#### **State Retirement and Pension System of Maryland**

Actuarial Valuation and Review as of June 30, 2007

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JUNE, 2008 REVISED



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June 6, 2008

Board of Trustees State Retirement and Pension System of Maryland 120 East Baltimore Street Baltimore, MD 21202

Dear Board Members:

We are providing this revised Actuarial Valuation and Review as of June 30, 2007. It summarizes the actuarial data used in the valuation, establishes the funding requirements for the budget beginning July 1, 2008 and analyzes the preceding year's experience.

The census information on which our calculations were based was prepared by the System and the financial information was provided by the State Street Bank and Trust Company. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Jeanette R. Cooper, FSA, MAAA, Enrolled Actuary.

This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Plan.

Sincerely,

THE SEGAL COMPANY

*B*y:

Leon F. (Rocky) Joyner, Jr. FCA, ASA, MAAA, EA

Vice President and Consultant

Seanette R. Cooper, FSA, MAAA, EA

Consulting Actuary

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#### **Purpose**

This revised report has been prepared by The Segal Company to present a valuation of the State Retirement and Pension System of Maryland as of June 30, 2007. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The valuation presents the contribution requirements for the year beginning July 1, 2008. The valuation results presented in this report are based on:

- > The benefit provisions of the Pension Plan, as administered by the Board;
- > The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2007, provided by the System;
- > The assets of the Plan as of June 30, 2007, provided by the SRA Finance Division;
- > Economic assumptions regarding future salary increases and investment earnings; and
- > Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

#### Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

- > State contributions for the year beginning July 1, 2008 are estimated to total \$1.12 billion. This compares to the estimated amount of about \$0.95 billion in the last valuation. The change from last valuation reflects adoption of new assumptions and methods, investment experience, demographic experience and reduced contributions as a result of the Corridor method.
- > The above amounts include the limitations on State contributions as a result of the corridor method. Without these limitations, contributions in the year ended June 30, 2007 would have been \$199 million higher than actually received. The expected limitation amounts for the years ending June 30, 2008 and June 30, 2009 are \$162 and \$168 million respectively.
- > The combined effect of recent plan, assumption and method changes results in an effective combined amortization period for all State Systems of 39 years after application of the corridor. This period does not comply with current generally accepted actuarial principles and practices nor does it comply with current GASB accounting standards for disclosure of the annual required contribution (ARC). Payments at the current rate for The Employees' System (State portion) and State Police System (after taking into account the corridor for the Employees' System) are not sufficient to ever complete amortization of the current balance. We recommend that the corridor method and other elements used to

determine the amortization of System liabilities be reviewed and changes adopted that will assure that the funding for each System comes into (and thereafter remains) in compliance with applicable standards. As a result of the recent actuarial experience review, the Board elected to modify the actuarial cost (funding) method from the Aggregate Entry Age Normal method to the Individual Entry Age Normal method. The Individual method is more generally accepted. The Internal Revenue Service does not deem the Aggregate Entry Age Normal method to be a reasonable funding method. We note that while this IRS ruling is not binding for governmental pension plans, the Aggregate EAN method is rarely used and can mask plan experience and funding levels.

- > The funded ratio is the actuarial value of assets divided by the actuarial accrued liability (AAL). This ratio as of June 30, 2007 is 80.4%. For the prior year, this ratio was 82.8%. The change in this ratio is partly due to the change in funding method. The prior funding method did not individually determine AAL. Instead, it developed an aggregate AAL by using an average normal cost rate for the system. In addition, it treated the present value of future employee contributions as an offset to AAL. Without this offset, last year's funded ratio would have been 76.0%. The individual EAN method develops an AAL for each participant in the System. Future employee contributions are recognized as an offset to the total plan normal cost.
- This report shows some totals that include results for municipal systems. More detailed information for the municipal systems is provided in a separate actuarial valuation report.

#### **Summary of Key Valuation Results – Total System (State and Municipal)**

	2007	2006*
Contributions for budget year beginning next July 1:		
Employer normal cost rate	7.04%	7.69%
Unfunded liability rate	<u>5.93%</u>	5.16%
Required contribution rate without corridor	12.97%	12.85%
Required contribution rate with corridor	11.35%	11.15%
Funding elements for valuation as of June 30:		
Market value of assets	\$39,444,781,232	\$34,370,818,638
Actuarial value of assets	37,886,935,596	35,795,025,134
Actuarial accrued liability	47,144,353,858	43,243,492,457
Unfunded/(overfunded) actuarial accrued liability	9,257,418,262	7,448,467,323
GASB 25/27 for valuation as of June 30:		
Funding ratio	80.36%	82.78%
Total salary for valuation	\$9,971,012,065	\$9,287,575,596
Demographic data for valuation as of June 30:		
Number of retired members and beneficiaries	108,355	103,831
Number of vested former members	52,027	49,310
Number of active members	196,262	191,273
Covered salary	\$9,775,502,025	\$9,089,950,701
Total salary for valuation	\$9,971,012,065	\$9,287,575,596
Average salary based on valuation salary	\$50,805	\$48,557

 $<sup>* \</sup>textit{Municipal cost components are estimated}.$ 

<b>Summary of Key</b>	Valuation	Results –	Total	System	(State Onl	v)
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	2007	2006
Contributions for budget year beginning next July 1:		
Employer normal cost rate	7.22%	7.74%
Unfunded liability rate	<u>6.68%</u>	<u>5.27%</u>
Required contribution rate without corridor	13.90%	13.01%
Required contribution rate with corridor	12.09%	11.10%
Funding elements for valuation as of June 30:		
Market value of assets	\$36,567,044,643	\$31,964,277,264
Actuarial value of assets	35,128,814,297	33,293,131,693
Actuarial accrued liability	43,968,312,476	39,984,483,700
Unfunded/(overfunded) actuarial accrued liability	8,839,498,179	6,691,352,007
GASB 25/27 for valuation as of June 30:		
Funding ratio	79.90%	83.27%
Total salary for valuation	\$8,935,149,085	\$8,285,799,057
Demographic data for valuation as of June 30:		
Number of retired members and beneficiaries	96,033	90,212
Number of vested former members	45,502	41,702
Number of active members	170,200	165,177
Covered salary	\$8,759,950,083	\$8,113,383,912
Total salary for valuation	\$8,935,149,085	\$8,285,799,057
Average salary based on valuation salary	\$52,498	\$50,163

#### **Summary of Key Valuation Results – Teachers**

	2007	2006
Contributions for budget year beginning next July 1:		
Employer normal cost rate	7.32%	7.47%
Unfunded liability rate	<u>6.63%</u>	<u>5.31%</u>
Required contribution rate without corridor	13.95%	12.78%
Required contribution rate with corridor	12.92%	11.60%
Funding elements for valuation as of June 30:		
Market value of assets	\$23,777,998,866	\$20,741,517,825
Actuarial value of assets	22,814,759,559	21,575,451,378
Actuarial accrued liability	28,122,574,855	25,617,483,931
Unfunded/(overfunded) actuarial accrued liability	5,307,815,296	4,042,032,553
GASB 25/27 for valuation as of June 30:		
Funding ratio	81.13%	84.22%
Total salary for valuation	\$5,709,765,331	\$5,269,185,016
Demographic data for valuation as of June 30:		
Number of retired members and beneficiaries	52,039	50,279
Number of vested former members	22,719	21,053
Number of active members	103,577	100,318
Covered salary	\$5,597,809,148	\$5,161,482,879
Total salary for valuation	\$5,709,765,331	\$5,269,185,016
Average salary based on valuation salary	\$55,126	\$52,525

#### **Summary of Key Valuation Results – Employees Combined System (State and Municipal)**

	2007	2006*
Contributions for budget year beginning next July 1:		
Employer normal cost rate	5.82%	7.06%
Unfunded liability rate	4.48%	4.77%
Required contribution rate without corridor	10.30%	11.83%
Required contribution rate with corridor	7.74%	9.29%
Funding elements for valuation as of June 30:		
Market value of assets	\$13,579,541,190	\$11,821,365,766
Actuarial value of assets	13,026,321,045	12,287,941,567
Actuarial accrued liability	16,385,823,014	15,291,090,847
Unfunded/(overfunded) actuarial accrued liability	3,359,501,969	3,003,149,280
GASB 25/27 for valuation as of June 30:		
Funding ratio	79.50%	80.36%
Total salary for valuation	\$4,016,220,720	\$3,793,125,332
Demographic data for valuation as of June 30:		
Number of retired members and beneficiaries	53,039	50,487
Number of vested former members	29,107	28,063
Number of active members	88,699	87,100
Covered salary	\$3,937,471,294	\$3,707,419,470
Total salary for valuation	\$4,016,220,720	\$3,793,125,332
Average salary based on valuation salary	\$45,279	\$43,549

<sup>\*</sup> Municipal cost components are estimated.

SECTION 1: Valuation Summary for the State Retirement and Pension System of Maryland

#### **Summary of Key Valuation Results – Employees Combined System (State Only)**

	2007	2006
Contributions for budget year beginning next July 1:		
Employer normal cost rate	6.07%	7.16%
Unfunded liability rate	<u>6.35%</u>	<u>5.11%</u>
Required contribution rate without corridor	12.42%	12.27%
Required contribution rate with corridor	9.01%	8.86%
Funding elements for valuation as of June 30:		
Market value of assets	\$10,768,438,222	\$9,452,342,737
Actuarial value of assets	10,332,264,062	9,825,415,906
Actuarial accrued liability	13,363,507,161	12,184,215,085
Unfunded/(overfunded) actuarial accrued liability	3,031,243,099	2,358,799,179
GASB 25/27 for valuation as of June 30:		
Funding ratio	77.32%	80.64%
Total salary for valuation	\$3,022,475,485	\$2,828,348,315
Demographic data for valuation as of June 30:		
Number of retired members and beneficiaries	40,807	37,000
Number of vested former members	22,616	20,505
Number of active members	63,433	61,769
Covered salary	\$2,963,211,260	\$2,767,076,825
Total salary for valuation	\$3,022,475,485	\$2,828,348,315
Average salary based on valuation salary	\$47,648	\$45,789

Summary	of Kev	Valuation	Results -	- State Police
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	2007	2006
Contributions for budget year beginning next July 1:		
Employer normal cost rate	23.23%	25.05%
Unfunded liability rate	<u>2.04%</u>	<u>-9.61%</u>
Required contribution rate without corridor	25.27%	15.44%
Required contribution rate with corridor	N/A	N/A
Funding elements for valuation as of June 30:		
Market value of assets	\$1,354,584,328	\$1,210,073,370
Actuarial value of assets	1,334,374,954	1,301,876,790
Actuarial accrued liability	1,516,934,761	1,325,874,916
Unfunded/(overfunded) actuarial accrued liability	182,559,807	23,998,126
GASB 25/27 for valuation as of June 30:		
Funding ratio	87.97%	98.19%
Total salary for valuation	\$83,190,937	\$80,648,855
Demographic data for valuation as of June 30:		
Number of retired members and beneficiaries	2,063	1,937
Number of vested former members	54	58
Number of active members	1,416	1,441
Covered salary	\$81,559,742	\$79,049,617
Total salary for valuation	\$83,190,937	\$80,648,855
Average salary based on valuation salary	\$58,751	\$55,967

	2007	2006
Contributions for budget year beginning next July 1:		
Employer normal cost rate	27.81%	28.15%
Unfunded liability rate	<u>16.28%</u>	15.97%
Required contribution rate without corridor	44.09%	44.12%
Required contribution rate with corridor	N/A	N/A
Funding elements for valuation as of June 30:		
Market value of assets	\$302,939,369	\$261,060,907
Actuarial value of assets	293,051,654	273,678,641
Actuarial accrued liability	371,987,374	352,537,011
Unfunded/(overfunded) actuarial accrued liability	78,935,720	78,858,370
GASB 25/27 for valuation as of June 30:		
Funding ratio	78.78%	77.63%
Total salary for valuation	\$37,638,491	\$35,939,104
Demographic data for valuation as of June 30:		
Number of retired members and beneficiaries	335	330
Number of vested former members	13	14
Number of active members	297	296
Covered salary	\$36,900,481	\$35,524,704
Total salary for valuation	\$37,638,491	\$35,939,104
Average salary based on valuation salary	\$126,729	\$121,416

#### **Summary of Key Valuation Results – LEOPS (State and Municipal)**

	2007	2006*
Contributions for budget year beginning next July 1:		
Employer normal cost rate	16.76%	21.14%
Unfunded liability rate	<u>20.08%</u>	<u>19.16%</u>
Required contribution rate without corridor	36.84%	40.30%
Required contribution rate with corridor	N/A	N/A
Funding elements for valuation as of June 30:		
Market value of assets	\$425,110,452	\$333,024,309
Actuarial value of assets	414,152,846	352,415,577
Actuarial accrued liability	738,548,856	649,825,724
Unfunded/(overfunded) actuarial accrued liability	324,396,010	297,410,147
GASB 25/27 for valuation as of June 30:		
Funding ratio	56.08%	54.23%
Total salary for valuation	\$122,015,164	\$106,668,684
Demographic data for valuation as of June 30:		
Number of retired members and beneficiaries	863	782
Number of vested former members	127	115
Number of active members	2,217	2,063
Covered salary	\$119,622,710	\$104,515,314
Total salary for valuation	\$122,015,164	\$106,668,684
Average salary based on valuation salary	\$55,036	\$51,706

<sup>\*</sup> Municipal cost components are estimated.

#### **Summary of Key Valuation Results – LEOPS (State Only)**

	2007	2006
Contributions for budget year beginning next July 1:		
Employer normal cost rate	16.91%	21.25%
Unfunded liability rate	<u>22.99%</u>	20.49%
Required contribution rate without corridor	39.90%	41.74%
Required contribution rate with corridor	N/A	N/A
Funding elements for valuation as of June 30:		
Market value of assets	\$363,083,858	\$299,282,425
Actuarial value of assets	354,364,068	316,708,978
Actuarial accrued liability	593,308,325	504,372,757
Unfunded/(overfunded) actuarial accrued liability	238,944,257	187,663,779
GASB 25/27 for valuation as of June 30:		
Funding ratio	59.73%	62.79%
Total salary for valuation	\$82,078,841	\$71,677,767
Demographic data for plan year beginning July 1:		
Number of retired members and beneficiaries	789	666
Number of vested former members	100	72
Number of active members	1,477	1,353
Covered salary	\$80,469,452	\$70,249,887
Total salary for valuation	\$82,078,841	\$71,677,767
Average salary based on valuation salary	\$55,571	\$52,977

#### **Summary of Key Valuation Results – Local Fire and Police System**

	2007	2006*
Contributions for budget year beginning next July 1:		
Employer normal cost rate	8.46%	11.25%
Unfunded liability rate	<u>11.57%</u>	9.74%
Required contribution rate without corridor	20.03%	20.99%
Required contribution rate with corridor	N/A	N/A
Funding elements for valuation as of June 30:		
Market value of assets	\$4,607,027	\$3,776,461
Actuarial value of assets	4,275,538	3,661,181
Actuarial accrued liability	8,484,998	6,680,028
Unfunded/(overfunded) actuarial accrued liability	4,209,460	3,018,847
GASB 25/27 for valuation as of June 30:		
Funding ratio	50.39%	54.81%
Total salary for valuation	\$2,181,422	\$2,008,605
Demographic data for valuation as of June 30:		
Number of retired members and beneficiaries	16	16
Number of vested former members	7	7
Number of active members	56	55
Covered salary	\$2,138,649	\$1,958,717
Total salary for valuation	\$2,181,422	\$2,008,605
Average salary based on valuation salary	\$38,954	\$36,520

<sup>\*</sup> Municipal cost components are estimated.

#### A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, vested terminated members, retired members and beneficiaries.

The ratio of non-actives to actives has slowly but steadily climbed for the past decade. As the number of annuitants per active employee rises, the cash flow situation changes. The system either becomes more dependent on investment income to cover benefit payments, or contributions must rise to meet these obligations.

This section presents a summary of significant statistical data on these member groups.

In addition, information for each system can be found in Section 3.

A historical perspective of how the member population has changed over the past ten valuations can be seen in this chart.

CHART 1
Member Population: 1998 – 2007

Year Ended June 30	Active Members	Vested Terminated Members	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
1998	170,663	37,476	74,339	0.66
1999	174,674	39,665	77,478	0.67
2000	179,586	42,514	80,773	0.69
2001	184,600	43,199	84,185	0.69
2002	190,123	44,355	87,367	0.69
2003	190,021	45,573	90,803	0.72
2004	185,861	46,911	94,880	0.76
2005	188,050	47,664	100,196	0.79
2006	191,273	49,310	103,831	0.80
2007	196,262	52,027	108,355	0.82

#### **Active Members**

System costs are affected by the age, years of service and salaries of active members. In this year's valuation, there were 196,262 active members with an average age of 45.3, average years of service of 12.1 years and average salaries of \$50,805. The 191,273 active members in the prior valuation had an average age of 45.3, average service of 12.4 years and average salaries of \$48,557.

The active distributions for each system are presented in Section 3.

These graphs show a distribution of active members by age and by years of service.

CHART 2
Distribution of Active Members by Age as of June 30, 2007

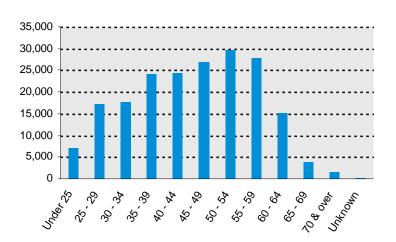
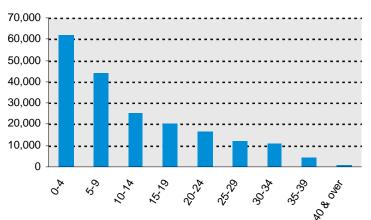


CHART 3
Distribution of Active Members by Years of Service as of June 30, 2007



#### **Retired Members and Beneficiaries**

As of June 30, 2007, 100,464 retired members and 7,891 beneficiaries were receiving total monthly benefits of \$168,328,074. This total reflects the the July 1, 2007 cost of living increase. For comparison, in the previous valuation, there were 103,831 retired members and beneficiaries receiving monthly benefits of \$155,116,970.

Graphical distributions of retired members for each system are presented in Section 3.

#### **Inactive Members**

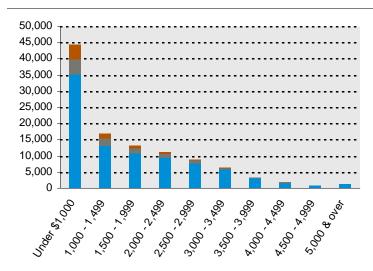
In this year's valuation, there were 52,027 members with a vested right to a deferred or immediate vested benefit.

In addition, there were 20,293 members entitled to a return of their employee contributions.

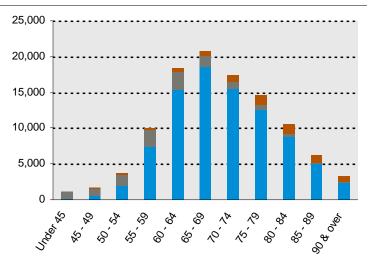
These graphs show a distribution of the current retired members and beneficiaries based on their monthly amount and age, by type of pension.



# CHART 4 Distribution of Retired Members and Beneficiaries by Type and by Monthly Amount as of June 30, 2007



# CHART 5 Distribution of Retired Members and Beneficiaries by Type and by Age as of June 30, 2007



#### **B. FINANCIAL INFORMATION**

Retirement plan funding anticipates that, over the long term, both net contributions (less administrative expenses) and net investment earnings (less investment fees) will be needed to cover benefit payments.

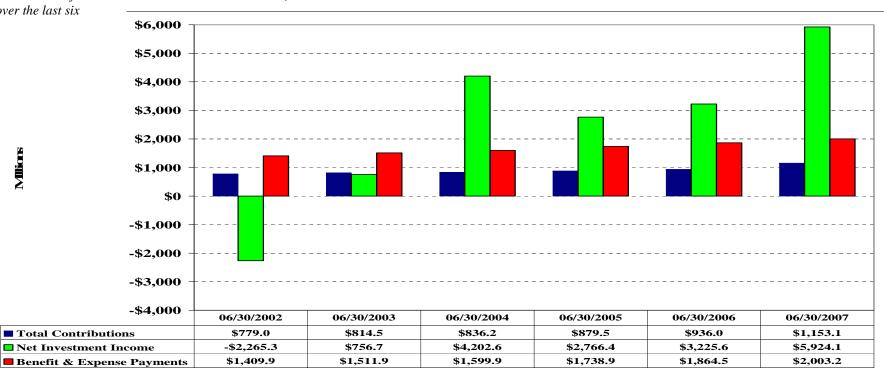
Retirement plan assets change as a result of the net impact of these income and expense components. Additional financial information, including a summary of these transactions for the valuation year and detailed system-bysystem information, is presented in Section 4.

The chart depicts the components of changes in the actuarial value of assets over the last six years.

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#### **CHART 6**

Comparison of Increases and Decreases in the Market Value of Assets for Years Ended June 30, 2002 - 2007



It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 7

Determination of Actuarial Value of Assets for Year Ended June 30, 2007

1.	Market value of assets			\$39,444,781,232
		Original	Unrecognized	
2.	Calculation of unrecognized return*	<u>Amount</u>	<u>Amount</u>	
	(a) Year ended June 30, 2007	\$1,947,307,045	\$1,557,845,636	
	(b) Total unrecognized return			\$1,557,845,636
3.	Preliminary actuarial value: (1) - (2b)			37,886,935,596
4.	Adjustment to be within 20% corridor			0
5.	Final actuarial value of assets: (3) + (4)			<u>\$37,886,935,596</u>
6.	Actuarial value as a percentage of market value: $(5) \div (1)$			96.1%

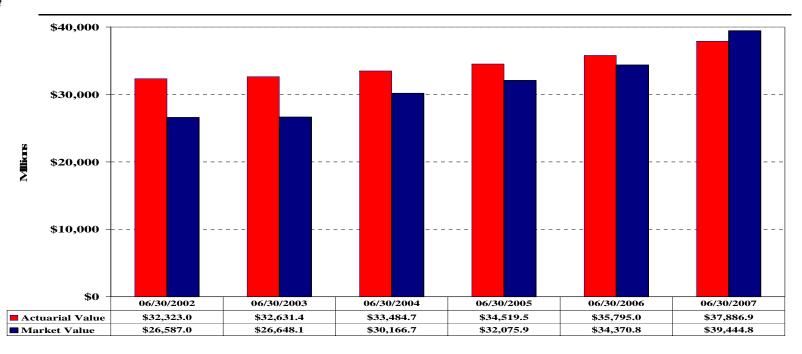
<sup>\*</sup> Total return on market value basis minus expected return on market basis using the net investment return assumption plus difference between market value and actuarial value as of June 30, 2006.

Both the actuarial value and market value of assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in the actuarial value of assets versus the market value over the past six years. The assets shown here reflect combined State and Municipal assets.

CHART 8

Actuarial Value of Assets vs. Market Value of Assets as of June 30, 2002 – 2007



#### C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Due to a change in funding method from the Aggregate Entry Age Normal Method to the Individual Entry Age Normal Method, we did not calculate an explicit gain/loss. Next year we will include an analysis of gains and losses for each of the state plans.

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

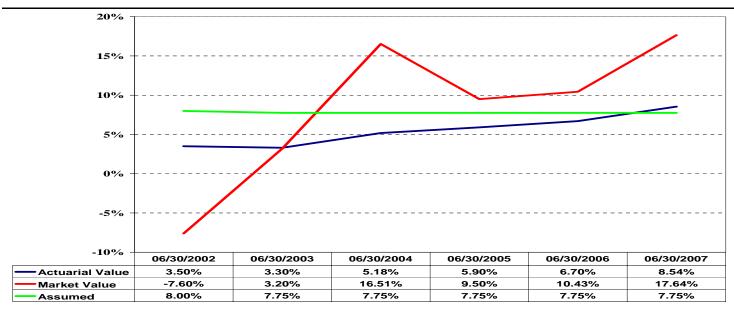
#### **Investment Rate of Return**

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the System's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets is 7.75%. The actual rate of return on an actuarial basis for the 2007 plan year was 8.54%. Since the actual return for the year was more than the assumed return, the System experienced an actuarial gain during the year ended June 30, 2007 with regard to its investments. Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time.

The system actuarial asset valuation method (described in detail in Section 7) gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

The chart below shows the rate of retrun on an actuarial basis compared to the market value investment return for the last six years, and illustrates how the leveling effect of the system's asset smoothing method has worked.

CHART 9
Investment Return – Actuarial Value vs. Market Value: 2002 - 2007



#### D. ACTUARIALLY DETERMINED CONTRIBUTION RATES

The Individual Entry Age Actuarial Cost Method is used to fund these Systems. Under this method, the amount of annual contribution required to fund the Systems is comprised of an employer normal cost payment and a payment on the unfunded/(overfunded) actuarial accrued liability. This total amount is then divided by the projected salaries for active members to determine the current total state funding rate of 13.90% of salary. The actuarially determined contribution rate ignores any effect of the corridor method used for the budgeted contribution rate. The budgeted contribution is developed in the next subsection.

The actuarially determined state contribution rates are determined for each system. These amounts are shown below.

CHART 10
Actuarially Determined State Contribution Rates\*

	Total State	Teachers' Retirement and Pension	State** Employees' Retirement and Pension	State Police	Judges	LEOPS**
Normal cost as percent of payroll	7.22%	7.32%	6.07%	23.23%	27.81%	16.91%
Unfunded actuarial accrued liability contribution as percent of payroll	6.68%	6.63%	6.35%	2.04%	16.28%	22.99%
Total employer cost as percent of payroll (without corridor)	13.90%	13.95%	12.42%	25.27%	44.09%	39.90%

<sup>\*</sup> State contribution rates are effective July 1, 2008 (FY 2009)

<sup>\*\*</sup> State portion only

The chart below illustrates the changes in the actuarially determined state contributions over the last ten years. The chart on the following page summarizes this contribution amount by system for the last ten years.

This chart compares the contribution rate for the State portion of the Total System over the last ten years.

CHART 11

Total Actuarially Determined State Contribution Rate (Total Systems) for Years Ended June 30, 1998 – 2007\*
(State Portion Only)

Valuation		
Date	Rate Without Corridor	Rate With Corridor
1998	10.70%	10.70%
1999	9.31%	9.31%
2000	7.98%	7.98%
2001	8.70%	8.01%
2002	9.44%	8.06%
2003	9.97%	7.97%
2004	10.42%	8.46%
2005	11.58%	9.18%
2006	13.01%	11.10%
2007	13.90%	12.09%

<sup>\*</sup> State contribution rates are effective July 1 of the following year.

CHART 12
Actuarially Determined State Contribution Rates By System for Years Ended June 30, 1998 – 2007\*

	Teachers'	Combined	<b>Employees' Combined</b>		_		
Valuation Date	Rate without Corridor	Rate with Corridor	Rate without Corridor	Rate with Corridor	State Police	Judges	LEOPS
1998	12.54%	12.54%	7.15%	7.15%	1.26%	48.18%	22.96%
1999	10.95%	10.95%	5.71%	5.71%	8.44%	46.75%	23.38%
2000	9.35%	9.35%	4.73%	4.73%	5.83%	42.66%	32.41%
2001	9.87%	9.35%	5.74%	4.73%	5.78%	43.92%	36.10%
2002	10.48%	9.35%	6.62%	4.73%	7.58%	43.74%	35.73%
2003	10.03%	9.35%	9.19%	4.73%	0.00%	36.72%	37.73%
2004	10.16%	9.35%	9.88%	5.76%	8.22%	41.12%	38.47%
2005	11.17%	9.71%	11.11%	6.83%	13.83%	42.43%	40.60%
2006	12.78%	11.60%	12.27%	8.86%	15.44%	44.12%	41.74%
2007	13.95%	12.92%	12.42%	9.01%	25.27%	44.09%	39.90%

<sup>\*</sup> State contribution rates are effective July 1 of the following year.

#### E. BUDGETED CONTRIBUTION RATES

There are two methods used to determine the State's total contribution rate. The first method is for the State Police, Judges and LEOPS Systems. For these Systems, the State's total contribution rate is equal to normal cost plus the unfunded actuarial contribution rate. The unfunded contribution rate consists of the July 1, 2000 unfunded actuarial liability amortized over 20 years (13 years remaining) plus 25 year amortization of the unfunded actuarial liability that emerges each subsequent year. Amortization payments are determined on a level percent of pay basis.

Under the second method, used for the Teachers' Combined System and the Employees' Combined System, the State's contribution is equal to the 2000 valuation percentage (first applicable in fiscal 2002) as long as each System's actuarial funded status remains within a corridor of 90% to 110%. Beginning with this valuation, the actuarial funded status is measured using the individual entry age normal funded method. If this funded status is outside of the corridor, a credit (if over 110%) or a charge (if under 90%) will be established. This credit or charge is determined as one-fifth of the difference between the prior year budgeted rate and the actuarially determined rate. Once the funded status returns to within the corridor, the rate becomes fixed and does not change until the funded status is outside the corridor again.

The chart below summarizes the state contributions based on the corridor method by System for the current and prior year.

CHART 13
Summary of State Contributions Based on Corridor Method (State Portion Only)

	Teachers' Retirement and Pension	State Employees' Retirement and Pension
June 30, 2006 Valuation Results		
Unfunded actuarial accrued liability - State portion only	\$4,042,032,553	\$2,358,799,179
Total contributions as percentage of payroll	12.78%	12.27%
Corridor percentage	11.60%	8.86%
June 30, 2007 Valuation Results		
Unfunded actuarial accrued liability - State portion only	\$5,307,815,296	\$3,031,243,099
Total contributions as percentage of payroll	13.95%	12.42%
Corridor percentage	12.92%	9.01%

#### F. INFORMATION REQUIRED BY THE GASB

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to GASB is the historical comparison of the GASB required contribution to the actual contributions. For this, the actuarially determined contribution rate is used. This comparison demonstrates whether a plan is being funded on an actuarial basis and in accordance with the GASB funding requirements. Chart 14 below presents a graphical representation of this information for the System.

We also show the funded ratio, which compares the actuarial value of assets to the GASB actuarial accrued liabilities of the System. High ratios indicate a well-funded plan with assets sufficient to pay most benefits. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other changes. The decrease in this ratio from the prior year is primarily due to the change in funding method. The prior method treated the present value of future employee contributions as an offset to AAL. Without this offset, last year's funded ratio would have been 76.0%.

Chart 15 shows the funded ratio calculated using the actuarial value of assets. The details regarding the calculations of these values and other GASB numbers may be found in Section 4.

These graphs show key GASB factors.

\*SEGAL

CHART 14
Required Versus Actual Contributions

CHART 15
Funded Ratio

Fiscal Year Ended June 30,	Annual Required Contribution*	Percentage Contributed	Valuation as of June 30,	Funded Ratio
1998	\$735,788	100%	1998	90.64%
1999	693,353	100%	1999	97.09%
2000	682,422	100%	2000	101.22%
2001	634,309	100%	2001	98.29%
2002	574,019	100%	2002	94.70%
2003	654,578	92%	2003	93.30%
2004	710,632	89%	2004	92.18%
2005	805,564	83%	2005	88.21%
2006	874,079	82%	2006	82.78%
2007	1,025,972	81%	2007	80.36%

<sup>\*</sup> Expressed in Thousands

SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

#### A. SUMMARY OF TOTAL SYSTEM

Chart A- 1 Summary of Membership Data as of June 30, 2007 (State and Municipal)

		Activ	e Members	Retir	rees & Beneficiari	es	Vested Former Members	Total	
	-	Aouv	Valuation	- Itotii	Annual	-	Wichibers	10141	
		Count	Salary	Count	Benefits	Avg. Age	Count	Counts	
Teachers'	Vested	4,788							
Retirement	Non-Vested								
	Total	4,788	\$383,619,438	31,023	\$882,893,810	73.1	1,175	36,986	
Teachers'	Vested	65,362							
Pension	Non-Vested	33,427							
	Total	98,789	\$5,326,145,893	21,016	\$330,413,482	66.4	21,544	141,349	
Employees'	Vested	9,978							
Retirement	Non-Vested	2							
	Total	9,980	\$472,525,475	24,408	\$405,680,549	73.4	1,260	35,648	
Employees'	Vested	56,166							
Pension	Non-Vested	22,553							
	Total	78,719	\$3,543,695,246	28,631	\$272,966,213	66.8	27,847	135,197	
State Police	Vested	1,071							
	Non-Vested	345							
	Total	1,416	\$83,190,937	2,063	\$81,578,853	59.0	54	3,533	
Judges	Vested	297							
J	Non-Vested								
	Total	297	\$37,638,491	335	\$21,264,343	76.6	13	645	
LEOPS	Vested	1,643							
	Non-Vested	574							
	Total	2,217	\$122,015,164	863	\$24,853,311	57.0	127	3,207	
Local F & P	Vested	44							
	Non-Vested	12							
	Total	56	\$2,181,422	16	\$286,329	59.4	7	79	
Total	Vested	139,349							
Systems	Non-Vested	56,913							
•	Total	196,262	\$9,971,012,066	108,355	\$2,019,936,890	69.8	52,027	356,644	

Chart A- 2 Summary of Membership Data as of June 30, 2007 (Municipal Corporations)

		Activ	e Members	Retirees & Beneficiaries		Vested Former Members	Total	
	·	Count	Valuation Salary	Count	Annual Benefits	Avg. Age	Count	Counts
Employees'	Vested	425						
Retirement	Non-Vested							
	Total	425	\$22,884,477	4,718	\$63,138,991	75.8	135	5,278
Employees'	Vested	16,478						
Pension	Non-Vested	8,363						
	Total	24,841	\$970,860,759	7,514	\$59,377,540	67.3	6,356	38,711
LEOPS	Vested	497						
	Non-Vested	243						
	Total	740	\$39,936,323	74	\$2,289,978	53.3	27	841
Local F & P	Vested	44						
	Non-Vested	12						
	Total	56	\$2,181,422	16	\$286,329	59.4	7	79
Total	Vested	17,444						
Systems	Non-Vested	8,618						
	Total	26,062	\$1,035,862,981	12,322	\$125,092,838	70.5	6,525	44,909

Chart A- 3 Summary of Membership Data as of June 30, 2007 (State Portion Only)

		Activ	e Members	Retir	ees & Beneficiari	es	Vested Former Members	Total
	•	710117	Valuation	- Itotii	Annual	00	WOW DOTO	Total
		Count	Salary	Count	Benefits	Avg. Age	Count	Counts
Teachers'	Vested	4,788						
Retirement	Non-Vested							
	Total	4,788	\$383,619,438	31,023	\$882,893,810	73.1	1,175	36,986
Teachers'	Vested	65,362						
Pension	Non-Vested	33,427						
	Total	98,789	\$5,326,145,893	21,016	\$330,413,482	66.4	21,544	141,349
Employees'	Vested	9,553						
Retirement	Non-Vested	2						
	Total	9,555	\$449,640,998	19,690	\$342,541,558	72.1	1,125	30,370
Employees'	Vested	39,688						
Pension	Non-Vested	14,190						
	Total	53,878	\$2,572,834,487	21,117	\$213,588,673	66.4	21,491	96,486
State Police	Vested	1,071						
	Non-Vested	345						
	Total	1,416	\$83,190,937	2,063	\$81,578,853	59.0	54	3,533
Judges	Vested	297						
	Non-Vested							
	Total	297	\$37,638,491	335	\$21,264,343	76.6	13	645
LEOPS	Vested	1,146						
	Non-Vested	331						
	Total	1,477	\$82,078,841	789	\$22,563,333	57.3	100	2,366
Total	Vested	121,905						
Systems	Non-Vested	48,295						
	Total	170,200	\$8,935,149,085	96,033	\$1,894,844,052	69.5	45,502	311,735

Chart A- 4 Membership Statistics Data as of June 30, 2007

System	Count	Average Age	Average Service	Average Salary
Teachers' Retirement	4,788	58.1	32.9	\$80,121
Teachers' Pension	98,789	43.4	10.8	53,914
Employees' Retirement - State	2,020	56.9	32.2	60,946
Employees' Retirement - Municipal	425	57.4	32.1	53,846
Employees' Retirement - Legislators	180	53.9	9.7	44,517
Employees' Retirement – Correctional Officers	<u>7,355</u>	<u>39.9</u>	10.0	43,306
Employees' Retirement Total	9,980	44.4	15.5	47,347
Employees' Pension – State	53,878	47.3	13.1	47,753
Employees' Pension – Municipal	24,841	<u>47.4</u>	<u>10.2</u>	39,083
Employees' Pension – Total	78,719	47.3	12.1	45,017
State Police	1,416	35.4	11.5	58,751
Judges	297	56.7	9.4	126,729
LEOPS - State	1,477	41.3	11.7	55,571
LEOPS – Municipal	<u>740</u>	<u>37.1</u>	<u>10.1</u>	<u>53,968</u>
LEOPS – Total	2,217	39.9	11.2	55,036
Local F & P	56	38.6	12.1	38,954
Total Systems	196,262	45.3	12.1	50,805

	Те	achers	State and Municipal Employees	
Retirement System	Count	Earnings	Count	Earnings
Unlimited COLA	3,060	\$246,967,116	9,062	\$416,652,625
5% COLA Cap	1,158	91,525,380	745	45,445,508
Bifurcate	<u>570</u>	45,126,942	<u>173</u>	10,427,342
Total	<u>4,788</u>	<u>\$383,619,438</u>	<u>9,980</u>	<u>\$472,525,475</u>

#### B. TEACHERS' RETIREMENT

CHART B - 1
Teachers' Retirement Member Population: 1998 – 2007

Year Ended June 30	Active Members	Vested Terminated Members*	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
1998	14,346	1,965	27,841	2.08
1999	13,043	1,906	28,383	2.32
2000	11,634	1,857	29,061	2.66
2001	10,396	1,730	29,599	3.01
2002	9,270	1,643	29,989	3.41
2003	8,199	1,577	30,305	3.89
2004	7,197	1,478	30,598	4.46
2005	6,255	1,351	30,921	5.16
2006	5,449	1,229	31,138	5.94
2007	4,788	1,175	31,023	6.72

<sup>\*</sup>Excludes terminated members due a refund of employee contributions

SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

CHART B - 2
Distribution of Teachers' Retirement Active Members by Age as of June 30, 2007

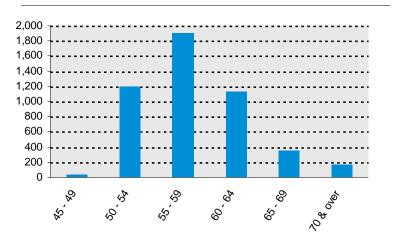


CHART B - 4
Teachers' Retirement Retired Members by Monthly
Amount as of June 30, 2007

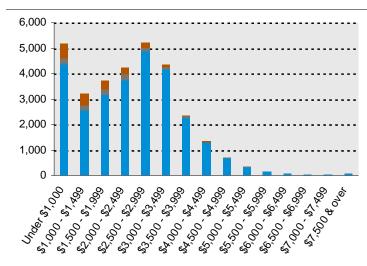


CHART B - 3

Distribution of Teachers' Retirement Active Members by Service as of June 30, 2007

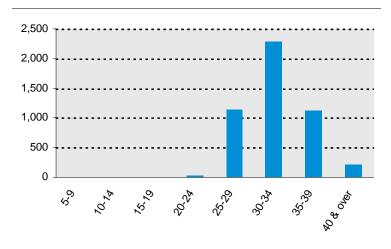
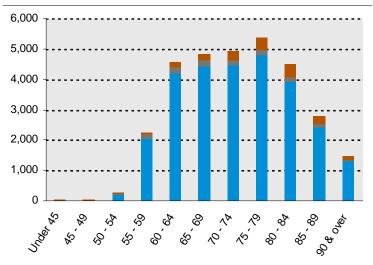


CHART B - 5
Teachers' Retirement Retired Members by Age as of June 30, 2007



■ Beneficiary
■ Disability
■ Service

SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

Chart B - 6
Table of Plan Coverage -- Teachers' Retirement

	Year End	ed June 30		
Category	2007	2006	– Change From Prior Year	
Active members in valuation:				
Number	4,788	5,449	-12.1%	
Average age	58.1	57.4	N/A	
Average service	32.9	32.0	N/A	
Total salary	\$383,619,438	\$413,849,437	-7.3%	
Average salary	\$80,121	\$75,950	5.5%	
Account balances	\$593,637,048	\$608,585,638	-2.5%	
Total active vested members	4,788	5,445	-12.1%	
Vested terminated members	1,175	1,229	-4.4%	
Retired members:				
Number in pay status	27,754	27,910	-0.6%	
Average age	73.0	72.7	N/A	
Average monthly benefit	\$2,419	\$2,313	4.6%	
Disabled members:				
Number in pay status	1,189	1,228	-3.2%	
Average age	71.1	70.6	N/A	
Average monthly benefit	\$1,931	\$1,857	4.0%	
Beneficiaries in pay status	2,080	2,000	4.0%	
Inactive non-vested members	2	0	N/A	

# C. TEACHERS' PENSION

CHART C - 1
Teachers' Pension Member Population: 1998 – 2007

Year Ended June 30	Active Members	Vested Terminated Members*	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
1998	71,435	12,442	6,499	0.27
1999	75,578	13,304	7,674	0.28
2000	79,294	14,860	9,084	0.30
2001	82,901	15,607	10,527	0.32
2002	87,086	16,397	11,931	0.33
2003	89,099	17,284	13,370	0.34
2004	88,765	18,327	15,093	0.38
2005	91,535	18,792	17,170	0.39
2006	94,869	19,824	19,141	0.41
2007	98,789	21,544	21,016	0.43

<sup>\*</sup>Excludes terminated members due a refund of employee contributions

SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

CHART C - 2
Distribution of Teachers' Pension Active Members by Age as of June 30, 2007

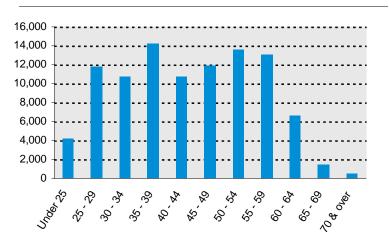


CHART C - 4
Teachers' Pension Retired Members by Monthly Amount as of June 30, 2007

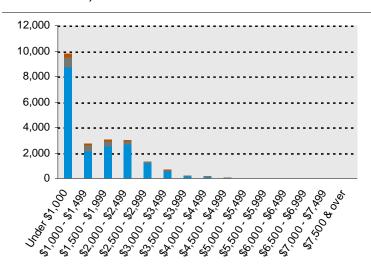


CHART C - 3
Distribution of Teachers' Pension Active Members by

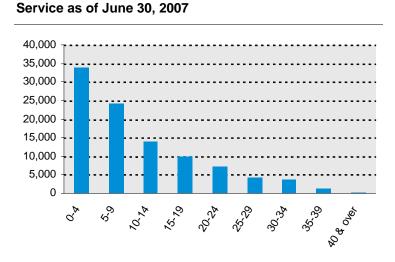
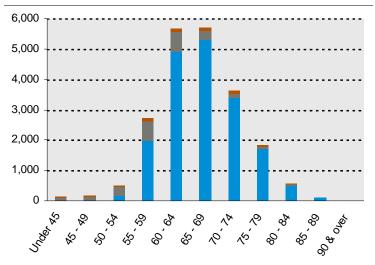


CHART C - 5
Teachers' Pension Retired Members by Age as of June 30, 2007



SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

Chart C - 6
Table of Plan Coverage -- Teachers' Pension

	Year End	ded June 30	
Category	2007	2006	Change From Prior Year
Active members in valuation:			
Number	98,789	94,869	4.1%
Average age	43.4	43.4	N/A
Average service	10.8	11.0	N/A
Total salary	\$5,326,145,893	\$4,855,335,579	9.7%
Average salary	\$53,914	\$51,179	5.3%
Account balances	\$843,492,598	\$661,938,191	27.4%
Total active vested members	65,362	63,968	2.2%
Vested terminated members	21,544	19,824	8.7%
Retired members:			
Number in pay status	18,020	16,372	10.1%
Average age	66.9	66.5	N/A
Average monthly benefit	\$1,280	\$1,216	5.3%
Disabled members:			
Number in pay status	2,405	2,241	7.3%
Average age	59.1	58.7	N/A
Average monthly benefit	\$1,550	\$1,468	5.6%
Beneficiaries in pay status	591	528	11.9%
Inactive non-vested members	10,344	10,183	1.6%

### D. EMPLOYEES' RETIREMENT

CHART D - 1
Employees' Retirement Member Population: 1998 – 2007

Year Ended June 30	Active Members	Vested Terminated Members*	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
1998	13,149	1,372	25,827	2.07
1999	12,657	1,377	25,730	2.14
2000	12,213	1,401	25,489	2.20
2001	11,962	1,350	25,212	2.22
2002	11,722	1,331	24,904	2.24
2003	11,347	1,349	24,662	2.29
2004	10,489	1,311	24,559	2.47
2005	9,869	1,291	24,633	2.63
2006	10,121	1,258	24,271	2.52
2007	9,980	1,260	24,408	2.57

<sup>\*</sup>Excludes terminated members due a refund of employee contributions

SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

CHART D - 2

Distribution of Employees' Retirement State Regular Active Members by Age as of June 30, 2007

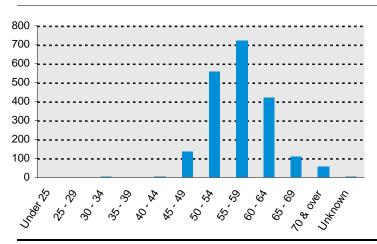


CHART D - 4

Employees' Retirement State Regular and Correctional Officers Retired Members by Monthly Amount as of June 30, 2007

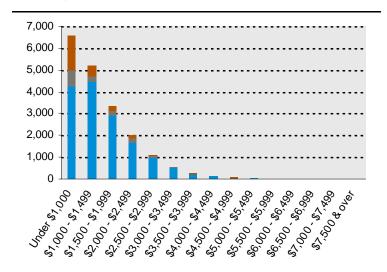


CHART D - 3

Distribution of Employees' Retirement State Regular Active Members by Service as of June 30, 2007

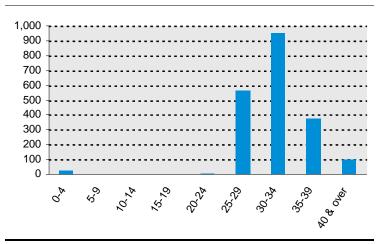
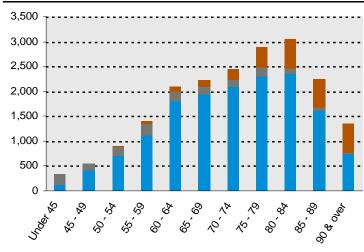


CHART D - 5

Employees' Retirement State Regular and Correctional Officers Retired Members by Age as of June 30, 2007



SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

CHART D-6

Distribution of Employees' Retirement Municipal Active Members by Age as of June 30, 2007

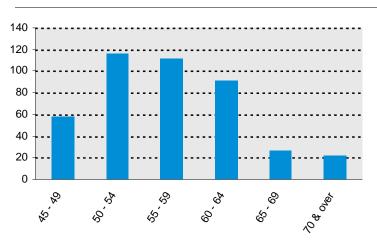


CHART D - 8
Employees' Retirement Municipal Retired Members by Monthly Amount as of June 30, 2007

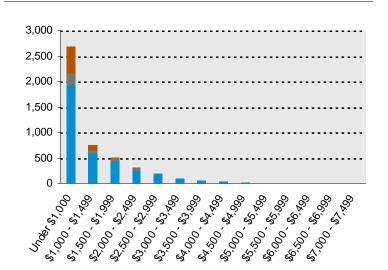


CHART D - 7

Distribution of Employees' Retirement Municipal Active Members by Service as of June 30, 2007

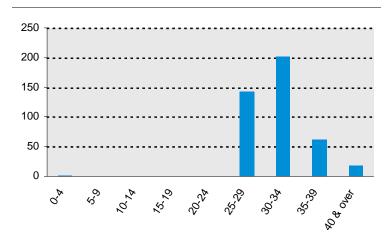
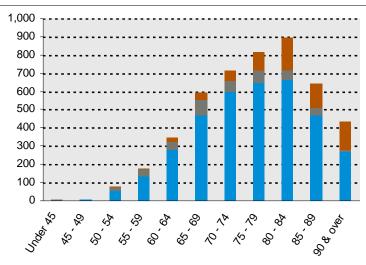


CHART D - 9

Employees' Retirement Municipal Retired Members by Age as of June 30, 2007







SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

CHART D - 10

Distribution of Employees' Retirement Legislative Active Members by Age as of June 30, 2007

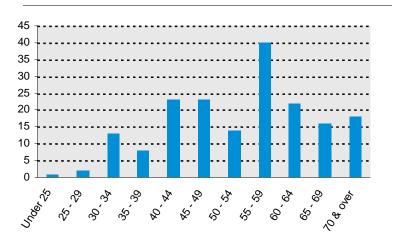


CHART D - 12

Employees' Retirement Legislative Retired Members by Monthly Amount as of June 30, 2007

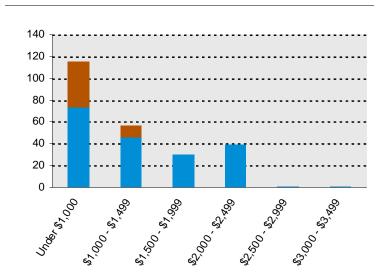
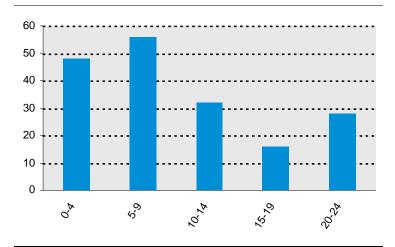


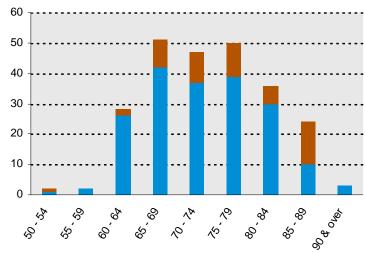
CHART D - 11

Distribution of Employees' Retirement Legislative Active Members by Service as of June 30, 2007



**CHART D - 13** 

Employees' Retirement Legislative Retired Members by Age as of June 30, 2007



SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

CHART D - 14
Distribution of Employees' Retirement Correctional
Officers Active Members by Age as of June 30, 2007

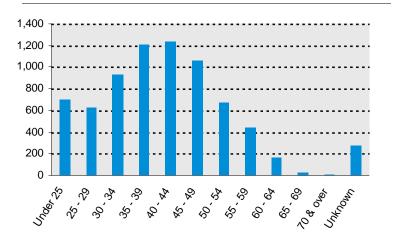
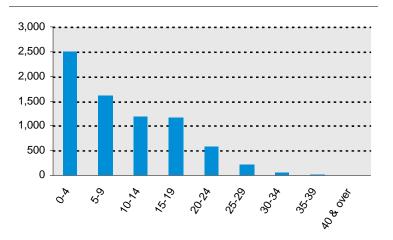


CHART D - 15

Distribution of Employees' Retirement Correctional

Officers Active Members by Service as of June 30, 2007



SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

Chart D - 16
Table of Plan Coverage – Employees' Retirement

	Year End	led June 30	
Category	2007	2006	Change From Prior Year
Active members in valuation:			
Number	9,980	10,121	-1.4%
Average age	44.4	44.9	N/A
Average service	15.5	16.2	N/A
Total salary	\$472,525,475	\$467,808,791	1.0%
Average salary	\$47,347	\$46,222	2.4%
Account balances	\$382,836,167	\$392,175,936	-2.4%
Total active vested members	9,978	10,120	-1.4%
Vested terminated members	1,260	1,258	0.2%
Retired members:			
Number in pay status	18,968	18,880	0.5%
Average age	73.0	72.8	N/A
Average monthly benefit	\$1,450	\$1,391	4.2%
Disabled members:			
Number in pay status	2,046	2,017	1.4%
Average age	63.9	64.2	N/A
Average monthly benefit	\$1,327	\$1,267	4.7%
Beneficiaries in pay status	3,394	3,374	0.6%
Inactive non-vested members	552	373	48.0%

### E. EMPLOYEES' PENSION

CHART E - 1 Employees' Pension Member Population: 1998 – 2007

Year Ended June 30	Active Members	Vested Terminated Members*	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
1998	68,893	21,622	12,513	0.50
1999	70,426	22,988	13,937	0.52
2000	73,212	24,305	15,241	0.54
2001	76,024	24,396	16,702	0.54
2002	78,584	24,845	18,205	0.55
2003	77,939	25,212	19,929	0.58
2004	75,955	25,626	21,913	0.63
2005	76,787	26,058	24,525	0.66
2006	76,979	26,805	26,216	0.69
2007	78,719	27,847	28,631	0.72

<sup>\*</sup>Excludes terminated members due a refund of employee contributions

CHART E - 2

Distribution of Employees' Pension State Regular Active Members by Age as of June 30, 2007

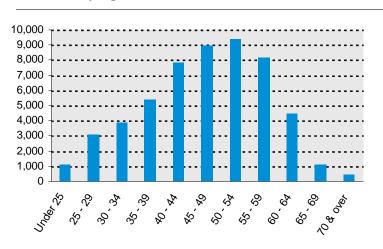


CHART E - 4
Employees' Pension State Regular Retired Members by
Monthly Amount as of June 30, 2007

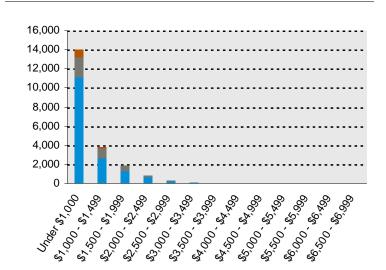


CHART E - 3

Distribution of Employees' Pension State Regular Active Members by Service as of June 30, 2007

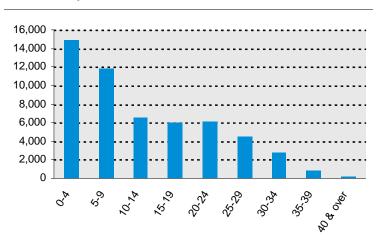
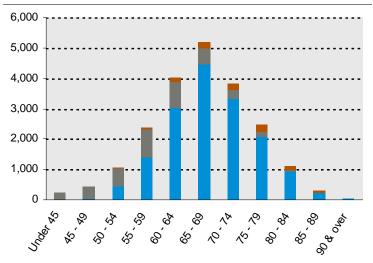


CHART E - 5

Employees' Pension State Pegular B

Employees' Pension State Regular Retired Members by Age as of June 30, 2007





SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

CHART E - 6
Distribution of Employees' Pension Municipal Active
Members by Age as of June 30, 2007

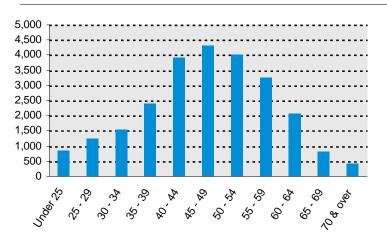


CHART E - 8
Employees' Pension Municipal Retired Members by
Monthly Amount as of June 30, 2007

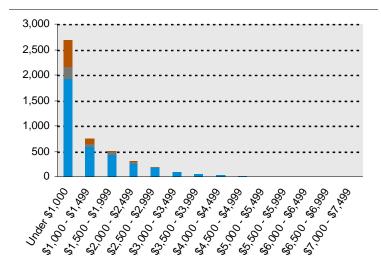


CHART E - 7
Distribution of Employees' Pension Municipal Active
Members by Service as of June 30, 2007

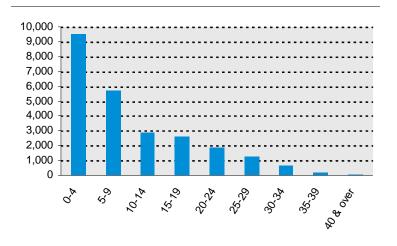
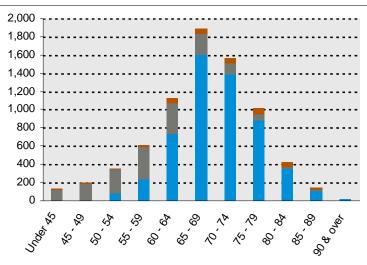


CHART E - 9
Employees' Pension Municipal Retired Members by Age as of June 30, 2007



SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

Chart E - 10
Table of Plan Coverage – Employees' Pension

	Year En	ded June 30	
Category	2007	2006	– Change From Prior Year
Active members in valuation:			
Number	78,719	76,979	2.3%
Average age	47.3	47.2	N/A
Average service	12.1	12.3	N/A
Total salary	\$3,543,695,246	\$3,325,316,541	6.6%
Average salary	\$45,017	\$43,198	4.2%
Account balances	\$541,354,711	\$440,079,458	23.0%
Total active vested members	56,166	56,828	-1.2%
Vested terminated members	27,847	26,805	3.9%
Retired members:			
Number in pay status	21,335	19,397	10.0%
Average age	68.8	68.5	N/A
Average monthly benefit	\$720	\$672	7.1%
Disabled members:			
Number in pay status	5,822	5,483	6.2%
Average age	58.8	58.4	N/A
Average monthly benefit	\$1,102	\$1,039	6.1%
Beneficiaries in pay status	1,474	1,336	10.3%
Inactive non-vested members	9,214	8,864	3.9%

# F. STATE POLICE

CHART F - 1 State Police Member Population: 1998 – 2007

Year Ended June 30	Active Members	Vested Terminated Members*	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
1998	1,635	24	1,234	0.77
1999	1,647	29	1,286	0.80
2000	1,636	22	1,388	0.86
2001	1,578	24	1,518	0.98
2002	1,589	27	1,598	1.02
2003	1,542	41	1,695	1.13
2004	1,445	44	1,790	1.27
2005	1,439	47	1,909	1.36
2006	1,441	58	1,937	1.38
2007	1,416	54	2,063	1.50

<sup>\*</sup>Excludes terminated members due a refund of employee contributions

SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

CHART F - 2
Distribution of State Police Active Members by Age as of June 30, 2007

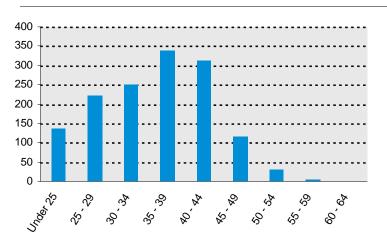


CHART F - 4
State Police Retired Members by Monthly Amount as of June 30, 2007

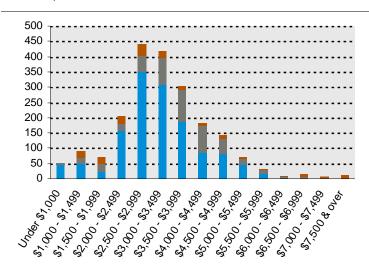


CHART F - 3
Distribution of State Police Active Members by Service as of June 30, 2007

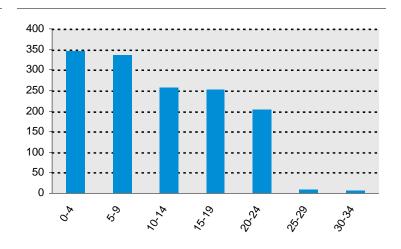
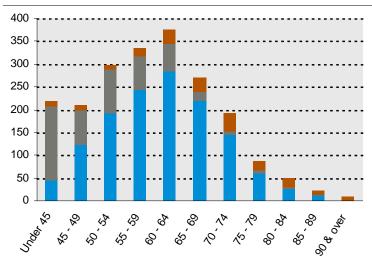


CHART F - 5
State Police Retired Members by Age as of June 30, 2007



SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

Chart F - 6
Table of Plan Coverage – State Police

	Year End	ed June 30	_
Category	2007	2006	Change From Prior Year
Active members in valuation:			
Number	1,416	1,441	-1.7%
Average age	35.4	35.3	N/A
Average service	11.5	11.4	N/A
Total salary	\$83,190,937	\$80,648,855	3.2%
Average salary	\$58,751	\$55,967	5.0%
Account balances	\$72,206,653	\$70,801,923	2.0%
Total active vested members	1,071	1,109	-3.4%
Vested terminated members	54	58	-6.9%
Retired members:			
Number in pay status	1,352	1,279	5.7%
Average age	61.0	60.7	N/A
Average monthly benefit	\$3,138	\$3,059	2.6%
Disabled members:			
Number in pay status	503	465	8.2%
Average age	50.0	49.9	N/A
Average monthly benefit	\$3,671	\$3,545	3.6%
Beneficiaries in pay status	208	193	7.8%
Inactive non-vested members	69	118	-41.5%

# G. JUDGES

CHART G - 1 Judges Member Population: 1998 – 2007

Year Ended June 30	Active Members	Vested Terminated Members*	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
1998	273	16	275	1.07
1999	283	13	284	1.05
2000	283	13	285	1.05
2001	281	13	297	1.10
2002	281	10	311	1.14
2003	287	13	306	1.11
2004	283	14	309	1.14
2005	282	15	316	1.17
2006	296	14	330	1.16
2007	297	13	335	1.17

<sup>\*</sup>Excludes terminated members due a refund of employee contributions

SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

June 30, 2007

CHART G - 2
Distribution of Judges Active Members by Age as of June 30, 2007

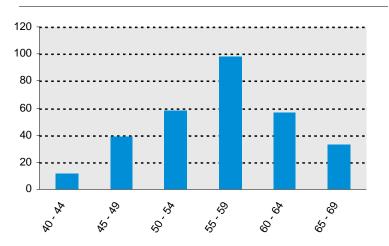


CHART G - 4
Judges Retired Members by Monthly Amount as of June 30, 2007

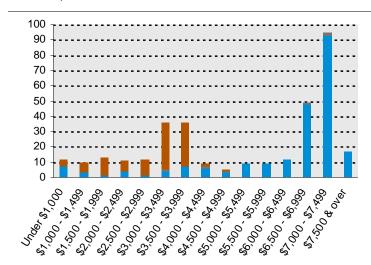


CHART G - 3
Distribution of Judges Active Members by Service as of

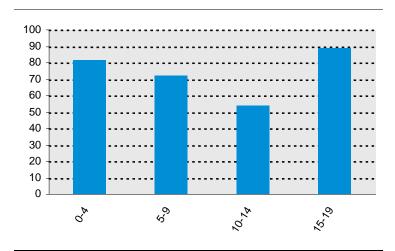
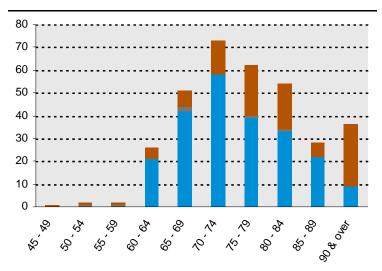


CHART G - 5
Judges Retired Members by Age as of June 30, 2007



SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

Chart G - 6
Table of Plan Coverage – Judges

	Year End	ed June 30	
Category	2007	2006	– Change From Prior Year
Active members in valuation:			
Number	297	296	0.3%
Average age	56.7	56.4	N/A
Average service	9.4	9.4	N/A
Total salary	\$37,638,491	\$35,939,104	4.7%
Average salary	\$126,729	\$121,416	4.4%
Account balances	\$24,044,597	\$23,118,815	4.0%
Total active vested members	297	296	0.3%
Vested terminated members	13	14	-7.1%
Retired members:			
Number in pay status	224	217	3.2%
Average age	75.1	75.1	N/A
Average monthly benefit	\$6,400	\$6,226	2.8%
Disabled members:			
Number in pay status	6	6	0.0%
Average age	67.2	66.1	N/A
Average monthly benefit	\$5,635	\$5,408	4.2%
Beneficiaries in pay status	105	107	-1.9%
Inactive non-vested members	0	0	N/A

# H. LEOPS

CHART H - 1 LEOPS Member Population: 1998 – 2007

Year Ended June 30	Active Members	Vested Terminated Members*	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
1998	755	21	139	0.21
1999	862	30	170	0.23
2000	1,130	36	206	0.21
2001	1,318	49	309	0.27
2002	1,410	66	403	0.33
2003	1,481	62	503	0.38
2004	1,675	81	581	0.40
2005	1,826	104	708	0.44
2006	2,063	115	782	0.43
2007	2,217	127	863	0.45

<sup>\*</sup>Excludes terminated members due a refund of employee contributions

SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

CHART H - 2
Distribution of LEOPS Active Members by Age as of June 30, 2007

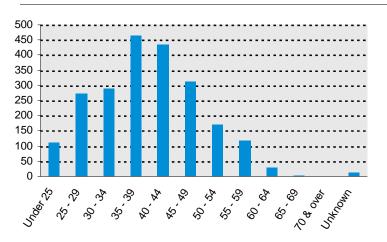


CHART H - 4 LEOPS Retired Members by Monthly Amount as of June 30, 2007

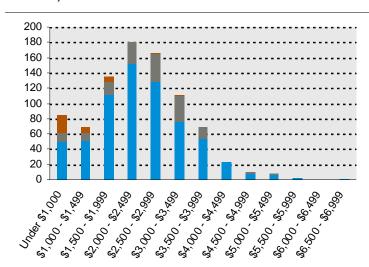


CHART H - 3
Distribution of LEOPS Active Members by Service as of June 30, 2007

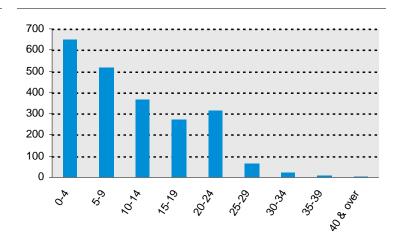
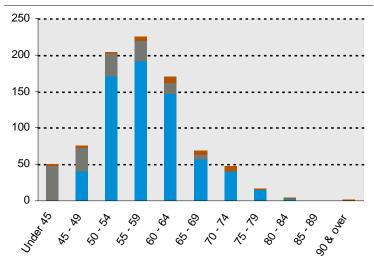


CHART H - 5 LEOPS Retired Members by Age as of June 30, 2007



SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

Chart H - 6
Table of Plan Coverage – LEOPS

	Year End	ed June 30	
Category	2007	2006	Change From Prior Year
Active members in valuation:			
Number	2,217	2,063	7.5%
Average age	39.9	39.8	N/A
Average service	11.2	11.2	N/A
Total salary	\$122,015,164	\$106,668,684	14.4%
Average salary	\$55,036	\$51,706	6.4%
Account balances	\$32,079,486	\$21,196,598	51.3%
Total active vested members	1,643	1,546	6.3%
Vested terminated members	127	115	10.4%
Retired members:			
Number in pay status	664	617	7.6%
Average age	58.5	58.1	N/A
Average monthly benefit	\$2,441	\$2,370	3.0%
Disabled members:			
Number in pay status	160	133	20.3%
Average age	49.2	49.6	N/A
Average monthly benefit	\$2,553	\$2,544	0.4%
Beneficiaries in pay status	39	32	21.9%
Inactive non-vested members	212	205	3.4%

### I. LOCAL FIRE AND POLICE

CHART I - 1
Local Fire and Police Member Population: 1998 – 2007

Year Ended June 30	Active Members	Vested Terminated Members*	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
1998	177	14	11	0.14
1999	178	18	14	0.18
2000	184	20	19	0.21
2001	140	30	21	0.36
2002	181	36	26	0.34
2003	127	35	33	0.54
2004	52	30	37	1.29
2005	57	6	14	0.35
2006	55	7	16	0.42
2007	56	7	16	0.41

<sup>\*</sup>Excludes terminated members due a refund of employee contributions

CHART I - 2

Distribution of Local Fire and Police Active Members by Age as of June 30, 2007

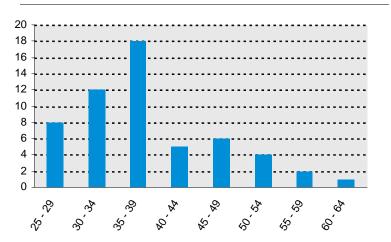


CHART I - 4

Local Fire and Police Retired Members by Monthly Amount as of June 30, 2007

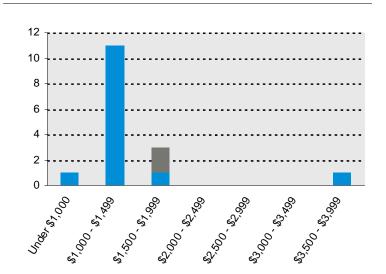


CHART I - 3

Distribution of Local Fire and Police Active Members by Service as of June 30, 2007

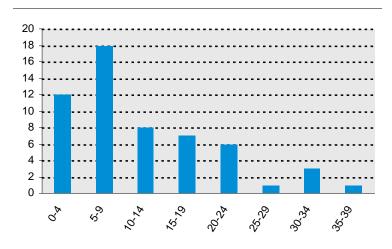
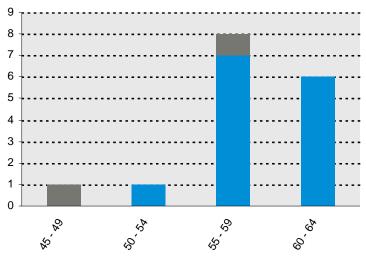


CHART I - 5

Local Fire and Police Retired Members by Age as of June 30, 2007



■ Disability
■ Service

SECTION 3: System by System Demographic Information for the State Retirement and Pension System of Maryland

Chart I - 6
Table of Plan Coverage – Local Fire and Police

	Year Ende	Year Ended June 30		
Category	2007	2006	– Change From Prior Year	
Active members in valuation:				
Number	56	55	1.8%	
Average age	38.6	37.2	N/A	
Average service	12.1	11.0	N/A	
Total salary	\$2,181,422	\$2,008,605	8.6%	
Average salary	\$38,954	\$36,520	6.7%	
Account balances	\$1,373	\$1,308	5.0%	
Total active vested members	44	36	22.2%	
Vested terminated members	7	7	0.0%	
Retired members:				
Number in pay status	14	14	0.0%	
Average age	59.6	58.6	N/A	
Average monthly benefit	\$1,461	\$1,421	2.8%	
Disabled members:				
Number in pay status	2	2	0.0%	
Average age	58.5	57.5	N/A	
Average monthly benefit	\$1,706	\$1,659	2.8%	
Beneficiaries in pay status	0	0	N/A	
Inactive non-vested members	0	0	N/A	

# SECTION 4: Financial Information for the State Retirement and Pension System of Maryland

EXHIBIT A

Development of Actuarial Value of Assets for the Year Ended June 30, 2007

Plan	<b>Teachers</b>	<b>Employees</b>	<b>State Police</b>	<b>Judges</b>	<b>LEOPS</b>	<u>LFP</u>	<u>Total</u>
1. Actuarial value of assets at 6/30/2006	\$21,575,451,378	\$12,287,599,702	\$1,301,876,790	\$273,678,641	\$363,889,242	\$3,661,181	\$35,806,156,934
2. Actuarial value of assets at 6/30/2006 before transfers	\$21,575,451,378	\$12,287,941,567	\$1,301,876,790	\$273,678,641	\$352,415,577	\$3,661,181	\$35,795,025,134
3. Market value of assets at 6/30/2006	\$20,741,517,825	\$11,821,054,476	\$1,210,073,370	\$261,060,907	\$344,467,420	\$3,776,461	\$34,381,950,459
4. Market value of assets at 6/30/2006 before transfers	\$20,741,517,825	\$11,821,365,766	\$1,210,073,370	\$261,060,907	\$333,024,309	\$3,776,461	\$34,370,818,638
5. Market value of assets with interest to 6/30/2007	\$22,348,985,456	\$12,737,521,613	\$1,303,854,056	\$281,293,127	\$358,833,693	\$4,069,137	\$37,034,557,082
Employer contributions	\$484,624,116	\$275,417,397	\$11,560,365	\$15,936,590	\$45,728,576	\$514,978	\$833,782,022
Member contributions	<u>\$177,745,608</u>	\$122,650,854	<u>\$6,676,454</u>	\$1,667,445	\$10,533,922	<u>\$0</u>	\$319,274,283
6. Total contributions	\$662,369,724	\$398,068,251	\$18,236,819	\$17,604,035	\$56,262,498	\$514,978	\$1,153,056,305
7. Interest on contributions to 6/30/2007	\$25,187,917	\$15,137,331	\$693,491	\$669,428	\$2,139,493	\$19,583	\$43,847,243
8. Disbursements from trust	(\$1,249,030,083)	(\$700,905,120)	(\$82,141,580)	(\$20,813,138)	(\$25,955,060)	(\$284,917)	(\$2,079,129,898)
9. Interest on disbursements to 6/30/2007	(\$47,496,835)	(\$26,653,301)	(\$3,123,596)	(\$791,461)	(\$986,992)	(\$10,835)	(\$79,063,020)
10. Expected market value of assets	\$21,740,016,179	\$12,423,168,774	\$1,237,519,190	\$277,961,991	\$390,293,632	\$4,307,946	\$36,073,267,712
11. Actual market value of assets at 6/30/2007 before transfers	\$23,777,998,866	\$13,581,332,407	\$1,354,584,328	\$302,939,369	\$423,319,235	\$4,607,027	\$39,444,781,232
12. Actual market value of assets minus expected market value of assets: (11) – (10)	\$2,037,982,687	\$1,158,163,633	\$117,065,138	\$24,977,378	\$33,025,603	\$299,081	\$3,371,513,520
13. Calculation of unrecognized return	. ,,	. , , ,	,,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , , ,	,,	, , , , , , , , , , , , , , , , , , , ,
(a) Year ended 6/30/07 - original amount*	\$1,204,049,134	\$691,618,407	\$25,261,718	\$12,359,644	\$13,603,781	\$414,361	\$1,947,307,045
(b) Year ended 6/30/07 - unrecognized amount	\$963,239,307	\$553,294,726	\$20,209,374	\$9,887,715	\$10,883,025	\$331,489	\$1,557,845,636
14. Preliminary actuarial value of assets	\$22,814,759,559	\$13,028,037,681	\$1,334,374,954	\$293,051,654	\$412,436,210	\$4,275,538	\$37,886,935,596
15. Adjustment to be within 20% corridor	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16. Actuarial value of assets at 6/30/2007 before transfers	\$22,814,759,559	\$13,028,037,681	\$1,334,374,954	\$293,051,654	\$412,436,210	\$4,275,538	\$37,886,935,596
17. Asset transfer in on actuarial value of assets basis	\$0	\$0	\$0	\$0	\$1,716,636	\$0	\$1,716,636
18. Asset transfer out on actuarial value of assets basis	\$0	(\$1,716,636)	\$0	\$0	\$0	\$0	(\$1,716,636)
19. Actuarial value of assets at 6/30/2007	\$22,814,759,559	\$13,026,321,045	\$1,334,374,954	\$293,051,654	\$414,152,846	\$4,275,538	\$37,886,935,596
20. Asset transfer in on market value of assets basis	\$0	\$0	\$0	\$0	\$1,791,217	\$0	\$1,791,217
21. Asset transfer out on market value of assets basis	\$0	(\$1,791,217)	\$0	\$0	\$0	\$0	(\$1,791,217)
22. Market value of assets at 6/30/2007	<u>\$23,777,998,866</u>	<u>\$13,579,541,190</u>	<u>\$1,354,584,328</u>	\$302,939,369	\$425,110,452	\$4,607,027	\$39,444,781,232
* I de la differencia la companya de	20. 2006						

<sup>\*</sup> Includes difference between market and actuarial value of assets at June 30, 2006.



# SECTION 4: Financial Information for the State Retirement and Pension System of Maryland

EXHIBIT B

Table of Financial Information for the Year Ended June 30, 2007

	<b>Teachers</b>	Employees*	State Police	<u>Judges</u>	LEOPS*	<u>LFP*</u>	<u>Total</u>
Equities	\$15,611,983,593	\$8,866,375,320	\$873,873,347	\$187,678,370	\$275,879,384	\$2,667,643	\$25,818,457,657
Fixed Income	6,987,498,760	3,976,370,624	392,691,810	84,001,209	123,485,697	1,104,662	11,565,152,762
Real Estate	1,165,518,242	664,185,257	65,685,426	14,012,067	20,601,360	173,929	1,930,176,281
Other assets	12,998,271	74,401,206	22,333,745	17,247,723	3,352,794	660,793	130,994,532
Market value of assets before transfers	\$23,777,998,866	\$13,581,332,407	\$1,354,584,328	\$302,939,369	\$423,319,235	\$4,607,027	\$39,444,781,232
Market value of asssets at 6/30/2007	\$23,777,998,866	\$13,579,541,190	\$1,354,584,328	\$302,939,369	\$425,110,452	\$4,607,027	\$39,444,781,232
Actuarial value of assets at 6/30/2007	\$22,814,759,559	\$13,026,321,045	\$1,334,374,954	\$293,051,654	<u>\$414,152,846</u>	<u>\$4,275,538</u>	\$37,886,935,596

<sup>\*</sup> Includes Municipal System.

# SECTION 4: Financial Information for the State Retirement and Pension System of Maryland State Retirement and Pension System of Maryland

# **EXHIBIT C**

**Development of the Fund Through June 30, 2007** 

Year Ended June 30	Employer Contributions	Employee Contributions	Other Cash Flows	Net Investment Return	Disbursements	Actuarial Value of Assets at End of Year*
2005	\$670,553,309	\$208,997,052	\$1,529,321	\$1,948,720,895	-\$1,796,116,626	\$34,519,500,395
2006	720,875,369	215,077,394	3,005,529	2,267,466,978	-1,930,900,531	35,795,025,134
2007	833,782,022	319,274,283	5,691,993	3,012,292,062	-2,079,129,898	37,886,935,596

<sup>\*</sup> In future valuations, additional years will be added.

621,472,039

Chart A
Total System (State Portion)

		Year Ende		
	Item	2007	2006*	Change From Prior Year
1.	Employer normal cost at beginning of year	\$621,472,039	-	N/A
2.	Employer normal cost adjusted to mid-year	645,104,741	-	N/A
3.	Total salary for valuation as of June 30	8,935,149,085	\$8,285,799,057	7.8%
4.	Employer normal cost rate: (2) / (3)	7.22%	7.74%	-6.7%
5.	Actuarial accrued liability			
	a. Retired and disabled members, and beneficiaries	23,129,599,799	19,527,968,316	18.4%
	b. Terminated vested and inactive members	1,132,271,476	915,136,291	23.7%
	c. Active members	19,706,441,201	19,598,868,818	0.5%
	d. Total actuarial accrued liability	43,968,312,476	40,041,973,425	9.8%
6.	Actuarial value of assets	35,128,814,297	33,293,131,693	5.5%
7.	Unfunded actuarial accrued liability: (5)d - (6)	8,839,498,179	6,748,841,732	31.0%
8.	Less special liability payments	54,942,131	57,489,725	-4.4%
9.	Unfunded actuarial accrued liability for amortization: (7) - (8)	8,784,556,048	6,691,352,007	31.3%
10.	UAL amortization payment adjusted to mid-year	597,112,917	437,334,972	36.5%
11.	Unfunded liability rate: (10) / (3)	6.68%	5.27%	26.8%
12.	Total employer contribution rate (GASB): $(4) + (11)$	13.90%	13.01%	6.8%
13.	Total employer contribution rate (corridor)	12.09%	11.10%	8.9%

<sup>\* 2006</sup> contribution rates were developed under the Aggregate Entry Age Normal Cost Method

Chart B
Teachers' Combined System

		Year Ende		
	ltem	2007	2006*	Change From Prior Year
1.	Employer normal cost at beginning of year	\$402,644,935	-	N/A
2.	Employer normal cost adjusted to mid-year	417,956,304	-	N/A
3.	Total salary for valuation as of June 30	5,709,765,331	\$5,269,185,016	8.4%
4.	Employer normal cost rate: (2) / (3)	7.32%	7.47%	-2.0%
5.	Actuarial accrued liability			
	a. Retired and disabled members, and beneficiaries	14,947,040,791	12,685,895,645	17.8%
	b. Terminated vested and inactive members	589,556,857	498,834,309	18.2%
	c. Active members	12,585,977,207	12,432,753,977	1.2%
	d. Total actuarial accrued liability	28,122,574,855	25,617,483,931	9.8%
6.	Actuarial value of assets	22,814,759,559	21,575,451,378	5.7%
7.	Unfunded actuarial accrued liability: (5)d - (6)	5,307,815,296	4,042,032,553	31.3%
8.	Less special liability payments	0	0	N/A
9.	Unfunded actuarial accrued liability for amortization: (7) - (8)	5,307,815,296	4,042,032,553	31.3%
10.	UAL amortization payment adjusted to mid-year	378,453,983	280,051,536	35.1%
11.	Unfunded liability rate: (10) / (3)	6.63%	5.31%	24.9%
12.	Total employer contribution rate (GASB): (4) + (11)	13.95%	12.78%	9.2%
13.	Total employer contribution rate (corridor)	12.92%	11.60%	11.4%

<sup>\* 2006</sup> contribution rates were developed under the Aggregate Entry Age Normal Cost Method

Chart C
Employees' Combined System (State Portion)

		Year Ende	Year Ended June 30		
	Item	2007	2006*	Change From Prior Year	
1.	Employer normal cost at beginning of year	\$176,752,932	-	N/A	
2.	Employer normal cost adjusted to mid-year	183,474,311	-	N/A	
3.	Total salary for valuation as of June 30	3,022,475,485	\$2,828,348,315	6.9%	
4.	Employer normal cost rate: (2) / (3)	6.07%	7.16%	-15.2%	
5.	Actuarial accrued liability				
	a. Retired and disabled members, and beneficiaries	6,461,110,464	5,324,769,613	21.3%	
	b. Terminated vested and inactive members	522,987,306	397,543,032	31.6%	
	c. Active members	6,379,409,391	6,519,392,165	-2.1%	
	d. Total actuarial accrued liability	13,363,507,161	12,241,704,810	9.2%	
6.	Actuarial value of assets	10,332,264,062	9,825,415,906	5.2%	
7.	Unfunded actuarial accrued liability: (5)d - (6)	3,031,243,099	2,416,288,904	25.5%	
8.	Less special liability payments	54,942,131	57,489,725	-4.4%	
9.	Unfunded actuarial accrued liability for amortization: (7) - (8)	2,976,300,968	2,358,799,179	26.2%	
10.	UAL amortization payment adjusted to mid-year	191,965,557	144,603,028	32.8%	
11.	Unfunded liability rate: (10) / (3)	6.35%	5.11%	24.3%	
12.	Total employer contribution rate (GASB): (4) + (11)	12.42%	12.27%	1.2%	
13.	Total employer contribution rate (corridor)	9.01%	8.86%	1.7%	

<sup>\* 2006</sup> contribution rates were developed under the Aggregate Entry Age Normal Cost Method

Chart D State Police

		Year Ended	Year Ended June 30		
	Item	2007	2006*	Change From Prior Year	
1.	Employer normal cost at beginning of year	\$18,617,990	-	N/A	
2.	Employer normal cost adjusted to mid-year	19,325,976	-	N/A	
3.	Total salary for valuation as of June 30	83,190,937	\$80,648,855	3.2%	
4.	Employer normal cost rate: (2) / (3)	23.23%	25.05%	-7.3%	
5.	Actuarial accrued liability				
	a. Retired and disabled members, and beneficiaries	1,156,968,293	1,025,051,660	12.9%	
	b. Terminated vested and inactive members	6,177,898	6,908,099	-10.6%	
	c. Active members	353,788,570	293,915,157	20.4%	
	d. Total actuarial accrued liability	1,516,934,761	1,325,874,916	14.4%	
6.	Actuarial value of assets	1,334,374,954	1,301,876,790	2.5%	
7.	Unfunded actuarial accrued liability: (5)d - (6)	182,559,807	23,998,126	660.7%	
8.	Less special liability payments	0	0	N/A	
9.	Unfunded actuarial accrued liability for amortization: (7) - (8)	182,559,807	23,998,126	660.7%	
10.	UAL amortization payment adjusted to mid-year	1,698,182	(7,746,415)	-121.9%	
11.	Unfunded liability rate: (10) / (3)	2.04%	-9.61%	-121.2%	
12.	Total employer contribution rate (GASB): (4) + (11)	25.27%	15.44%	63.7%	
13.	Total employer contribution rate (corridor)	N/A	N/A	N/A	

 $<sup>* \ \ 2006\</sup> contribution\ rates\ were\ developed\ under\ the\ Aggregate\ Entry\ Age\ Normal\ Cost\ Method$ 

Chart E Judges

		Year Ended	June 30	
	Item	2007	2006*	Change From Prior Year
1.	Employer normal cost at beginning of year	\$10,082,626	-	N/A
2.	Employer normal cost adjusted to mid-year	10,466,038	-	N/A
3.	Total salary for valuation as of June 30	37,638,491	\$35,939,104	4.7%
4.	Employer normal cost rate: (2) / (3)	27.81%	28.15%	-1.2%
5.	Actuarial accrued liability			
	a. Retired and disabled members, and beneficiaries	225,128,658	205,498,100	9.6%
	b. Terminated vested and inactive members	4,553,421	4,882,037	-6.7%
	c. Active members	142,305,295	142,156,874	0.1%
	d. Total actuarial accrued liability	371,987,374	352,537,011	5.5%
6.	Actuarial value of assets	293,051,654	273,678,641	7.1%
7.	Unfunded actuarial accrued liability: (5)d - (6)	78,935,720	78,858,370	0.1%
8.	Less special liability payments	0	0	N/A
9.	Unfunded actuarial accrued liability for amortization: (7) - (8)	78,935,720	78,858,370	0.1%
10.	UAL amortization payment adjusted to mid-year	6,127,406	5,738,819	6.8%
11.	Unfunded liability rate: (10) / (3)	16.28%	15.97%	1.9%
12.	Total employer contribution rate (GASB): (4) + (11)	44.09%	44.12%	-0.1%
13.	Total employer contribution rate (corridor)	N/A	N/A	N/A

 $<sup>* \</sup>quad 2006\ contribution\ rates\ were\ developed\ under\ the\ Aggregate\ Entry\ Age\ Normal\ Cost\ Method$ 

Chart F
LEOPS (State Portion)

		Year Ended	d June 30	
	Item	2007	2006*	Change From Prior Year
1.	Employer normal cost at beginning of year	\$13,373,556	-	N/A
2.	Employer normal cost adjusted to mid-year	13,882,112	-	N/A
3.	Total salary for valuation as of June 30	82,078,841	\$71,677,767	14.5%
4.	Employer normal cost rate: (2) / (3)	16.91%	21.25%	-20.4%
5.	Actuarial accrued liability			
	a. Retired and disabled members, and beneficiaries	339,351,593	286,753,298	18.3%
	b. Terminated vested and inactive members	8,995,994	6,968,814	29.1%
	c. Active members	244,960,738	210,650,645	16.3%
	d. Total actuarial accrued liability	593,308,325	504,372,757	17.6%
6.	Actuarial value of assets	354,364,068	316,708,978	11.9%
7.	Unfunded actuarial accrued liability: (5)d - (6)	238,944,257	187,663,779	27.3%
8.	Less special liability payments	\$0	\$0	N/A
9.	Unfunded actuarial accrued liability for amortization: (7) - (8)	238,944,257	187,663,779	27.3%
10.	UAL amortization payment adjusted to mid-year	18,867,789	14,688,000	28.5%
11.	Unfunded liability rate: (10) / (3)	22.99%	20.49%	12.2%
12.	Total employer contribution rate (GASB): (4) + (11)	39.90%	41.74%	-4.4%
13.	Total employer contribution rate (corridor)	N/A	N/A	N/A

 $<sup>* \ \ 2006\</sup> contribution\ rates\ were\ developed\ under\ the\ Aggregate\ Entry\ Age\ Normal\ Cost\ Method$ 

EXHIBIT I
Accounting Statement Information for the State of Maryland (State and Municipal)

		Year Ended	June 30
		2007	2006
	FASB #35 Basis		
1. l	Present value of benefits accrued to date:		
	a. Members currently receiving payments	\$24,546,694,704	\$21,050,092,563
	b. Former vested members	1,244,151,941	1,036,360,357
	c. Active members	15,219,344,588	14,540,067,073
	d. Total	41,010,191,233	36,626,519,993
2.	Assets at market value	39,444,781,232	34,370,818,638
3. 1	Unfunded present value of benefits accrued to date: (1)d – (2)	1,565,410,001	2,255,701,355
4. ]	Ratio of assets to present value of benefits accrued to date: (2)/(1)d	96.18%	93.84%
	GASB #25 Basis		
1.	Actuarial accrued liabilities attributable to:		
	a. Active member contributions	\$2,489,643,667	\$2,217,897,868
	b. Retirees, terminated vesteds, and inactives	25,790,846,645	22,086,452,920
	c. Active members	18,863,863,546	18,939,141,669
	d. Total	47,144,353,858	43,243,492,457
2. ]	Net actuarial assets available for benefits	37,886,935,596	35,795,025,134
3. 1	Unfunded actuarial accrued liabilities: (1)d – (2)	9,257,418,262	7,448,467,323

# SECTION 6: Accounting Statement Information for the State Retirement and Pension System of Maryland

EXHIBIT II

System by System Accounting Statement Information – FASB #35

	Total	Teachers' Retirement and Pension	Employees' Retirement and Pension	State Police	Judges	LEOPS	Local Fire and Police
Present value of benefits accrued to date:							
a. Members currently receiving payments	\$24,546,694,704	\$14,947,040,791	\$7,837,102,035	\$1,156,968,293	\$225,128,658	\$376,511,724	\$3,943,203
b. Former vested members	1,244,151,941	589,556,857	632,771,884	6,177,898	4,553,421	11,049,603	42,278
c. Active members	15,219,344,588	8,631,258,169	5,837,391,553	320,351,448	134,218,440	292,574,343	3,550,635
d. Total	41,010,191,233	24,167,855,817	14,307,265,472	1,483,497,639	363,900,519	680,135,670	7,536,116
2. Assets at market value	39,444,781,232	23,777,998,866	13,579,541,190	1,354,584,328	302,939,369	425,110,452	4,607,027
3. Unfunded present value of benefit accrued to date: $(1)d - (2)$	1,565,410,001	389,856,951	727,724,282	128,913,311	60,961,150	255,025,218	2,929,089
4. Ratio of assets to present value of benefits accrued to date: (2)/(1)d	96.18%	98.39%	94.91%	91.31%	83.25%	62.50%	61.13%

## SECTION 6: Accounting Statement Information for the State Retirement and Pension System of Maryland

EXHIBIT III

System by System Accounting Statement Information – GASB #25

	Total	Teachers' Retirement and Pension	Employees' Retirement and Pension	State Police	Judges	LEOPS	Local Fire and Police
Actuarial accrued liabilities attributable to:							_
a. Active member contributions	\$2,489,643,667	\$1,437,129,646	\$924,181,912	\$72,206,653	\$24,044,597	\$32,079,486	\$1,373
b. Retirees, terminated vesteds, and inactives	25,790,846,645	15,536,597,648	8,469,873,919	1,163,146,191	229,682,079	387,561,327	3,985,481
c. Active members	18,863,863,546	11,148,847,561	6,991,767,183	281,581,917	118,260,698	318,908,043	4,498,144
d. Total	47,144,353,858	28,122,574,855	16,385,823,014	1,516,934,761	371,987,374	738,548,856	8,484,998
2. Actuarial value of assets	37,886,935,596	22,814,759,559	13,026,321,045	1,334,374,954	293,051,654	414,152,846	4,275,538
3. Unfunded actuarial accrued liabilities: (1)d – (2)	9,257,418,262	5,307,815,296	3,359,501,969	182,559,807	78,935,720	324,396,010	4,209,460
4. Funded Ratio: (2)/(1)d	80.36%	81.13%	79.50%	87.97%	78.78%	56.08%	50.39%
5. Annual covered payroll	9,971,012,065	5,709,765,331	4,016,220,720	83,190,937	37,638,491	122,015,164	2,181,422
6. UAAL as % of covered payroll	92.84%	92.96%	83.65%	219.45%	209.72%	265.87%	192.97%

## SECTION 6: Accounting Statement Information for the State Retirement and Pension System of Maryland

EXHIBIT IV		
Statement of Changes in Total Present Value of All Accrued B	enefits	
Present value of accrued benefits as of June 30, 2006		\$36,626,519,993
Increases (decreases) during the year attributable to:		
Passage of time	2,759,492,280	
Benefits paid	(2,079,129,898)	
Benefits accrued and other (gain) losses	2,540,044,549	
Plan amendment	0	
Actuarial assumption change	1,163,264,309	
Net increase (decrease)		4,383,671,240
Present value of accrued benefits as of June 30, 2007		\$41.010.191.233



EXHIBIT V
Supplementary Information Required by the GASB
Schedule of Employer Contributions

Plan Year Ended June 30	Annual Required Contributions	Percentage Contributed
1997	\$740,258	100%
1998	735,788	100%
1999	693,353	100%
2000	682,422	100%
2001	634,309	100%
2002	574,019	100%
2003	654,578	92%
2004	710,632	89%
2005	805,564	83%
2006	874,079	82%
2007	1,025,972	81%

EXHIBIT VI
Supplementary Information Required by the GASB
Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
1998	\$24,850,355	\$27,416,935	\$2,566,580	90.64%	\$5,900,456	43%
1999	27,646,579	28,475,380	828,801	97.09%	6,312,417	13%
2000	30,649,380	30,279,866	-369,514	101.22%	6,725,870	-5%
2001	31,914,778	32,469,942	555,164	98.29%	7,255,036	8%
2002	32,323,263	34,131,284	1,808,021	94.70%	7,867,794	23%
2003	32,631,465	34,974,601	2,343,136	93.30%	8,134,419	29%
2004	33,484,657	36,325,704	2,841,047	92.18%	8,069,481	35%
2005	34,519,500	39,133,450	4,613,950	88.21%	8,603,761	54%
2006	35,795,025	43,243,492	7,448,467	82.78%	9,287,576	80%
2007	37,886,936	47,144,354	9,257,418	80.36%	9,971,012	93%

## SECTION 6: Accounting Statement Information for the State Retirement and Pension System of Maryland

## **EXHIBIT VII**

## **Supplementary Information Required by the GASB**

Valuation date	June 30, 2007
Actuarial cost method	Individual Entry Age Normal Cost Method
Amortization method	Level percent of payroll (period is closed)
Remaining amortization period	13 years remaining at June 30, 2007 for prior UAAL existing at June 30, 2000 25 years from each subsequent valuation date for each years additional UAAL These periods do not reflect application of the corridor.
Asset valuation method	Five-year straight-line amortization of each year's investment gain or loss with final value not more than 120% nor less than 80% of market value.
Actuarial assumptions:	
Investment rate of return	7.75%
Projected payroll growth	3.50%
Cost of living adjustments	3.00% (Judges System 3.50%)
Plan membership:	
Retired members and beneficiaries receiving benefits	108,355
Terminated members entitled to, but not yet receiving benefits	52,027
Non-vested inactive members due refunds	20,393
Active members	<u>196,262</u>
Total	377,037

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Teachers' Retirement System

#### **EXHIBIT A**

**Actuarial Assumptions and Actuarial Cost Method** 

**Teachers' Retirement System** 

## **Mortality Rates:**

Healthy: RP-2000 Combined Healthy Table with sex-distinct rates, set back 4 years in age

Disabled: 50% of RP-2000 Male Disabled Retiree Table plus 50% of RP-2000 Male Combined

Healthy Table, with combined rates set back 2 years in age for males; RP-2000

Female Disabled Retiree Table, set back 2 years in age for females

## **Mortality Rates (%):**

	A	Active		abled
Age	Male	Female	Male	Female
25	0.04	0.02	1.15	0.75
30	0.04	0.02	1.15	0.75
35	0.05	0.03	1.16	0.75
40	0.08	0.05	1.18	0.75
45	0.11	0.08	1.19	0.75
50	0.16	0.12	1.41	0.98
55	0.24	0.19	1.79	1.45
60	0.42	0.31	2.23	1.97
65	0.77	0.58	2.83	2.53

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Teachers' Retirement System

## **Disability Rates\* (%):**

Age	Male	Female
25	0.01	0.02
30	0.01	0.02
35	0.01	0.04
40	0.02	0.07
45	0.04	0.12
50	0.07	0.17
55	0.09	0.30

<sup>\*</sup> Note: 1% of disabilities assumed to be job related.

## Withdrawal Rates:

Rate (%) For First Ten Years							
Years	Male	Female					
0	15.00	14.00					
1	15.00	14.00					
2	13.00	12.00					
3	11.00	10.00					
4	9.00	8.00					
5	7.00	7.00					
6	6.00	6.00					
7	5.50	5.50					
8	5.00	5.00					
9	4.00	5.00					

Age	Male	Female
30	4.00	5.00
35	4.00	5.00
40	2.00	3.00
45	1.00	2.50
50	1.00	1.00
55	1.00	1.00

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Teachers' Retirement System

Retirement Ra	ites (%)	):
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	Early Retirement				Normal Retirement				
	First F	Eligible	Subseque	ent Years	First E	Cligible	Subseque	ent Years	
Age	Male	Female	Male	Female	Male	Female	Male	Female	
40	3.00	1.00	1.00	1.00				_	
45	3.00	1.00	1.00	1.00	25.00	25.00	15.00	15.00	
50	3.00	2.00	1.00	1.50	25.00	25.00	15.00	15.00	
55	4.00	6.50	3.00	2.50	25.00	25.00	15.00	15.00	
60					25.00	25.00	18.00	20.00	
65					25.00	25.00	20.00	30.00	

**Retirement Age for Inactive** 

**Vested Participants:** 60

**Unknown Data for Participants:** Same as those exhibited by Members with similar known characteristics. If not

specified, Members are assumed to be male.

**Percent Married:** 75%

**Age of Spouse:** Females 4 years younger than males.

**Net Investment Return:** 7.75%

# Probability of Leaving Contributions in the Plan Upon Withdrawal (%):

Age	Male	Female
20	75.00	66.70
25	91.50	91.30
30	90.30	93.00
35	88.40	93.50
40	100.00	100.00

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Teachers' Retirement System

## **Salary Increase Rates:**

•	•					
For First	t Ten Years	Subseq	uent Years			
Years	Rate (%)	Age	Rate (%)			
0	7.25	25	7.50			
1	7.25	30	7.25			
2	7.25	35	6.75			
3	7.25	40	5.50			
4	7.25	45	4.75			
5	7.25	50	4.25			
6	7.25	55	4.00			
7	7.25	60	3.75			
8	7.25	65	3.50			
9	7.25					

**Aggregate Payroll Growth:** 3.50%

**Assumed Salary Increase Granted** 

On July 1, 2007 2.00%

**Cost of Living Increase:** 3.00%

**Unused Sick Leave:** Five months are added to the service of active members at retirement.

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Teachers' Retirement System

## Each year's market gain or loss is amortized on a straight-line basis over 5 years. The **Actuarial Value of Assets:** final actuarial value is limited to not more than 120% nor less than 80% of the market value of assets. As of June 30, 2007, the calculation of the market gain included the difference between the market and actuarial value of assets as of June 30, 2006. **Actuarial Cost Method:** Individual Entry Age Normal Cost Method. Under this method, a contribution rate is determined that consists of the normal cost rate and the unfunded actuarial liability rate. The normal cost for each employee is derived as a level percentage of pay from entry age to the last assumed retirement age and applied to pay expected for the coming year. The normal cost is determined as if the Pension System accrual rate were always in effect. The sum of the individual normal costs is divided by total employee payroll to obtain the normal cost rate. The normal cost includes an offset for expected employee contributions. **Changes in Assumptions:** Assumptions are periodically reviewed by the Board and as appropriate changes to these assumptions are adopted. The most recent experience study was based on data as of June 30, 2006. As recommended in the July 1, 2002 – June 30, 2006 experience study, the following assumptions have been changed: > The pre- and post-retirement mortality tables for healthy participants were changed to the RP-2000 Combined Healthy Table with sex-distinct rates, set back four years in age. > The mortality table for disabled male participants was changed to 50% of the RP-2000 Male Disabled Retiree Table plus 50% of the RP-2000 Male Combined Healthy Table, with combined rates set back 2 years in age for males; and to the RP-2000 Female Disabled Retiree Table, set back 2 years in age for disabled female participants. > The assumed disability rates were modified. > The assumed rates of withdrawal for participants with less than ten years of service were increased. The assumed rates of withdrawal for participants with ten

or more years of service were also modified.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Teachers' Retirement System

- > The early retirement rates for first eligibility as well as for subsequent years were decreased.
- > The normal retirement rates for first eligibility as well as for subsequent years were decreased.
- > The percent married assumption was lowered from 90% to 75%.
- > The rates of salary increase were modified.
- > The assumed salary increase granted on July 1 was changed from a salary-based increase to a flat 2% increase regardless of initial salary.
- ➤ The payroll growth assumption was lowered from 4.00% to 3.50%.
- > The actuarial cost method was changed from the Aggregate Entry Age Normal Cost method to the Individual Entry Age Normal Cost Method.
- > The method to determine the actuarial value of assets was modified to explicity recognize investment gains and losses over a 5-year period and to limit the actuarial value to no more than 120% nor less than 80% of the market value.

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Teachers' Pension System

### **EXHIBIT B**

**Actuarial Assumptions and Actuarial Cost Method** 

**Teachers' Pension System** 

## **Mortality Rates:**

Healthy: RP-2000 Combined Healthy Table with sex-distinct rates, set back 4 years in age

Disabled: 50% of RP-2000 Male Disabled Retiree Table plus 50% of RP-2000 Male Combined

Healthy Table, with combined rates set back 2 years in age for males; RP-2000

Female Disabled Retiree Table, set back 2 years in age for females

## **Mortality Rates (%):**

	A	ctive	Dis	abled
Age	Male	Female	Male	Female
25	0.04	0.02	1.15	0.75
30	0.04	0.02	1.15	0.75
35	0.05	0.03	1.16	0.75
40	0.08	0.05	1.18	0.75
45	0.11	0.08	1.19	0.75
50	0.16	0.12	1.41	0.98
55	0.24	0.19	1.79	1.45
60	0.42	0.31	2.23	1.97
65	0.77	0.58	2.83	2.53

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Teachers' Pension System

## **Disability Rates\* (%):**

Age	Male	Female
25	0.03	0.03
30	0.03	0.03
35	0.03	0.06
40	0.10	0.13
45	0.20	0.22
50	0.31	0.32
55	0.41	0.56

<sup>\*</sup> Note: 1% of disabilities are assumed to be job related.

## Withdrawal Rates:

Rate (	Rate (%) For First Ten Years					
Years	Male	Female				
0	15.00	14.00				
1	15.00	14.00				
2	13.00	12.00				
3	11.00	10.00				
4	9.00	8.00				
5	7.00	7.00				
6	6.00	6.00				
7	5.50	5.50				
8	5.00	5.00				
9	4.00	5.00				

30	4.00	
	4.00	5.00
35	4.00	5.00
40	2.00	3.00
45	1.00	2.50
50	1.00	1.00
55	1.00	1.00

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Teachers' Pension System

Retirement Ra	ites (%)	):
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		Early Re	tirement			Normal R	Normal Retirement		
	First H	Eligible	Subseque	ent Years	First E	ligible	Subseque	ent Years	
Age	Male	Female	Male	Female	Male	Female	Male	Female	
45					15.00	13.00	10.00	10.00	
50					15.00	13.00	10.00	10.00	
55	2.00	4.50			15.00	13.00	10.00	10.00	
60	6.00	8.00	4.50	5.00	20.00	24.00	17.00	13.00	
65					20.00	7.00	22.00	20.00	
70					20.00	7.00	16.00	15.00	

Retirement Age for Inactive Vested Participants:

62

**Unknown Data for Participants:** 

Same as those exhibited by Members with similar known characteristics. If not

specified, Members are assumed to be male.

**Percent Married:** 75%

**Age of Spouse:** Females 4 years younger than males.

**Net Investment Return:** 7.75%

# Probability of Leaving Contributions in the Plan Upon Withdrawal (%):

Age	Male	Female
20	75.00	66.67
25	91.50	91.26
30	90.32	92.99
35	88.38	93.49
40	100.00	100.00

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Teachers' Pension System

## **Salary Increase Rates:**

Juliury Illicit	abe Hates.		
For First	Ten Years	Subseq	uent Years
Years	Rate (%)	Age	Rate (%)
0	7.25	25	7.50
1	7.25	30	7.25
2	7.25	35	6.75
3	7.25	40	5.50
4	7.25	45	4.75
5	7.25	50	4.25
6	7.25	55	4.00
7	7.25	60	3.75
8	7.25	65	3.50
9	7.25		

**Aggregate Payroll Growth:** 3.50%

**Assumed Salary Increase Granted** 

On July 1, 2007: 2.00%

Cost of Living Increase: 3.00%

**Unused Sick Leave:** Five months are added to the service of active members at retirement.

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Teachers' Pension System

## Each year's investment gain or loss is amortized on a straight-line basis over 5 years. **Actuarial Value of Assets:** The final actuarial value is limited to not more than 120% nor less than 80% of the market value of assets. As of June 30, 2007, the calculation of the market gain included the difference between the market and actuarial value of assets as of June 30, 2006. **Actuarial Cost Method:** Individual Entry Age Normal Cost Method. Under this method, a contribution rate is determined that consists of the normal cost rate and the unfunded actuarial liability rate. The normal cost for each employee is derived as a level percentage of pay from entry age to the last assumed retirement age and applied to pay expected for the coming year. The sum of the individual normal costs is divided by total employee payroll to obtain the normal cost rate. The normal cost includes an offset for expected employee contributions. Assumptions are periodically reviewed by the Board and as appropriate changes to **Changes in Assumptions:** these assumptions are adopted. The most recent experience study was based on data as of June 30, 2006. As recommended in the July 1, 2002 – June 30, 2006 experience study, the following assumptions have been changed: > The pre- and post-retirement mortality tables for healthy participants were changed to the RP-2000 Combined Healthy Table with sex-distinct rates, set back four years in age. > The mortality table for disabled male participants was changed to 50% of the RP-2000 Male Disabled Retiree Table plus 50% of the RP-2000 Male Combined Healthy Table, with combined rates set back 2 years in age for males; and to the RP-2000 Female Disabled Retiree Table, set back 2 years in age for disabled female participants. > The assumed rates of withdrawal for participants with less than ten years of service were increased. The assumed rates of withdrawal for participants with ten

or more years of service were also modified.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Teachers' Pension System

- > The early retirement rates for first eligibility as well as for subsequent years were decreased.
- > The normal retirement rates for first eligibility as well as for subsequent years were decreased.
- > The percent married assumption was lowered from 90% to 75%.
- > The rates of salary increase were modified.
- > The assumed salary increase granted on July 1 was changed from a salary-based increase to a flat 2% increase regardless of initial salary.
- ➤ The payroll growth assumption was lowered from 4.00% to 3.50%.
- > The actuarial cost method was changed from the Aggregate Entry Age Normal Cost method to the Individual Entry Age Normal Cost Method.
- > The method to determine the actuarial value of assets was modified to explicity recognize investment gains and losses over a 5-year period and to limit the actuarial value to no more than 120% nor less than 80% of the market value.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Employees' Retirement System

#### **EXHIBIT C**

## **Actuarial Assumptions and Actuarial Cost Method**

## **Employees' Retirement System**

## **Mortality Rates:**

Healthy: RP-2000 Combined Healthy Table with sex-distinct rates, set back 2 years in age for

females.

Disabled: RP-2000 Male Disabled Retiree Table set back 4 years in age for males; RP-2000

Female Disabled Retiree Table for females

## **Mortality Rates (%):**

	Ac	ctive	Disabled		
Age	Male	Female	Male	Female	
25	0.04	0.02	2.26	0.75	
30	0.04	0.02	2.26	0.75	
35	0.08	0.04	2.26	0.75	
40	0.11	0.06	2.26	0.75	
45	0.15	0.09	2.26	0.75	
50	0.21	0.14	2.38	1.15	
55	0.36	0.22	3.03	1.65	
60	0.67	0.39	3.67	2.18	
65	1.27	0.76	4.35	2.80	

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Employees' Retirement System

Ordinar	Ordinary Disability Rates (%): Accide					l Disabilit	y Rates (%	<b>):</b>	
Regular			Corre	ectional		Regular		egular Correctional	
Age	Male	Female	Male	Female	Age	Male	Female	Male	Female
25	0.04	0.04	0.30	0.46	25	0.01	0.01	0.05	0.08
30	0.04	0.04	0.36	0.46	30	0.01	0.01	0.06	0.08
35	0.07	0.07	0.45	0.46	35	0.01	0.01	0.08	0.08
40	0.13	0.12	0.57	0.51	40	0.02	0.02	0.10	0.09
45	0.17	0.18	0.71	0.59	45	0.02	0.02	0.13	0.10
50	0.20	0.25	1.01	0.77	50	0.01	0.02	0.18	0.14
55	0.27	0.35	1.31	1.17	55	0.01	0.02	0.23	0.21

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Employees' Retirement System

## Withdrawal Rates:

Rate (%) For First Ten Years				Sample A	ge Rates (%) f	or Subsequent	Years		
Regula		ular	Corre	ctional		Reg	gular	Correc	ctional
Years	Male	Female	Male	Female	Age	Male	Female	Male	Female
0	20.00	20.00	18.00	17.00	25	5.00	4.50	4.00	5.00
1	15.00	13.00	18.00	17.00	30	4.00	3.00	4.00	5.00
2	12.00	10.00	14.00	11.00	35	4.00	3.00	4.00	5.00
3	9.00	8.00	12.00	11.00	40	3.00	2.50	4.00	5.00
4	8.00	6.00	8.00	10.00	45	2.50	2.50	3.00	5.00
5	7.00	6.00	8.00	10.00	50	2.50	2.00	3.00	5.00
6	6.00	6.00	7.00	10.00	55	2.00	1.50	2.50	2.50
7	6.00	5.50	7.00	10.00					
8	5.00	5.00	7.00	10.00					
9	5.00	4.50	4.00	10.00					

For legislative members, no turnover is assumed for first 8 years and then 20% is assumed every 4 years.

## **Retirement Rates (%):**

	Regular Early Retirement					Regular Normal Retirement			Correctional Normal Retirement	
	First	Eligible	Subsequ	uent Years	First	Eligible	Subseq	uent Years	First Eligible	<b>Subsequent Years</b>
Age	Male	Female	Male	Female	Male	Female	Male	Female		
40	2.50	2.00	2.00	2.00						
45	2.50	2.00	2.00	2.00	17.00	21.00	5.00	12.00	24.00	12.00
50	2.50	2.00	2.00	2.00	17.00	21.00	11.00	12.00	24.00	12.00
55	8.00	9.00	6.00	2.00	17.00	21.00	11.00	15.00	24.00	12.00
60					17.00	21.00	11.00	15.00	30.00	12.00
65					17.00	21.00	20.00	30.00	100.00	21.00

For correctional members, no early retirement is assumed. For legislative members, all employees are assumed to retire at their earliest normal retirement age.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Employees' Retirement System

**Retirement Age for Inactive** 

**Vested Participants:** 60 (age 55 for Correctional Officers)

**Unknown Data for Participants:** Same as those exhibited by Members with similar known characteristics. If not

specified, Members are assumed to be male.

**Percent Married:** 75%

**Age of Spouse:** Females 4 years younger than males.

**Net Investment Return:** 7.75%

## Probability of Leaving Contributions in the Plan Upon Withdrawal\* (%):

Age	Male	Female
20	87.50	94.44
25	76.82	86.93
30	70.55	87.18
35	68.22	84.57
40	100.00	100.00

<sup>\*</sup> Note: It is assumed that 100% of correctional and legislative members will leave employee contributions in the plan.

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Employees' Retirement System

## **Rates of Salary Increase:**

For First Ten Years

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<b>~11</b>	nceo	ment	Years
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Years	<b>Rate</b> (%)			Age	<b>Rate</b> (%)		
	Regular	Correctional	Legislative		Regular	Correctional	Legislative
0	5.50	8.25	8.00	25	5.00	5.75	8.00
1	5.50	7.25	8.00	30	5.00	5.75	8.00
2	5.50	5.75	8.00	35	4.50	4.75	8.00
3	5.50	5.75	8.00	40	4.25	4.75	8.00
4	5.50	5.75	8.00	45	4.00	4.75	8.00
5	5.00	5.00	8.00	50	3.75	4.75	8.00
6	4.50	5.00	8.00	55	3.75	4.50	8.00
7	4.50	5.00	8.00	60	3.50	4.50	8.00
8	4.50	5.00	8.00	65	3.50	3.50	8.00
9	4.50	4.50	8.00				

**Aggregate Payroll Growth:** 3.50%

**Assumed Salary Increase Granted** 

**On July 1, 2007:** 2.00%

Cost of Living Increase: 3.00% for Regular and Correctional

3.50% for Legislative

**Unused Sick Leave:** Five months are added to the service of active members at retirement.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Employees' Retirement System

#### **Actuarial Value of Assets:**

Each year's investment gain or loss is amortized on a straight-line basis over 5 years. The final actuarial value is limited to not more than 120% nor less than 80% of the market value of assets. As of June 30, 2007, the calculation of the market gain included the difference between the market and actuarial value of assets as of June 30, 2006.

#### **Actuarial Cost Method:**

Individual Entry Age Normal Cost Method. Under this method, a contribution rate is determined that consists of the normal cost rate and the unfunded actuarial liability rate. The normal cost for each employee is derived as a level percentage of pay from entry age to the last assumed retirement age and applied to pay expected for the coming year. The normal cost for the Regular group is determined as if the Pension System accrual rate were always in effect. The sum of the individual normal costs is divided by total employee payroll to obtain the normal cost rate. The normal cost includes an offset for expected employee contributions.

### **Changes in Assumptions:**

Assumptions are periodically reviewed by the Board and as appropriate changes to these assumptions are adopted. The most recent experience study was based on data as of June 30, 2006.

As recommended in the July 1, 2002 – June 30, 2006 experience study, the following assumptions have been changed:

- > The pre- and post-retirement mortality tables for healthy participants were changed to the RP-2000 Combined Healthy Table with sex-distinct rates, set back two years in age for females.
- ➤ The mortality tables for disabled participants were changed to the RP-2000 Male Disabled Retiree Table set back four years in age for males, and the RP-2000 Female Disabled Retiree Table for females.
- > Ordinary and accidental disability rates among regular and correctional employees were decreased.
- Withdrawal rates for regular and correctional employees for all years of service were modified.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Employees' Retirement System

- > The early retirement rates for regular employees for first eligibility as well as for subsequent years were decreased.
- > The normal retirement rates for first eligibility and subsequent years were decreased for regular and correctional members.
- > The percent married assumption was lowered from 90% to 75%.
- ➤ The regular and correctional rates of salary increase during the first 10 years of employment as well as for subsequent years were modified. The legislative rates of salary increase for all years of service was changed from 4.00% to 8.00%.
- > The assumed salary increase granted on July 1 was changed from a salary-based increase to a flat 2% increase regardless of initial salary.
- ➤ The payroll growth assumption was lowered from 4.00% to 3.50%.
- ➤ The legislative cost-of-living increase assumption was changed from 4.00% to 3.50%.
- > The actuarial cost method was changed from the Aggregate Entry Age Normal Cost method to the Individual Entry Age Normal Cost Method.
- > The method to determine the actuarial value of assets was modified to explicity recognize investment gains and losses over a 5-year period and to limit the actuarial value to no more than 120% nor less than 80% of the market value.

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Employees' Pension System

#### **EXHIBIT D**

## **Actuarial Assumptions and Actuarial Cost Method**

## **Employees' Pension System**

## **Mortality Rates:**

65

Healthy: RP-2000 Combined Healthy Table with sex-distinct rates, set back 2 years in age for

females

Disabled: RP-2000 Male Disabled Retiree Table set back 4 years in age for males; RP-2000

Female Disabled Retiree Table for females

<b>Mortality Rates (%):</b>				
	A	ctive	Disa	abled
Age	Male	Female	Male	Female
25	0.04	0.02	2.26	0.75
30	0.04	0.02	2.26	0.75
35	0.08	0.04	2.26	0.75
40	0.11	0.06	2.26	0.75
45	0.15	0.09	2.26	0.75
50	0.21	0.14	2.38	1.15
55	0.36	0.22	3.03	1.65
60	0.67	0.39	3.67	2.18

0.76

4.35

2.80

1.27

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Employees' Pension System

## **Ordinary Disability Rates (%):**

91 411141 J = 1848 1114 J 1144 ( 7 4 ) 4					
Age	Male	Female			
25	0.12	0.09			
30	0.12	0.09			
35	0.21	0.15			
40	0.40	0.27			
45	0.51	0.41			
50	0.61	0.58			
55	0.82	0.81			

## **Accidental Disability Rates (%):**

	•	` '	
 Age	Male	Female	
25	0.03	0.02	
30	0.03	0.02	
35	0.04	0.03	
40	0.06	0.04	
45	0.05	0.04	
50	0.04	0.04	
55	0.04	0.04	

## Withdrawal Rates:

Rate (%) For First Ten Years				
Years	Male	Female		
0	20.00	20.00		
1	15.00	13.00		
2	12.00	10.00		
3	9.00	8.00		
4	8.00	6.00		
5	7.00	6.00		
6	6.00	6.00		
7	6.00	5.50		
8	5.00	5.00		
9	5.00	4.50		

Age	Male	Female
25	5.00	4.50
30	4.00	3.00
35	4.00	3.00
40	3.00	2.50
45	2.50	2.50
50	2.50	2.00
55	2.00	1.50

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Employees' Pension System

## **Retirement Rates (%):**

## **Early Retirement**

### **Normal Retirement**

	First F	Eligible	Subseque	ent Years	First E	ligible	Subseque	ent Years
Age	Male	Female	Male	Female	Male	Female	Male	Female
45					14.00	16.00	7.00	10.00
50					14.00	16.00	7.00	10.00
55	3.00	3.50			14.00	17.00	7.00	10.00
60	8.00	8.00	4.50	5.50	14.00	26.00	11.00	16.00
65					5.00	6.00	20.00	23.00
70					5.00	6.00	15.00	16.00

**Retirement Age for Inactive** 

Vested Participants:

62

**Unknown Data for Participants:** 

Same as those exhibited by Members with similar known characteristics. If not

specified, Members are assumed to be male.

Percent Married:

Age of Spouse:

Females 4 years younger than males.

**Net Investment Return:** 

7.75%

75%

## Probability of Leaving Contributions in the Plan Upon Withdrawal (%)\*:

Age	Male	Female
20	87.50	94.44
25	76.82	86.93
30	70.55	87.18
35	68.22	84.57
40	100.00	100.00

<sup>\*</sup> Note: It is assumed that 100% of correctional and legislative members will leave employee contributions in the plan.

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Employees' Pension System

## **Rates of Salary Increase:**

	•		
For First	Ten Years	Subseq	uent Years
Years	Rate (%)	Age	Rate (%)
0	5.50	25	5.00
1	5.50	30	5.00
2	5.50	35	4.50
3	5.50	40	4.25
4	5.50	45	4.00
5	5.00	50	3.75
6	4.50	55	3.75
7	4.50	60	3.50
8	4.50	65	3.50
9	4.50		

**Aggregate Payroll Growth:** 3.50%

**Assumed Salary Increase Granted** 

On July 1, 2007: 2.00%

Cost of Living Increase: 3.00%

**Unused Sick Leave:** Five months are added to the service of active members at retirement.

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Employees' Pension System

Actuarial Value of Assets:	Each year's investment gain or loss is amortized on a straight-line basis over 5 years. The final actuarial value is limited to not more than 120% nor less than 80% of the market value of assets. As of June 30, 2007, the calculation of the market gain included the difference between the market and actuarial value of assets as of June 30, 2006.
Actuarial Cost Method:	Individual Entry Age Normal Cost Method. Under this method, a contribution rate is determined that consists of the normal cost rate and the unfunded actuarial liability rate. The normal cost for each employee is derived as a level percentage of pay from entry age to the last assumed retirement age and applied to pay expected for the coming year. The sum of the individual normal costs is divided by total employee payroll to obtain the normal cost rate. The normal cost includes an offset for expected employee contributions.
Changes in Assumptions:	Assumptions are periodically reviewed by the Board and as appropriate changes to these assumptions are adopted. The most recent experience study was based on data as of June 30, 2006.
	As recommended in the July 1, 2002 – June 30, 2006 experience study, the following assumptions have been changed:
	> The pre- and post-retirement mortality tables for healthy participants were changed to the RP-2000 Combined Healthy Table with sex-distinct rates, set back two years in age for females.
	> The mortality table for disabled participants were changed to the RP-2000 Male Disabled Retiree Table set back four years in age for males and to the RP-2000 Female Disabled Retiree Table for females.
	> The assumed rates of withdrawal for participants with less than ten years of service as well as the assumed rates for subsequent years were modified.
	The early retirement rates for first eligibility as well as for subsequent years were modified.
	> The normal retirement rates for first eligibility as well as for subsequent years were modified.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Employees' Pension System

- > The percent married assumption was lowered from 90% to 75%.
- > The rates of salary increase were decreased.
- > The assumed salary increase granted on July 1 was changed from a salary-based increase to a flat 2% increase regardless of initial salary.
- ➤ The payroll growth assumption was lowered from 4.00% to 3.50%.
- > The actuarial cost method was changed from the Aggregate Entry Age Normal Cost method to the Individual Entry Age Normal Cost Method.
- > The method to determine the actuarial value of assets was modified to explicity recognize investment gains and losses over a 5-year period and to limit the actuarial value to no more than 120% nor less than 80% of the market value.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – State Police Retirement System

#### **EXHIBIT E**

# Actuarial Assumptions and Actuarial Cost Method State Police Retirement System

## **Mortality Rates:**

Healthy: RP-2000 Combined Healthy Table with sex-distinct rates, set back 2 years in age for

males

Disabled: RP-2000 Disabled Retiree Table with sex-distinct rates

### **Mortality Rates\* (%):**

	Ordina	ry Death	Accidental Death	Disabled	
Age	Male	Female		Male	Female
25	0.04	0.02	0.02	2.26	0.75
30	0.04	0.03	0.03	2.26	0.75
35	0.06	0.05	0.03	2.26	0.75
40	0.10	0.07	0.03	2.26	0.75
45	0.13	0.11	0.04	2.26	0.75
50	0.19	0.17	0.06	2.90	1.15
55	0.29	0.27	0.02	3.54	1.65
60	0.53	0.51	0.01	4.20	2.18
65	1.00	0.97		5.02	2.80

Upon death of a retired participant, the Social Security related death benefit paid by the System is assumed to be 30% of the benefit payable to the retiree at the time of death. The 30% is estimated based on estimated levels of Social Security death benefits, percent married, probability that the beneficiary is not eligible to receive any survivior benefits from Social Security, and probability that the spouse has not predeceased the retiree.

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – State Police Retirement System

**Ordinary Disability Rates (%):** 

ordinary Districtly Three (70).			
Age	Male	Female	
25	0.78	2.43	
30	1.00	2.60	
35	1.26	2.63	
40	1.67	3.06	
45	2.23	3.72	
50	3.19	4.89	
55	4.10	7.46	
33	7.10	7.40	

**Accidental Disability Rates (%):** 

		( ) .	
Age	Male	Female	
 25	0.52	1.62	
30	0.55	1.45	
35	0.68	1.42	
40	0.79	1.44	
45	0.87	1.45	
50	1.22	1.87	
55	1.59	2.89	

## Withdrawal Rates:

Rate (%	Rate (%) For First Ten Years			
Years	Male	Female		
0	9.50	11.00		
1	7.50	9.00		
2	5.50	8.00		
3	4.00	7.00		
4	3.00	6.00		
5	3.00	5.00		
6	3.00	4.00		
7	2.50	0.67		
8	2.50	0.67		
9	2.50	0.67		

Sample Age Rates (%) For Subsequent Years			
Age	Male	Female	
30	1.00	0.67	
35	1.00	0.67	
40	1.00	0.67	
45	1.00	0.67	
50	1.00	0.67	
55	1.00	0.67	

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – State Police Retirement System

Retirement Rates* (%):			
	First Eligible	Subsequent Years	
Age	Rate	Rate	
45	30.00	30.00	
50	30.00	30.00	
55	30.00	60.00	
60	100.00	100.00	
65	100.00	100.00	

<sup>\*</sup> Rates include retirement into DROP status. 50% of members are expected to elect DROP.

**Retirement Age for Inactive** 

**Vested Participants:** 50

**Unknown Data for Participants:** Same as those exhibited by Members with similar known characteristics. If not

specified, Members are assumed to be male.

**Percent Married:** 75%

**Age of Spouse:** Females 4 years younger than males.

**Net Investment Return:** 7.75%

**Probability of leaving Contributions** 

in the Plan Upon Withdrawal: 100%

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – State Police Retirement System

## **Rates of Salary Increase:**

	inter or surer just		
For First Ten Years		Subseq	uent Years
Years	Rate (%)	Age	<b>Rate</b> (%)
0	12.00	25	4.50
1	12.00	30	4.00
2	8.75	35	3.75
3	7.50	40	3.50
4	6.00	45	3.50
5	5.00	50	3.50
6	4.00	55	3.50
7	4.00	60	3.50
8	4.00	65	3.50
9	4.00		

**Aggregate Payroll Growth:** 3.50%

**Assumed Salary Increase Granted** 

**On July 1, 2007:** 2.00%

Cost of Living Increase: 3.00%

**Unused Sick Leave:** 

Five months are added to the service of active members at retirement.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – State Police Retirement System

#### **Actuarial Value of Assets:**

Each year's investment gain or loss is amortized on a straight-line basis over 5 years. The final actuarial value is limited to not more than 120% nor less than 80% of the market value of assets. As of June 30, 2007, the calculation of the market gain included the difference between the market and actuarial value of assets as of June 30, 2006.

#### **Actuarial Cost Method:**

Individual Entry Age Normal Cost Method. Under this method, a contribution rate is determined that consists of the normal cost rate and the unfunded actuarial liability rate. The normal cost for each employee is derived as a level percentage of pay from entry age to the last assumed retirement age and applied to pay expected for the coming year. The sum of the individual normal costs is divided by total employee payroll to obtain the normal cost rate. The normal cost includes an offset for expected employee contributions.

## **Changes in Assumptions:**

Assumptions are periodically reviewed by the Board and as appropriate changes to these assumptions are adopted. The most recent experience study was based on data as of June 30, 2006.

As recommended in the July 1, 2002 – June 30, 2006 experience study, the following assumptions have been changed:

- > The pre- and post-retirement mortality tables for healthy participants were changed to the RP-2000 Male Combined Healthy Table, set back two years in age for males and to the RP-2000 Female Combined Healthy Table for females.
- The mortality table for disabled participants were changed to the RP-2000 Disabled Retiree Table with sex-distinct rates.
- > The assumed ordinary and accidental disability rates were increased.
- > The unisex assumed rates of withdrawal for participants with less than ten years of service as well as for participants with ten or more years of service were modified to reflect individual rates based on gender.
- > The normal retirement rates for first eligibility as well as for subsequent years were increased.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – State Police Retirement System

- > The percent married assumption was lowered from 90% to 75%.
- > The rates of salary increase were decreased.
- > The assumed salary increase granted on July 1 was changed from a salary-based increase to a flat 2% increase regardless of initial salary.
- > The payroll growth assumption was lowered from 4.00% to 3.50%.
- > The actuarial cost method was changed from the Aggregate Entry Age Normal Cost method to the Individual Entry Age Normal Cost Method.
- The method to determine the actuarial value of assets was modified to explicity recognize investment gains and losses over a 5-year period and to limit the actuarial value to no more than 120% nor less than 80% of the market value.

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Judges Retirement System

# EXHIBIT F Actuarial Assumptions and Actuarial Cost Method Judges Retirement System

### **Mortality Rates:**

Healthy: RP-2000 Combined Healthy Table with sex-distinct rates, set back 4 years in age

Disabled: 50% of the RP-2000 Male Disabled Retiree Table plus 50% of the RP-2000 Male

Combined Healthy Table, with combined rates set back 2 years in age for males; RP-

2000 Female Disabled Retiree Table, set back 2 years in age for females.

### **Mortality Rates (%):**

	Ac	etive	Disa	abled
Age	Male	Female	Male	Female
25	0.04	0.02	1.15	0.75
30	0.04	0.02	1.15	0.75
35	0.05	0.03	1.16	0.75
40	0.08	0.05	1.18	0.75
45	0.11	0.08	1.19	0.75
50	0.16	0.12	1.41	0.98
55	0.24	0.19	1.79	1.45
60	0.42	0.31	2.23	1.97
65	0.77	0.58	2.83	2.53

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Judges Retirement System

### **Disability Rates(%):**

Age	Male	Female
25	0.03	0.03
30	0.03	0.03
35	0.03	0.06
40	0.10	0.13
45	0.21	0.22
50	0.31	0.32
55	0.41	0.55

Retirement Rates (%)					
	First E	Eligible	Subseque	ent Years	
Age	Male	Female	Male	Female	
60	10.00	30.00	10.00	20.00	
65			10.00	20.00	
68			20.00	20.00	
69			50.00	50.00	
70			100.00	100.00	

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Judges Retirement System

Retirement Age for Inactive Vested Participants:	60		
Unknown Data for Participants:	Same as those exhibited by Members with similar known characteristics. If not specified, Members are assumed to be male.		
Percent Married:	75%		
Age of Spouse:	Females 4 years younger than males.		
Net Investment Return:	7.75%		
Probability of leaving Contributions in the Plan Upon Withdrawal:	50%		
Salary Increase:	3.50% annual increase		
Aggregate Payroll Growth:	3.50%		
Assumed Salary Increase Granted On July 1, 2007:	2.00%		
Cost of Living Increase:	3.50%		
Unused Sick Leave:	Five months are added to the service of active members at retirement.		
Actuarial Value of Assets:	Each year's investment gain or loss is amortized on a straight-line basis over 5 years. The final actuarial value is limited to not more than 120% nor less than 80% of the market value of assets. As of June 30, 2007, the market gain included the difference between the market and actuarial value of assets as of June 30, 2006.		

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Judges Retirement System

#### **Actuarial Cost Method:**

Individual Entry Age Normal Cost Method. Under this method, a contribution rate is determined that consists of the normal cost rate and the unfunded actuarial liability rate. The normal cost for each employee is derived as a level percentage of pay from entry age to the last assumed retirement age and applied to pay expected for the coming year. The sum of the individual normal costs is divided by total employee payroll to obtain the normal cost rate. The normal cost includes an offset for expected employee contributions.

### **Changes in Assumptions:**

Assumptions are periodically reviewed by the Board and as appropriate changes to these assumptions are adopted. The most recent experience study was based on data as of June 30, 2006.

As recommended in the July 1, 2002 – June 30, 2006 experience study, the following assumptions have been changed:

- ➤ The mortality tables for healthy participants were changed to the RP-2000 Combined Healthy Table with sex-distinct rates, set back four years.
- > The mortality table for disabled male participants was changed to 50% of the RP-2000 Male Disabled Retiree Table plus 50% of the RP-2000 Male Combined Healthy Table, with combined rates set back 2 years in age for males; and to the RP-2000 Female Disabled Retiree Table, set back 2 years in age for disabled female participants.
- > The percent married assumption was lowered from 90% to 75%.
- ➤ The annual salary increase was lowered from 4.00% to 3.50%.
- > The assumed salary increase granted on July 1 was changed from a salary-based increase to a flat 2% increase regardless of initial salary.
- $\rightarrow$  The payroll growth assumption was lowered from 4.00% to 3.50%.
- > The actuarial cost method was changed from the Aggregate Entry Age Normal Cost method to the Individual Entry Age Normal Cost Method.
- > The method to determine the actuarial value of assets was modified to explicity recognize investment gains and losses over a 5-year period and to limit the actuarial value to no more than 120% nor less than 80% of the market value.

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Law Enforcement Officers' Pension System

### **EXHIBIT G**

### Actuarial Assumptions and Actuarial Cost Method Law Enforcement Officers' Pension System

### **Mortality Rates:**

Healthy: RP-2000 Combined Healthy Table with sex-distinct rates, set back 2 years in age for

males

Disabled: RP-2000 Disabled Retiree Table with sex-distinct rates

### **Mortality Rates\* (%):**

	Ordinary Death			Disabled	
Age	Male	Female		Male	Female
25	0.04	0.02	0.02	2.26	0.75
30	0.04	0.03	0.03	2.26	0.75
35	0.06	0.05	0.03	2.26	0.75
40	0.10	0.07	0.03	2.26	0.75
45	0.13	0.11	0.04	2.26	0.75
50	0.19	0.17	0.06	2.90	1.15
55	0.29	0.27	0.02	3.54	1.65
60	0.53	0.51	0.01	4.20	2.18
65	1.00	0.97		5.02	2.80

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Law Enforcement Officers' Pension System

### **Ordinary Disability Rates (%):**

91 411141 J = 120021110 (70)					
Age	Male	Female			
25	0.29	0.47			
30	0.37	0.50			
35	0.46	0.51			
40	0.61	0.59			
45	0.81	0.72			
50	1.16	0.95			
55	1.49	1.45			

### **Accidental Disability Rates (%):**

	•	` /	
Age	Male	Female	
25	0.19	0.31	
30	0.20	0.28	
35	0.25	0.27	
40	0.29	0.28	
45	0.32	0.28	
50	0.44	0.36	
55	0.58	0.56	

### Withdrawal Rates:

Rate (%) For First Ten Years									
Years	Years Male Female								
0	12.00	16.00							
1	10.00	15.00							
2	9.00	13.00							
3	8.00	11.00							
4	7.50	9.00							
5	7.00	8.00							
6	6.00	7.00							
7	5.00	6.00							
8	4.00	5.00							
9	2.00	3.00							

Sample Age Rates (%) For Subsequent Years				
Age	Male	Female		
30	1.50	3.00		
35	1.50	3.00		
40	1.50	3.00		
45	1.50	3.00		
50	1.50	3.00		
55	1.50	3.00		

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Law Enforcement Officers' Pension System

Retirement Rates* (%):				
	First Eligible	Subsequent Years		
Age	Rate	Rate		
45	53.00	15.00		
50	23.00	15.00		
55	23.00	20.00		
60	23.00	30.00		
65	100.00	100.00		

<sup>\*</sup> Rates include retirement into DROP status. 50% of members are expected to elect DROP.

**Retirement Age for Inactive** 

**Vested Participants:** 50

**Unknown Data for Participants:** Same as those exhibited by Members with similar known characteristics. If not

specified, Members are assumed to be male.

**Percent Married:** 75%

**Age of Spouse:** Females 4 years younger than males.

**Net Investment Return:** 7.75%

**Probability of leaving Contributions** 

in the Plan Upon Withdrawal: 100%

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Law Enforcement Officers' Pension System

### **Rates of Salary Increase:**

reaces of Su	ates of Bului y Iller cuse.			
For First	t Ten Years	Subseq	uent Years	
Years	Rate (%)	Age	Rate (%)	
0	8.00	30	5.00	
1	8.00	35	4.75	
2	6.50	40	4.75	
3	6.50	45	4.25	
4	5.75	50	3.50	
5	5.50	55	3.50	
6	5.50	60	3.50	
7	5.00	65	3.50	
8	5.00			
9	4.50			

**Aggregate Payroll Growth:** 3.50%

**Assumed Salary Increase Granted** 

On July 1, 2007: 2.00%

Cost of Living Increase: 3.00%

**Unused Sick Leave:** Five months are added to the service of active members at retirement.

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Law Enforcement Officers' Pension System

### Each year's investment gain or loss is amortized on a straight-line basis over 5 years. **Actuarial Value of Assets:** The final actuarial value is limited to not more than 120% nor less than 80% of the market value of assets. As of June 30, 2007, the calculation of the market gain included the difference between the market and actuarial value of assets as of June 30, 2006. **Actuarial Cost Method:** Individual Entry Age Normal Cost Method. Under this method, a contribution rate is determined that consists of the normal cost rate and the unfunded actuarial liability rate. The normal cost for each employee is derived as a level percentage of pay from entry age to the last assumed retirement age and applied to pay expected for the coming year. The sum of the individual normal costs is divided by total employee payroll to obtain the normal cost rate. The normal cost includes an offset for expected employee contributions. **Changes in Assumptions:** Assumptions are periodically reviewed by the Board and as appropriate changes to these assumptions are adopted. The most recent experience study was based on data as of June 30, 2006. As recommended in the July 1, 2002 – June 30, 2006 experience study, the following assumptions have been changed: > The pre- and post-retirement mortality tables for healthy participants were changed to the RP-2000 Male Combined Healthy Table, set back two years in age for males and to the RP-2000 Female Combined Healthy Table for females. > The mortality table for disabled participants were changed to the RP-2000 Disabled Retiree Table with sex-distinct rates. > The assumed ordinary and accidental disability rates were decreased. The unisex assumed rates of withdrawal for participants with less than ten years of service as well as for participants with ten or more years of service were modified to reflect individual rates based on gender. > The normal retirement rates for first eligibility as well as for subsequent years were modified.

> The percent married assumption was lowered from 90% to 75%.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Law Enforcement Officers' Pension System

- > The rates of salary increase were decreased.
- > The assumed salary increase granted on July 1 was changed from a salary-based increase to a flat 2% increase regardless of initial salary.
- ➤ The payroll growth assumption was lowered from 4.00% to 3.50%.
- > The actuarial cost method was changed from the Aggregate Entry Age Normal Cost method to the Individual Entry Age Normal Cost Method.
- > The method to determine the actuarial value of assets was modified to explicity recognize investment gains and losses over a 5-year period and to limit the actuarial value to no more than 120% nor less than 80% of the market value.

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Local Firefighters' and Police Officers' Pension System

### **EXHIBIT H**

**Actuarial Assumptions and Actuarial Cost Method** 

Local Firefighters' and Police Officers' Pension System

**Mortality Rates:** 

Healthy: RP-2000 Combined Healthy Table with sex-distinct rates, set back 2 years in age for

males

Disabled: RP-2000 Disabled Retiree Table with sex-distinct rates

**Mortality Rates\* (%):** 

	Ordinary Death			Disabled	
Age	Male	Female		Male	Female
25	0.04	0.02	0.02	2.26	0.75
30	0.04	0.03	0.03	2.26	0.75
35	0.06	0.05	0.03	2.26	0.75
40	0.10	0.07	0.03	2.26	0.75
45	0.13	0.11	0.04	2.26	0.75
50	0.19	0.17	0.06	2.90	1.15
55	0.29	0.27	0.02	3.54	1.65
60	0.53	0.51	0.01	4.20	2.18
65	1.00	0.97		5.02	2.80

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Local Firefighters' and Police Officers' Pension System

### **Ordinary Disability Rates (%):**

Age	Male	Female
25	0.29	0.47
30	0.37	0.50
35	0.46	0.51
40	0.61	0.59
45	0.81	0.72

1.16

1.49

0.95

1.45

### **Accidental Disability Rates (%):**

	v	` '	
 Age	Male	Female	
25	0.19	0.31	
30	0.20	0.28	
35	0.25	0.27	
40	0.29	0.28	
45	0.32	0.28	
50	0.44	0.36	
55	0.58	0.56	

### Withdrawal Rates:

50

55

Rate (%) For First Ten Years		
Years	Male	Female
0	12.00	16.00
1	10.00	15.00
2	9.00	13.00
3	8.00	11.00
4	7.50	9.00
5	7.00	8.00
6	6.00	7.00
7	5.00	6.00
8	4.00	5.00
9	2.00	3.00

Sample Age Rates (%) For Subsequent Years		
Age	Male	Female
30	1.50	3.00
35	1.50	3.00
40	1.50	3.00
45	1.50	3.00
50	1.50	3.00
55	1.50	3.00

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Local Firefighters' and Police Officers' Pension System

Retirement Rates:		
	First Eligible	<b>Subsequent Years</b>
Age	Rate (%)	Rate (%)
45	53.00	15.00
50	23.00	15.00
55	23.00	20.00
60	23.00	30.00
65	100.00	100.00

**Retirement Age for Inactive** 

**Vested Participants:** 62 (age 60 for members who transferred from the Employees' Retirement System)

**Unknown Data for Participants:** Same as those exhibited by Members with similar known characteristics. If not

specified, Members are assumed to be male.

**Percent Married:** 75%

**Age of Spouse:** Females 4 years younger than males.

**Net Investment Return:** 7.75%

**Probability of leaving Contributions** 

in the Plan Upon Withdrawal: 100%

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Local Firefighters' and Police Officers' Pension System

### **Rates of Salary Increase:**

races of Sur	rates of Salary Mercase.		
For First	Ten Years	Subseq	uent Years
Years	Rate (%)	Age	Rate (%)
0	8.00	30	5.00
1	8.00	35	4.75
2	6.50	40	4.75
3	6.50	45	4.25
4	5.75	50	3.50
5	5.50	55	3.50
6	5.50	60	3.50
7	5.00	65	3.50
8	5.00		
9	4.50		

**Aggregate Payroll Growth:** 3.50%

**Assumed Salary Increase Granted** 

**On July 1, 2007:** 2.00%

**Cost of Living Increase:** 3.00%

**Unused Sick Leave:** Five months are added to the service of active members at retirement.

SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Local Firefighters' and Police Officers' Pension System

Actuarial Value of Assets:	Each year's investment gain or loss is amortized on a straight-line basis over 5 years. The final actuarial value is limited to not more than 120% nor less than 80% of the market value of assets. As of June 30, 2007, the market gain included the difference between the market and actuarial value of assets as of June 30, 2006
Actuarial Cost Method:	Individual Entry Age Normal Cost Method. Under this method, a contribution rate is determined that consists of the normal cost rate and the unfunded actuarial liability rate. The normal cost for each employee is derived as a level percentage of pay from entry age to the last assumed retirement age and applied to pay expected for the coming year. The sum of the individual normal costs is divided by total employee payroll to obtain the normal cost rate. The normal cost includes an offset for expected employee contributions.
Changes in Assumptions:	Assumptions are periodically reviewed by the Board and as appropriate changes to these assumptions are adopted. The most recent experience study was based on data as of June 30, 2006.
	As recommended in the July 1, 2002 – June 30, 2006 experience study, the following assumptions have been changed:
	> The pre- and post-retirement mortality tables for healthy participants were changed to the RP-2000 Male Combined Healthy Table, set back two years in age for males and to the RP-2000 Female Combined Healthy Table for females.
	The mortality table for disabled participants were changed to the RP-2000 Disabled Retiree Table with sex-distinct rates.
	The assumed disability rates were modified. The assumed accidental disability rates were decreased for males and increased for females.
	> The unisex assumed rates of withdrawal for participants with less than ten years of service as well as for participants with ten or more years of service were modified to reflect individual rates based on gender.
	> The normal retirement rates for first eligibility as well as for subsequent years

were modified.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland – Local Firefighters' and Police Officers' Pension System

- > The percent married assumption was lowered from 90% to 75%.
- > The rates of salary increase were decreased.
- > The assumed salary increase granted on July 1 was changed from a salary-based increase to a flat 2% increase regardless of initial salary.
- ➤ The payroll growth assumption was lowered from 4.00% to 3.50%.
- > The actuarial cost method was changed from the Aggregate Entry Age Normal Cost method to the Individual Entry Age Normal Cost Method.
- > The method to determine the actuarial value of assets was modified to explicity recognize investment gains and losses over a 5-year period and to limit the actuarial value to no more than 120% nor less than 80% of the market value.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland

#### **EXHIBIT I**

#### **Definitions of Pension Terms**

The following list defines certain technical terms for the convenience of the reader:

## Assumptions or Actuarial Assumptions:

The estimates on which the cost of the Plan is calculated including:

- (a) <u>Investment return</u> the rate of investment yield that the Plan will earn over the long-term future;
- (b) <u>Mortality rates</u> the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) <u>Retirement rates</u> the rate or probability of retirement at a given age;
- (d) <u>Turnover rates</u> the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

### **Normal Cost:**

The amount of contributions required to fund the benefit allocated to the current year of service.

### **Actuarial Accrued Liability**

For Actives:

The equivalent of the accumulated normal costs allocated to the years before the valuation date.

### Actuarial Accrued Liability For Pensioners:

The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

### **Unfunded Actuarial Accrued Unfunded Actuarial Accrued**

### Liability:

The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

## SECTION 7: Actuarial Assumptions and Methods by System for the State Retirement and Pension System of Maryland

### **Amortization of the Unfunded**

Actuarial Accrued Liability: Actuarial Accrued Liability: Payments made over a period of years equal in value

to the Plan's unfunded actuarial accrued liability.

**Investment Return:** The rate of

The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one

year to the next.

### **EXHIBIT A**

### **Teachers' Retirement System**

This exhibit summarizes the major provisions of the System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30.
Service Retirement:	
Eligibility Requirement	Age 60 regardless of service, or 30 years of creditable service regardless of age.
Allowance	1/55 <sup>th</sup> of the highest three-year average compensation for each year of creditable service.
Basic Form of Payment	Life annuity.
Early Retirement:	
Eligibility Requirement	25 years of creditable service.
Allowance	Service retirement allowance reduced by 6% for each year (1/2% for each month) the payments begin prior to age 60 or 30 years of service (maximum reduction 30%).
Ordinary Disability:	
Eligibility Requirement	5 years of creditable service and approval by the Medical Board and Board of Trustees that the member is permanently incapacitated.
Allowance	1/55 <sup>th</sup> of the highest three-year average compensation for each year of creditable service with a minimum benefit of 25% of average final compensation.

EXHIBIT A (continued)	
Accidental Disability:	
Eligibility Requirement	Approval by the Medical Board and Board of Trustees that the member is totally and permanently incapacitated due to an on-the-job injury.
Allowance	Annuity based on 66 2/3% of the highest three-year average compensation plus annuity based on member accumulated contributions.
Vesting:	
Eligibility Requirement	Five years of creditable service.
Allowance	Service Retirement allowance payable at age 60. Member may elect to withdraw accumulated contributions in lieu of receiving the vested retirement allowance in the Retirement System. If a member does not withdraw contributions and dies before age 60, accumulated contributions are returned.
Death Benefit:	
Eligibility Requirement	One year of creditable service or death in the performance of duty.
Allowance	Lump sum payment equal to member's annual salary at date of death plus accumulated contributions.
<b>Death Benefit (spouse option):</b>	
Eligibility Requirement	Deceased member was eligible to retire or was age 55 with 15 years of creditable service and the spouse was the sole primary beneficiary.
Allowance	100% of the Service Retirement allowance reduced for the 100% survivorship option and further reduced for early retirement if applicable.
<b>Member Plan Elections:</b>	Retirement System members participate under one of three options:
	Plan A: Member elected to pay a higher contribution rate (generally 7% of pay) to maintain all benefits, including unlimited cost-of-living adjustments.
	Plan B: Member continued pre-1984 contribution rate (generally 5% of pay) to maintain all benefits except unlimited cost-of-living. COLA adjustments are capped a 5%.

SECTION 8: Plan Provisions by System for the State Retirement and Pension System of Maryland – Teachers' Retirement System

	Plan C: Member chose a combination, or two part (bifurcated) benefit. The portion of the service prior to the election is calculated at retirement as a Retirement System benefit; the portion of service after the election is calculated at retirement as a Pensior System benefit.
	Contributions under both options earn 4% a year. The rate of contribution for members with bifurcated benefits is determined under the Teachers' Pension Plan (graded percentage of compensation with contributions earning 5% a year).
Cost-Of-Living Adjustments:	Retirees receive an annual compounded cost-of-living adjustment (COLA) effective each July 1 based on the Consumer Price Index. This increase is unlimited for Plan A members; limited to 5% annually for Plan B members; and, 3% annually for the Pension System portion of the Plan C benefit. Members must be retired at least one year as of July 1 to be eligible for this increase.
Bifurcated Allowance:	A member who elected Plan C will receive the Service Retirement allowance for service before date of election. For service after the date of election, the member will receive the Service Retirement allowance of the Teacher's Pension System. Eligibility for Early Retirement is based on the Retirement System provision of 25 years of service. Early Retirement benefits are reduced by Pension System early retirement factors. Effective on the election date, the rate of member contributions is determined under the terms of the Teachers' Pension System.
Changes in Plan Provisions:	None.

### **EXHIBIT B**

### **Teachers' Pension System**

This exhibit summarizes the major provisions of the System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

**Plan Year:** July 1 through June 30.

### **Service Retirement:**

Eligibility Requirement

30 years of eligibility service regardless of age or:

Age	Minimum Eligibility Service
62	5 years
63	4 Years
64	3 Years
65 or older	2 years

Allowance The larger of (i) or (ii) plus (iii):

Period of Service	Allowance
(i) Service on or before June 30, 1998	1.2% of average compensation for the three highest consecutive years at retirement for each year of creditable service.
(ii)Service on or before June 30, 1998	0.8% of average compensation for the three highest consecutive years at retirement up to the Social Security covered earnings plus 1.5% of average compensation over the Social Security covered earnings for each year of creditable service.
(iii)Service after June 30, 1998	1.8% of average compensation for the three highest consecutive years at retirement for each year of creditable service.

<b>EXHIBIT B</b>	(continued)
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EXHIBIT B (continued)		
Formula (ii) is still applicable for those current and former Retirement System members who on or after April 1, 1998 elected to transfer to the Pension System.		
Basic Form of Payment	Life annuity.	
Early Retirement:		
Eligibility Requirement	Age 55 with 15 years of eligibility service.	
Allowance	Service Retirement allowance reduced by 6% for each year (1/2% for each month) the member is younger than age 62.	
Ordinary Disability:		
Eligibility Requirement	5 years of eligibility service and approval by the Medical Board and Board of Trustees that the member is permanently incapacitated.	
Allowance	Service Retirement allowance computed as if service continued until age 62 based on annual compensation at disability and with no reduction for early commencement. If disability occurs after age 62, the benefit is based on creditable service at time of retirement.	
Accidental Disability:		
Eligibility Requirement	Approval by the Medical Board and Board of Trustees that the member is totally and permanently incapacitated due to an on-the-job injury.	
Allowance	Annuity based on 66 2/3% of the highest three consecutive years of average final compensation plus an annuity based on member accumulated contributions.	
Vesting:		
Eligibility Requirement	Five years of eligibility service.	
Allowance	Service Retirement allowance payable at age 62 or reduced benefit payable at early retirement age if member has at least 15 years of eligibility service at termination. If a member does not withdraw contributions and dies before age 62, accumulated contributions are returned.	

<b>Death Benefit:</b>		
Eligibility Requirement	One year of eligibility service or dea	th in the performance of duty.
Allowance	Lump sum payment equal to membe accumulated contributions.	er's annual salary at date of death plus
Death Benefit (spouse option):		
Eligibility Requirement	Member was eligible for Service Retirement, eligible for Early Retirement or had completed at least 25 years of eligibility service and the spouse was the sole primary beneficiary.	
Allowance	100% of the Service Retirement allowance reduced for the 100% survivorship option and further reduced for early retirement if applicable.	
<b>Member Contributions:</b>		
	Percentage of Earnable Compensation 2.00% 3.00% 4.00% 5.00%	Effective
	Contributions earn 5% a year.	
Cost-Of-Living Adjustments:	Retirees receive an annual compounded cost-of-living adjustment (COLA) effective each July 1 based on the Consumer Price Index. This adjustment is limited annually to 3%. Members must be retired at least one year as of July 1 to be eligible for this	

increase.

None.

**Changes in Plan Provisions:** 

### **EXHIBIT C**

### **Employees' Retirement System**

This exhibit summarizes the major provisions of the System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30.
Service Retirement:	
Eligibility Requirement	Age 60 regardless of service, or 30 years of creditable service regardless of age.
Allowance	1/55 <sup>th</sup> of the highest three-year average compensation for each year of creditable service.
Basic Form of Payment	Life annuity.
Early Retirement:	
Eligibility Requirement	25 years of creditable service.
Allowance	Service retirement allowance reduced by 6% for each year (1/2% for each month) the member is younger than age 60 or has less than 30 years of service (maximum reduction 30%).
Ordinary Disability:	
Eligibility Requirement	5 years of creditable service and approval by the Medical Board and Board of Trustees that the member is permanently incapacitated.
Allowance	1/55 <sup>th</sup> of the highest three-year average compensation for each year of creditable service with a minimum benefit of 25% of average final compensation.

EXHIBIT C (continued)	
Accidental Disability:	
Eligibility Requirement	Approval by the Medical Board and Board of Trustees that the member is totally and permanently incapacitated due to an on-the-job injury.
Allowance	Annuity based on 66 2/3% of the highest three consecutive years of average final compensation plus an annuity based on member accumulated contributions.
Vesting:	
Eligibility Requirement	Five years of creditable service.
Allowance	Service Retirement allowance payable at age 60. Member may elect to withdraw accumulated contributions in lieu of receiving the vested retirement allowance in the Retirement System. If a member does not withdraw contributions and dies before age 60, accumulated contributions are returned.
Death Benefit:	
Eligibility Requirement	One year of creditable service or death in the performance of duty.
Allowance	Lump sum equal to member's annual salary at date of death plus any member accumulated contributions.
<b>Death Benefit (spouse option):</b>	
Creditable Requirement	Member was eligible to retire or was age 55 with 15 years of service and the spouse was the sole primary beneficiary.
Allowance	100% of the Service Retirement allowance reduced for the 100% survivorship option and further reduced for early retirement if applicable.
<b>Member Plan Elections:</b>	Retirement System members participate under one of three options:
	Plan A: Member elected to pay a higher contribution rate (generally 7% of pay) to maintain all benefits, including unlimited cost-of-living adjustments.
	Plan B: Member continued pre-1984 contribution rate (generally 5% of pay) to maintain all benefits except unlimited cost-of-living. COLA adjustments are capped at 5%.

### EXHIBIT C (continued)

Plan C: Member chose a combination, or two part (bifurcated) benefit. The portion of the service prior to the election is calculated at retirement as a Retirement System benefit; the portion of service after the election is calculated at retirement as a Pension System benefit.

Contributions under both options earn 4% a year. The rate of contribution for members with bifurcated benefits is determined under the Employees' Pension Plan (graded percentage of compensation with contributions earning 5% a year).

#### **Bifurcated Allowance:**

A member who elected Plan C will receive the Service Retirement allowance for service before date of election. For service after the date of election, the member will receive the Service Retirement allowance of the Employee's Pension System. Eligibility for Early Retirement is based on the Retirement System provision of 25 years of service. Early Retirement benefits are reduced by Pension System Early Retirement factors. Effective on the election date, the rate of member contributions is determined under the terms of the Employee's Pension System.

### **Cost-Of-Living Adjustments:**

Retirees receive an annual compounded cost-of-living adjustment (COLA) effective each July 1 based on the Consumer Price Index. This increase is unlimited for Plan A members; limited to 5% annually for Plan B members; and, 3% annually for the Pension System portion of the Plan C benefit. Members must be retired at least one year to be eligible for this increase as of July 1.

## Provisions for Members of the General Assembly:

The retirement allowance is equal to 3% of active legislator's compensation for each year of creditable service (with a maximum of 22 years, 3 months) upon attainment of age 60 and a minimum 8 years of service. Early Retirement benefits are payable upon attainment of age 50 and 8 years of creditable service, with benefits reduced 0.5% for each month the early retirement date precedes age 60. Vested Retirement benefits are payable at age 60 to members with 8 years of creditable service that do not withdraw contributions; reduced benefits are available after age 50. If termination occurs before 8 years of creditable service has been completed, the member may contribute an amount equal to that which the member and State would have paid to the system as if

#### **EXHIBIT C (continued)**

he/she had remained in service for 8 years and received 24% of current legislative compensation at age 60 or a reduced benefit after age 50. Members contribute 5% of the earnable compensation during the first 22 years, 3 months of service, with contributions earning 4% per year. Members who are certified as disabled after completing at least 8 years of creditable service may resign and receive an immediate retirement allowance equal to 3% of highest earnable compensation for each year of creditable service (maximum of 22 years, 3months). Death Benefits equal to 50% of the retirement allowance are payable to the surviving spouses of retirees, and vested terminated members and actives with 8 or more years of creditable service. Surviving spouses of non-vested members who die in office receive a lump sum death benefit equal to the deceased's annual earnable compensation at the time of death plus member accumulated contributions. Death Benefits for terminated vested members with less than 8 years of service equal member accumulated contributions.

## Provisions for Correctional Officers:

A correctional officer in the first six classifications, maximum security attendant at Clfiton T. Perkins Hospital Center, a Correctional Dietary, Maintenance, or Supply Officer is eligible for immediate service retirement allowance under the provisions of this System provided the officer has (1) completed 20 years of creditable service on or before retirement and has served at least the last 5 years preceding retirement in one or a combination of the positions noted above, (2) is age 55 with at least 5 years of creditable service for Correctional Officers in the first six job classifications or Correctional Dietary, Maintenance, or Supply Officers (3) is age 60 with at least 5 years of creditable service for maximum security attendants at Clifton T Perkins Hospital Center Disability and death benefits are the same as offered to the Employees' Retirement System with the addition of a Special Death Benefit payable to spouse or minor children if death occurs in the line of duty (same as Special Death Benefit for State Police Retirement System).

**Changes in Plan Provisions:** 

None.

### **EXHIBIT D**

### **Employees' Pension System**

This exhibit summarizes the major provisions of the System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

**Plan Year:** July 1 through June 30.

### **Service Retirement:**

Eligibility Requirement

30 years of eligibility service regardless of age or:

Age	Minimum Eligibility Service
62	5 years
63	4 Years
64	3 Years
65 or older	2 years

Allowance The larger of (i) or (ii) plus (iii):

Period of Service	Allowance
(i) Service on or before June 30, 1998	1.2% of average compensation for the three highest consecutive years at retirement for each year of creditable service.
(ii)Service on or before June 30, 1998	0.8% of average compensation for the three highest consecutive years at retirement up to the Social Security covered earnings plus 1.5% of average compensation over the Social Security covered earnings for each year of creditable service.
(iii)Service after June 30, 1998	1.8% of average compensation for the three highest consecutive years at retirement for each year of creditable service.

EXHIBIT D (continued)	EXHIBIT D (continued)	
Formula (ii) is still applicable for those current and former Retirement System members who on or after April 1, 1998 elected to transfer to the Pension System.		
Basic Form of Payment	Life annuity.	
Early Retirement:		
Eligibility Requirement	Age 55 with 15 years of eligibility service.	
Allowance	Service retirement allowance reduced by $6\%$ for each year ( $1/2\%$ for each month) the member is younger than age $62$ (maximum reduction is $42\%$ ).	
Ordinary Disability:		
Eligibility Requirement	Five years of eligibility service and approval by the Medical Board and Board of Trustees that the member is permanently incapacitated.	
Allowance	Service retirement allowance computed as if service continued until age 62 based on annual compensation at disability and with no reduction for early commencement. If disability occurs after age 62, the benefit is based on creditable service at time of retirement.	
Accidental Disability:		
Eligibility Requirement	Approval by the Medical Board and Board of Trustees that the member is totally and permanently incapacitated due to an on-the-job injury.	
Allowance	Annuity based on 66 2/3% of the highest three consecutive years of average final compensation plus an annuity based on member accumulated contributions.	
Vesting:		
Eligibility Requirement	Five years of eligibility service.	
Allowance	Service Retirement allowance payable at age 62 or reduced benefit payable at early retirement age if member has at least 15 years of eligibility service at termination. If a member does not withdraw contributions and dies before age 62, accumulated contributions are returned.	

### **EXHIBIT D (continued)**

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Death Benefit:		
Eligibility Requirement	One year of eligibility service or dea	ath in the performance of duty.
Allowance	Lump sum payment equal to member's annual salary at date of death plus accumulated contributions.	
<b>Death Benefit (spouse option):</b>		
Eligibility Requirement		tirement, eligible for Early Retirement or had able service and the spouse was the sole primary
Allowance	100% of the Service Retirement allowance reduced for the 100% survivorship option and further reduced for early retirement if applicable.	
<b>Member Contributions:</b>		
	Percentage of	Effective
	Earnable Compensation	<u>Date</u>
	2.00%	July 1, 1998
	3.00%	July 1, 2006 – June 30, 2007
	4.00%	July 1, 2007 – June 30, 2008
	5.00%	July 1, 2008
	Contributions earn 5% a year.	
Cost-Of-Living Adjustments:	Retirees receive an annual compounded cost-of-living adjustment (COLA) effective each July 1 based on the Consumer Price Index. This adjustment is limited annually to 3%. Member must be retired at least one year as of July 1 to be eligible for this increase.	
Changes in Plan Provisions:	None.	

### **EXHIBIT E**

### **State Police Retirement System**

This exhibit summarizes the major provisions of the System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30.
Service Retirement:	
Eligibility Requirement	22 years of creditable service regardless of age or attainment of age 50 (but no later than age 60).
Allowance	2.55% of average compensation for the three highest years at retirement for each of the first 28 years of creditable service up to a maximum allowance of 71.4% of average compensation.
Basic Form of Payment	50% joint and survivor.
Early Retirement:	
Eligibility Requirement	Not applicable.
Allowance	Not applicable.
Ordinary Disability:	
Eligibility Requirement	5 years of creditable service and approval by the Medical Board and Board of Trustees that the member is permanently incapacitated.
Allowance	Service retirement allowance with a minimum benefit of 35% of average final compensation.

#### **EXHIBIT E (continued)**

**Special Disability:** 

Eligibility Requirement Approval by the Medical Board and Board of Trustees that the member is totally and

permanently incapacitated arising out of work responsibilities or in performance of

his/her duties.

Allowance Annuity based on 66 2/3% of the highest three consecutive years of average final

compensation plus an annuity based on member accumulated contributions.

**Vesting:** 

Eligibility Requirement Five years of creditable service.

Allowance Service Retirement allowance payable at age 50. Member may elect to withdraw

accumulated contributions in lieu of receiving the vested retirement allowance. If a member does not withdraw contributions and dies before age 50, accumulated

contributions are returned.

**Pre-Retirement Ordinary Death Benefit:** 

Eligibility Requirement Between one and two years of creditable service and not killed in the line of duty.

Allowance Lump sum equal to member's annual salary at date of death plus accumulated member

contributions.

**Pre-Retirement Special Death Benefit:** 

Eligibility Requirement Two or more years of creditable service or killed in the line of duty.

Allowance Surviving spouse receives an allowance equal to 50% of average compensation if

death is not in the line of duty; or 66 2/3% of average compensation if death is in the line of duty. Designated beneficiary receives accumulated member's contributions. If no surviving spouse exists or spouse dies before youngest child reaches age 18, the children receive this benefit on a pro-rata basis until each child reaches age 18. Allowance continues to dependent parents in the event there are no surviving minor children. If no spouse, minor children, or dependent parents exist, the ordinary death

benefit is payable to the designated beneficiary.

### **EXHIBIT E (continued)**

•	
Post-Retirement Survivor Benefit:	
Eligibility Requirement	Beneficiary of member retiring on service, ordinary disability or special disability retirement eligibility.
Allowance	Lump sum and survivor benefits according to Title II of the Social Security Act, excluding any cost-of-living increases. Average monthly wage is the lesser of $1/12^{th}$ of the member's average compensation and the maximum average monthly wage in effect as of the date of death under the Social Security Act for purposes of calculating this allowance. For valuation purposes, this benefit is estimated as an additional 30% over the current 50% joint and survivor benefit.
<b>Member Contributions:</b>	8% of earnable compensation. Contributions earn 4% a year.
<b>Cost-Of-Living Adjustments:</b>	Retirees receive an annual compounded cost-of-living adjustment (COLA) effective each July 1 based on the Consumer Price Index. Member must be retired at least one year as of July 1 to be eligible for this increase.
<b>Deferred Retirement Option Prog</b>	ram (DROP):
Eligibility Requirement	22 but less than 28 years of creditable service and under age 60
Allowance	During DROP period (maximum of four years depending on service), member ceases to make contributions or accrue additional benefits. The Service Retirement allowance with annual COLA adjustments accrues 6% interest per year compounded monthly. Upon exiting the DROP, member receives his/her Service Retirement allowance along with DROP account balance. During the DROP period member remains eligible for Special Disability benefits.
Changes in Plan Provisions:	None.

### **EXHIBIT F**

### **Judges Retirement System**

This exhibit summarizes the major provisions of the System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

**Plan Year:** July 1 through June 30.

#### **Service Retirement:**

Eligibility Requirement

Allowance Based on the following table:

Age 60, or issued retirement by Court of Appeals

Length of Service	Allowance
16 or more years	Two thirds of salary
Less than 16 years	Two thirds of salary multiplied by the number of years of creditable service divided by 16

### **Early Retirement:**

Eligibility Requirement Not Applicable.

Allowance Not Applicable.

### **Disability:**

Eligibility Requirement Approval by the Medical Board and Board of Trustees that a member is permanently

incapacitated.

Allowance Service Retirement allowance. Not less than one third of salary if eligible service is at

least three years.

Basic Form of Payment 50% joint and survivor.

### **EXHIBIT F (continued)**

Vesting:	
Eligibility Requirement	Termination of service prior to eligibility for Service Retirement.
Allowance	Service Retirement allowance based on creditable service, payable at age 60. Within six months of termination, Judge may elect to withdraw contributions accumulated with 4% interest in lieu of receiving the vested retirement allowance.
Death Benefit:	
Eligibility Requirement	Member dies while employed as a judge, with no surviving spouse or dependents.
Allowance	Lump sum equal to annual salary at date of death plus member contributions accumulated with 4% interest.
Death Benefit (spouse option):	
Eligibility Requirement	Surviving spouse or dependent children of deceased judge or deceased former judge.
Allowance	50% of Service Retirement allowance, payable immediately. If no surviving spouse, benefit is payable to children under age 18.
<b>Member Contributions:</b>	6% of salary until completion of 16 years. Contributions earn 4% a year.
Cost-of-Living Adjustments:	Retirement benefits are recalculated each time the salary for an active judge increases
<b>Changes in Plan Provisions:</b>	None.

#### **EXHIBIT G**

Law Enforcement Officers' Pension System – Retirement Plan (Closed to new members as of January 1, 2005)

This exhibit summarizes the major provisions of the System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30.	
Service Retirement:		
Eligibility Requirement	Age 50 or 25 years of eligibility service.	
Allowance	2.3% of the highest three-year average compensation at retirement for each of the first 30 years of creditable service, plus 1.0% of average compensation for each additional year.	
Basic Form of Payment	50% joint and survivor.	
Early Retirement:		
Eligibility Requirement	Not applicable.	
Allowance	Not applicable.	
Ordinary Disability:		
Eligibility Requirement	5 years of eligibility service and approval by the Medical Board and Board of Trustees that the member is permanently incapacitated.	
Allowance	Service Retirement allowance with a minimum benefit of 25% of average final compensation.	

EXHIBIT G	
Retirement Plan	(continued)

Approval by the Medical Board and Board of Trustees that the member is totally and permanently incapacitated arising out of work related responsibilities or in performance of his/her duties.	
Annuity based on 66 2/3% of the three highest years of average compensation plus member accumulated contributions.	
Five years of eligibility service.	
Service Retirement allowance payable at age 50. Member in the Retirement System may elect to withdraw accumulated contributions and will receive the employer-provided vested benefit. If a member does not withdraw contributions and dies befo age 50, accumulated contributions are returned.	
One year but less than two years of eligibility service.	
Lump sum equal to member's annual salary at date of death plus member accumulated contributions.	
Two or more years of eligiblity service.	
Surviving spouse receives 50% of the ordinary disability benefit plus accumulated member contributions. If no surviving spouse, children of the deceased under age 18 divide payment until attainment of age 18.	
Killed in the line of duty.	
Surviving spouse receives an allowance equal to 66 2/3% of average compensation plus accumulated member contributions. If no surviving spouse, children of the deceased under age 18 divide payment until attainment of age 18.	
If no spouse or children, equals ordinary death benefit.	

SECTION 8: Plan Provisions by System for the State Retirement and Pension System of Maryland – Law Enforcement Officers' Pension System

EXHIBIT G Retirement Plan (continued)		
<b>Member Contributions:</b>	7% of earnable compensation. Members who previously elected the 5% contribution/5% COLA option contribute 5% of earnable compensation. Contributions earn 4% a year.	
Cost-of-Living Adjustments:	Retirees receive an annual cost-of-living adjustment (COLA) effective each July 1 based on the Consumer Price Index. For members contributing 5% of earnable compensation, the adjustment is limited to 5% annually. Member must be retired at least one year as of July 1 to be eligible for this increase.	
<b>Deferred Retirement Option Pro</b>	gram (DROP):	
Eligibility Requirement	25 years but less than 30 years of creditable service.	
Allowance	During DROP period (maximum of five years depending on service), member ceases to make contributions or accrue additional benefits. The Service Retirement allowance with annual COLA adjustments accrues 6% interest per year compounded monthly. Upon exiting the DROP, member receives their Service Retirement allowance along with DROP account balance. During the DROP period member remains eligible for Accidental Disability benefits.	
Changes in Plan Provisions:	None.	

#### **EXHIBIT H**

Law Enforcement Officers' Pension System – Pension Plan

This exhibit summarizes the major provisions of the System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30.	
Service Retirement:		
Eligibility Requirement	Age 50 or 25 years of eligibility service.	
Allowance	2.0% of the three highest years of average compensation for each of the first 30 years of creditable service.	
Basic Form of Payment	50% joint and survivor	
Early Retirement:		
Eligibility Requirement	Not applicable.	
Allowance	Not applicable.	
Ordinary Disability:		
Eligibility Requirement	5 years of eligibility service and approval by the Medical Board and Board of Trustees that the member is permanently incapacitated.	
Allowance	Service Retirement allowance computed as if service continued until age 50 with no change in salary.	
Accidental Disability:		
Eligibility Requirement	Approval by the Medical Board and Board of Trustees that the member is totally and permanently incapacitated due to a work-related accident.	
Allowance	Annuity based on 66 2/3% of the three highest years of average compensation, with a maximum of average compensation plus member accumulated contributions.	

Vesting:	
Eligibility Requirement	Five years of eligibility service.
Allowance	Service Retirement allowance payable at age 50. Member may elect to withdraw accumulated contributions in lieu of receiving the vested retirement allowance in the System. If a member does not withdraw contributions and dies before age 50, accumulated contributions are returned.
Ordinary Death Benefit:	
Eligibility Requirement	One year but less than two years of eligibility service.
Allowance	Lump sum equal to member's annual salary at date of death plus member accumulated contributions.
<b>Special Death Benefits:</b>	
Eligibility Requirement	Two or more years of eligibility service.
Allowance	Surviving spouse receives 50% of the ordinary disability benefit plus accumulated member contributions. If no surviving spouse, children of the deceased under age 18 divide payment until attainment of age 18.
Eligibility Requirement	Killed in the line of duty.
Allowance	Surviving spouse receives an allowance equal to 66 2/3% of average compensation plus accumulated member contributions. If no surviving spouse, children of the deceased under age 18 divide payment until attainment of age 18.
	If no spouse or children, equals ordinary death benefit.
Member Contributions:	4% of earnable compensation. Contributions earn 5% a year.
<b>Cost-of-Living Adjustments:</b>	Retirees receive an annual compounded cost-of-living adjustment (COLA) effective each July 1 based on the Consumer Price Index. This adjustment is limited to 3%. Member must be retired at least one year as of July 1 to be eligible for this increase.

### EXHIBIT H Pension Plan (continued)

### **Deferred Retirement Option Program (DROP):**

Eligibility Requirement 25 years but less than 30 years of eligibility service.

Allowance During DROP period (maximum of five years depending on service), member ceases

to make contributions or accrue additional benefits. The Service Retirement allowance with annual COLA adjustments accrues 6% interest per year compounded monthly. Upon exiting the DROP, member receives their Service Retirement allowance along with DROP account balance. During the DROP period member remains eligible for

Accidental Disability benefits.

**Changes in Plan Provisions:** None.

#### **EXHIBIT I**

Local Firefighters' and Police Officers' Retirement System – Retirement Plan (Closed to new members as of January 1, 2005)

This exhibit summarizes the major provisions of the System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30.	
Service Retirement:		
Eligibility Requirement	Age 60 or 25 years of eligibility service.	
Allowance	2.0% of the highest three-year average compensation for each of the first 30 years of creditable service, plus 1.0% of average compensation for each additional year.	
Basic Form of Payment	Life annuity.	
Early Retirement:		
Eligibility Requirement	Not applicable.	
Allowance	Not applicable.	
Ordinary Disability:		
Eligibility Requirement	5 years of eligibility service and approval by the Medical Board and Board of Trustees that the member is permanently incapacitated.	
Allowance	Service Retirement allowance with a minimum benefit of 25% of average final compensation.	

Accidental Disability:		
Eligibility Requirement	Approval by the Medical Board and Board of Trustees that the member is totally and permanently incapacitated due to a work-related accident.	
Allowance	Annuity based on 66 2/3% of the highest three-year average compensation plus member accumulated contributions. The total benefit may not exceed 100% of average compensation.	
Vesting:		
Eligibility Requirement	Five years of eligibility service.	
Allowance	Service Retirement allowance payable at age 60. Member may elect to withdraw accumulated contributions in lieu of receiving the vested retirement allowance. If member does not withdraw contributions and dies before age 60, accumulated contributions are returned.	
<b>Death Benefit:</b>		
Eligibility Requirement	One year of eligibility service or death in the performance of duty.	
Allowance	Lump sum equal to member's annual salary at date of death plus member accumulated contributions.	
<b>Death Benefit (spouse option):</b>		
Eligibility Requirement	Member is eligible to retire or at least age 55 with 15 years of service upon death.	
Allowance	100% of the Service Retirement allowance reduced for the 100% survivorship option.	
<b>Member Contributions:</b>	7% of earnable compensation. Members who previously elected either the bifurcated benefit option or the 5% contribution/5% COLA option are not required to contribute the difference between the 7% of past compensation and actual contributions to receive full benefits from this plan. Contributions earn 4% a year.	

SECTION 8: Plan Provisions by System for the State Retirement and Pension System of Maryland – Local Firefighters' and Police Officers' Pension System

EXHIBIT I Retirement Plan (continued)	
Cost-of-Living Adjustments:	Retirees receive an annual cost-of-living adjustment (COLA) on their current benefit amount effective each July 1 based on the Consumer Price Index. Member must be retired at least one year as of July 1 to be eligible for this increase.
<b>Changes in Plan Provisions:</b>	None.

#### **EXHIBIT J**

Local Firefighters' and Police Officers' Pension System – Pension Plan

This exhibit summarizes the major provisions of the System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

<b>Plan Year:</b> July 1 th	hrough June 30.
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Pension Sys	stem Service	<b>Retirement:</b>
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Eligibility Requirement Age 62 or 25 years of eligibility service.

Allowance 1.0% of average compensation for the three highest consecutive years up to the Social

Security covered earnings plus 1.5% of average compensation over the Social Security covered earnings. If member is employed by a Municipality that does not contribute to Social Security, the benefit is based on 1.5% of average compensation

for each year of creditable service.

Basic Form of Payment Life annuity.

**Early Retirement:** 

Eligibility Requirement Not applicable.

Allowance Not applicable.

**Ordinary Disability:** 

Eligibility Requirement 5 years of eligibility service and approval by the Medical Board and Board of Trustees

that the member is permanently incapacitated.

Allowance Service Retirement allowance computed as if service continued until age 62 based on

annual compensation at disability and with no reduction for early commencement. If disability occurs after age 62, the benefit is based on creditable service at time of

retirement.

EXHIBIT J Pension Plan (continued)		
Accidental Disability:		
Eligibility Requirement	Approval by the Medical Board and Board of Trustees that the member is totally permanently incapacitated due to a work-related accident.	
Allowance	Annuity based on $662/3\%$ of the highest three-year compensation plus member accumulated contributions.	
Vesting:		
Eligibility Requirement	Five years of eligibility service.	
Allowance	Service Retirement allowance payable at age 62. Member may elect to withdraw accumulated contributions in lieu of receiving the vested retirement allowance. If a member does not withdraw contributions and dies before age 62, accumulated contributions are returned.	
<b>Death Benefit:</b>		
Eligibility Requirement	One year of eligibility service or death in the performance of duty.	
Allowance	Lump sum equal to member's annual salary at date of death plus member accumulated contributions.	
<b>Death Benefit (spouse option):</b>		
Eligibility Requirement	Member was age 62, age 55 with 15 years of service or had at least 25 years of creditable service upon death.	
Allowance	100% of the Service Retirement allowance reduced for the 100% survivorship option.	
<b>Member Contributions:</b>	5% of earnable compensation in excess of Social Security covered earnings. Contributions earn 5% a year.	

#### EXHIBIT J Pension Plan (continued)

**Cost-of-Living Adjustments:** 

Retirees receive an annual compounded cost-of-living adjustment (COLA) on their original benefit amount effective each July 1 based on the Consumer Price Index. This adjustment is limited to 3%. Member must be retired at least one year as of July 1 to be eligible for this increase.

**Changes in Plan Provisions:** 

None.

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