\$8,197	\$8,361
Standby costs	2,197	2,603	2,681	2,761	2,844
Research and physician education	266	274	282	290	300
Total Unrecoverable Costs	\$9,082	\$10,445	\$10,999	\$11,248	\$11,505
EMS Operations Fund Subsidy	3,265	3,363	3,464	3,464	3,568
Unrecoverable Costs Absorbed by UMMS	-\$5,817	-\$7,082	-\$7,535	-\$7,784	-\$7,937
Percent of Unrecoverable Costs Supported by Subsidy	36.0%	32.2%	31.5%	30.8%	31.0%

Source: University of Maryland Medical System

- **Excess Uncompensated Care:** For fiscal 2005, total uncompensated care at the Shock Trauma Center is estimated to be \$43.7 million, or 31.0% of Shock Trauma's gross patient services revenue. The amount recovered through patient rates will be \$35.5 million of the total \$43.7 million of uncompensated care. Therefore, \$8.2 million of uncompensated care will not be recovered in patient rates. The \$8.2 million of excess uncompensated care represents 5.8% of Shock Trauma's \$141,322,000 in gross patient revenue for fiscal 2005.

Shock Trauma advises that its level of uncompensated care far exceeds that of any other Maryland hospital largely because of the unique emergency care mission. The center's high level of uncompensated care results primarily from the following: (1) the center treats a high percentage of patients who either have no health insurance or are underinsured; (2) health care cost containment measures such as higher coinsurance and deductibles, and increasing use of health management organizations has resulted in unpaid patient liabilities and increased denial of hospital reimbursement requests; and (3) the emergency nature of Shock Trauma admissions makes it impossible to screen patients for ability to pay prior to rendering service. In recent years this situation has been exacerbated by hospital patient rate freezes imposed by HSCRC.

Exhibit 4 shows the amount of excess uncompensated care not recovered through patient rates as a percentage of gross patient revenues.

Exhibit 4
Shock Trauma Center Analysis of Uncompensated Care
Fiscal 2000 – 2006
(\$ in Thousands)

<u>Fiscal Year</u>	<u>Gross Patient Revenue</u>	<u>Excess Uncompensated Care</u>	<u>Excess Uncompensated Care as a Percentage of Gross Patient Revenues</u>
2000 Actual	\$85,496	\$4,792	5.6%
2001 Actual	100,032	5,738	5.7%
2002 Actual	114,123	6,619	5.8%
2003 Actual	130,481	7,568	5.8%
2004 Budget	138,551	8,036	5.8%
2005 Estimated	141,322	8,197	5.8%
2006 Estimated	144,148	8,361	5.8%

Source: University of Maryland Medical System

- **Standby Costs:** Standby costs are associated with maintaining around-the-clock coverage in the trauma resuscitation area, operating, and recovery rooms. The Shock Trauma Center also maintains 24-hour attending physician coverage for trauma surgery, anesthesia, orthopedic surgery, and neurosurgery. The center's unique size and statewide PARC designation requires it to maintain a level of standby capacity that exceeds that of any other regional hospital or trauma center in Maryland. Consequently, designation as the statewide PARC results in significant expenditures, as the center must maintain a state of readiness at the highest level of care for treating the most severely injured adults in Maryland. The Shock Trauma Center standby costs are only associated with nurses and admitting personnel in the Trauma Resuscitation Unit, Operating Room, and Post Anesthesia Care Unit. As shown in Exhibit 3, standby costs not recovered in patient rates are projected to be \$2,761,000 in fiscal 2005. Exhibit 3 also shows that these unrecoverable costs have increased since fiscal 2002.
- **Research and Education:** As the core clinical resource for Maryland's EMS system, the Shock Trauma Center has an active research program. With data collected on each patient treated, the center can predict patient outcomes by specific types of injuries. The research extends to pre-hospital and rehabilitation services. In addition, the Shock Trauma Center serves as an educational resource for physicians, medical students, nurses, nursing students, other health care professionals, and pre-hospital providers. As shown in Exhibit 3, unrecoverable research and

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education costs are expected to total \$290,000 in fiscal 2005. HSCRC rates do not allow for research and education costs to be recovered in rates.

Equipment and Facility Renewal

The fiscal 2005 allowance for aid to UMMS includes \$3.5 million in special funds from MEMSOF to assist UMMS with efforts to replace and modernize its aging equipment and technology at the Shock Trauma Center. The grant funds infrastructure upgrades and replacements such as medical air pumps, emergency generators, and wireless patient information technology. The funds also helped UMMS to acquire new “multi-slice” spiral computed tomography (CT) scanners acquired in fiscal 2002 and 2003. This technology means that patients with critical injuries can have their chest or abdomen scanned in a matter of seconds rather than minutes. The speed of the new CT scanners contributes to faster patient throughput, a major efficiency factor when treating 7,000 patients a year.

Funding first appeared for equipment and facility renewal in the fiscal 2001 budget, when \$3.5 million in special funds from MEMSOF was provided. When additional MEMSOF funds became available through an increase in the motor vehicle registration fee surcharge from \$8 to \$11 (Chapter 33, Acts of 2001), fiscal 2002 through 2004 also saw an annual \$3.5 million appropriation. State support for this initiative is not expected to continue past fiscal 2005. Although the EMS Board reviews and approves the operating budget for the Shock Trauma Center, it does not review and approve funds for equipment and facility renewal.

Additional State Funds to UMMS

UMMS receives funding from the Cigarette Restitution Fund (CRF) for cancer and tobacco-related disease research activities of approximately \$14.6 million in the fiscal 2005 allowance. A complete analysis of the CRF will be provided in the Department of Legislative Services' CRF Overview.

Performance Analysis

Exhibit 5 provides selected performance data for the Shock Trauma Center. General use of the center can be measured from the admissions rate. Annual admissions are estimated to increase at an average annual rate of 1.5% from fiscal 2003 to 2005. Originally designed to serve a maximum of 3,500 patients, the Shock Trauma Center admitted 7,035 patients in fiscal 2003. The center has dealt with an admissions rate far in excess of what the facility was designed to handle through the implementation of technological advances in acute trauma care and internal restructuring of patient flow management policies. The impact of these technological advances and managerial practices is most apparent in the steady rate of patient average length of stay. From fiscal 2001 to 2005, the average length of stay is estimated to remain very level, at or near 4.3 days.

The trends in patient admissions and average length of stay drive two other patient-volume indicators: average daily census and patient days. The average daily census of the Shock Trauma Center and number of total patient days is estimated to increase from fiscal 2003 to 2005, in line with projected average annual admissions growth. Both measures are estimated to achieve average annual growth of 1.3% from fiscal 2003 to 2005. UMMS reported one patient diversion during fiscal 2002 and four patient diversions in fiscal 2003. It expects to experience four patient diversions in fiscal 2004 and five in fiscal 2005. The low numbers of patient diversions shows Shock Trauma's ability to efficiently operate even during periods of heavy patient inflow.

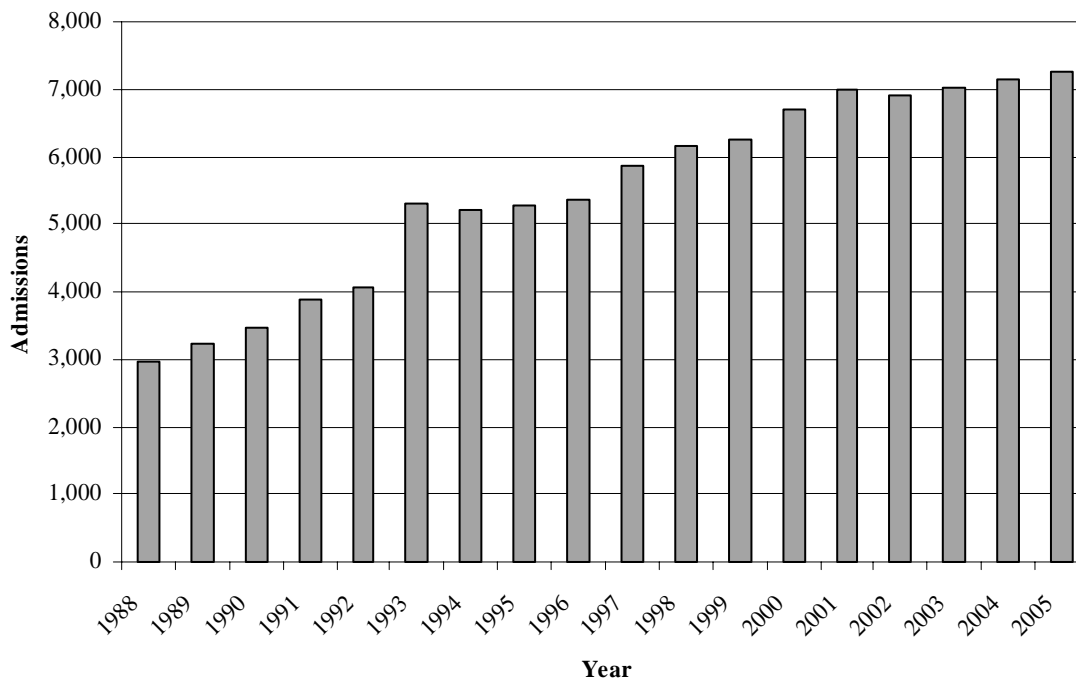
Exhibit 5
Program Measurement Data
Shock Trauma Center
Fiscal 2001 – 2005

	<u>Actual</u> <u>2001</u>	<u>Actual</u> <u>2002</u>	<u>Actual</u> <u>2003</u>	<u>Est.</u> <u>2004</u>	<u>Est.</u> <u>2005</u>	<u>Ann.</u> <u>Chg.</u> <u>01-03</u>	<u>Ann.</u> <u>Chg.</u> <u>03-05</u>
Admissions	6,996	6,915	7,035	7,140	7,248	0.3%	1.5%
Average length of stay	4.45	4.54	4.33	4.31	4.31	-1.4%	-0.2%
Average daily census	85.4	86.0	83.4	84.2	85.5	-1.2%	1.3%
Patient days	31,167	31,389	30,445	30,745	31,210	-1.2%	1.3%
Patient diversions	0	1	4	4	5	200%	11.8%

Source: University of Maryland Medical System

Exhibit 6 provides the Shock Trauma Center's admissions data from fiscal 1988 through 2005.

Exhibit 6
Shock Trauma Center Admissions
Fiscal 1988 – 2005



Source: University of Maryland Medical System

Recommended Actions

	<u>Amount Reduction</u>	
1. Reduce general funds for the State subsidy to the Montebello Rehabilitation Center at Kernan Hospital. This action would bring the subsidy down to the amount appropriated in fiscal 2004.	\$ 108,540	GF
Total General Fund Reductions	\$ 108,540	

Updates

1. Mass Casualty Preparedness and Military Partnership

The new definition of “emergency preparedness” has expanded beyond normal disaster situations such as train derailments and multi-vehicle interstate crashes. Mass casualty preparedness now requires planning, logistics, and skill sets to respond to the health and medical demands of explosive, chemical, biological, and nuclear/radiologic terror. In collaboration with the Maryland Institute for Emergency Medical Services Systems (MIEMSS), the Department of Health and Mental Hygiene (DHMH), the Maryland Emergency Management Agency (MEMA), and the Maryland Hospital Association (MHA), UMMS and the Shock Trauma Center are establishing the infrastructure to initially support the receipt of 50 to 200 patients for the first 24 to 48 hours following a terrorism event. In July 2002, the Shock Trauma Center participated in the Freestate Response 2002 Drill designed to test capacity to handle a major terrorist attack. The Shock Trauma Center continues to participate in drills coordinated by MIEMSS, MEMA, Baltimore City, and other government agencies, as well as those initiated by private enterprises such as Baltimore’s chemical and professional sports industries. The Shock Trauma Center is working to upgrade surveillance and laboratory diagnostic capability, decontamination capacity, communications, and information infrastructure and security.

The Shock Trauma Center has been actively exploring ways to expand military partnerships. For the past 24 months, Shock Trauma has hosted 13 U.S. Air Force personnel in several trauma and critical care specialties. In the last 18 months, it has also trained approximately 30 U.S. Air Force personnel per month from bases around the world. Many of those trained at Shock Trauma are deployed immediately to active war zones. The Shock Trauma Center believes that this military partnership has contributed to its overall preparedness. The scope of its preparedness work now incorporates the expertise, training, equipment, and funding of the U.S. Air Force.

Current and Prior Year Budgets

Current and Prior Year Budgets Aid to University of Maryland Medical System (\$ in Thousands)

	<u>General Fund</u>	<u>Special Fund</u>	<u>Federal Fund</u>	<u>Reimb. Fund</u>	<u>Total</u>
Fiscal 2003					
Legislative Appropriation	\$2,593	\$6,863	\$0	\$0	\$9,456
Deficiency Appropriation	0	0	0	0	0
Budget Amendments	0	0	0	0	0
Cost Containment	-127	0	0	0	-127
Reversions and Cancellations	0	0	0	0	0
Actual Expenditures	\$2,466	\$6,863	\$0	\$0	\$9,329
Fiscal 2004					
Legislative Appropriation	\$2,714	\$6,964	\$0	\$0	\$9,677
Cost Containment	0	0	0	0	0
Budget Amendments	0	0	0	0	0
Working Appropriation	\$2,714	\$6,964	\$0	\$0	\$9,677

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

Fiscal 2003

Fiscal 2003 expenditures for UMMS totaled \$9,328,911, which is \$127,062 less than the legislative appropriation. The \$127,062 decrease occurred with a fiscal 2003 cost containment reduction to the Montebello Rehabilitation Center general fund operating subsidy.

**Fiscal Summary
Aid to University of Maryland Medical System**

<u>Unit/Program</u>	<u>FY03 Actual</u>	<u>FY04 Legislative Appropriation</u>	<u>FY04 Working Appropriation</u>	<u>FY03 - FY04 % Change</u>	<u>FY05 Allowance</u>	<u>FY04 - FY05 % Change</u>
0001 Aid to University of Maryland Medical System	\$ 9,328,911	\$ 9,677,269	\$ 9,677,269	3.7%	\$ 9,785,809	1.1%
Total Expenditures	\$ 9,328,911	\$ 9,677,269	\$ 9,677,269	3.7%	\$ 9,785,809	1.1%
General Fund	\$ 2,466,040	\$ 2,713,512	\$ 2,713,512	10.0%	\$ 2,822,052	4.0%
Special Fund	6,862,871	6,963,757	6,963,757	1.5%	6,963,757	0%
Total Appropriations	\$ 9,328,911	\$ 9,677,269	\$ 9,677,269	3.7%	\$ 9,785,809	1.1%

Note: The fiscal 2004 appropriation does not include deficiencies, and the fiscal 2005 allowance does not reflect contingent reductions.