

**MICHIGAN PUBLIC SCHOOL
EMPLOYEES RETIREMENT SYSTEM**

**Report on Actuarial Valuation
as of September 30, 2005**

**MICHIGAN
PUBLIC SCHOOL EMPLOYEES
RETIREMENT SYSTEM**

Report on Actuarial Valuation
As of September 30, 2005

Submitted by
The Segal Company
March, 2006

March, 2006

The Retirement Board
Michigan Public School Employees' Retirement System
General Office Building, Third Floor
P. O. Box 30171
Lansing, Michigan 48909

Dear Board Members:

We are pleased to present this report on our actuarial valuation of the Michigan Public School Employees' Retirement System (the "System") as of September 30, 2005, the sixty first annual actuarial valuation of the System.

Our 2005 actuarial valuation of the System is based on the present provisions of Public Act No. 300 of 1980 (as amended); membership data as of September 30, 2005; financial data as of September 30, 2005; and the actuarial assumptions and cost methods described in Section V.

This report on our 2005 actuarial valuation of the System is presented in the following sections:

<u>Section</u>	<u>Page</u>
I. INTRODUCTION	1
II. RESULTS OF ACTUARIAL VALUATION	2
III. FINANCIAL EXPERIENCE	13
IV. MEMBERSHIP CHARACTERISTICS	17
V. ACTUARIAL ASSUMPTIONS AND FUNDING METHOD	31
VI. SUMMARY OF SYSTEM PROVISIONS	39
VII. ACCOUNTING INFORMATION	42
APPENDIX: ACTUARIAL VALUATION STATEMENT	

We look forward to meeting with you to review this report on our 2005 actuarial valuation of the System.

Sincerely,

The Segal Company

Michael Karlin, F.S.A., M.A.A.A.
Senior Vice President and Actuary

I. INTRODUCTION

Actuarial valuations of the Michigan Public School Employees' Retirement System (the "System") are prepared annually to determine the actuarial condition of the System and the employer contribution rate required to fund the System on an actuarial reserve basis. The calculated employer contribution rates derived from this actuarial valuation as of September 30, 2005 take account of the provisions of the System, as governed by Public Act 300 of 1980, as amended.

A total of 484,663 System members is included in this 2005 actuarial valuation. The total membership is comprised of 316,151 active members, 16,806 inactive vested members, and 151,706 retirees and beneficiaries. As of September 30, 2005, the total assets of the System amounted to approximately \$39.74 billion at market value. Of this total, the portion used to fund pension benefits was \$39.22 billion at market value and \$38.21 billion at actuarial value.

In addition to utilizing current membership and financial data, an actuarial valuation requires the use of a series of assumptions regarding uncertain future events. The assumptions used in actuarial valuations of the System were revised last year based on an actuarial experience investigation covering the period from September 30, 1997 through September 30, 2002. The assumptions that were first adopted by the Retirement Board and the Department of Management and Budget for the 2004 valuation remain in effect for the 2005 valuation.

Based on the results of this valuation, the total (employee and employer) contribution rate for pension benefits increased from 13.76% reported last year to 15.32% this year. The corresponding employer contribution rate increased from 9.83% to 11.38%. More details concerning these calculations are shown in Section II.

II. RESULTS OF ACTUARIAL VALUATION

Our actuarial valuation of the Michigan Public School Employees' Retirement System as of September 30, 2005 is based on four major elements:

1. The present benefit provisions of the System, as governed by Public Act 300 of 1980, as amended (see Section VI).
2. The characteristics of active and inactive System members as of September 30, 2005 (see Section IV).
3. The assets attributable to System members, which amounted to a total of approximately \$39.74 billion at market value (\$39.22 billion for pension benefits and \$524 million for retiree health) as of September 30, 2005. The actuarial value of pension assets was \$38.21 billion (see Section III).
4. The actuarial assumptions (including an investment yield rate of 8%) and funding method described in Section V. These actuarial assumptions were first adopted for the 2004 valuation, based on the results of an actuarial experience investigation covering the period from September 30, 1997 through September 30, 2002. These assumptions remain in effect for the current valuation.

The employer contribution rate has been determined based on the entry age normal funding method. Table 1 presents the actuarially-determined employer contribution rate for the current and prior year three years. Under the entry age normal cost funding method, the total employer contribution is comprised of the normal cost plus the level annual percentage of payroll payment required to amortize any unfunded actuarial accrued liability over 40 years from October 1, 1996 (31 years remaining from October 1, 2005). The employer normal cost is, for each employee, the level percentage of payroll contribution (from entry age to retirement) required to accumulate sufficient assets at the member's retirement to pay for his or her projected benefit.

The actuarial accrued liability represents the difference between the present value of all future benefits and the present value of future normal costs. The unfunded actuarial accrued liability (*i.e.*, the actuarial accrued liability less assets accumulated as of the valuation date), is then amortized as noted above. Any overfunded actuarial accrued liability is credited to a stabilization subaccount. Each of these components of the employer contribution rate (*i.e.*, normal cost and amortization payment) is shown separately in Table 1.

The employer contribution rate (net of member contributions) for all pension benefits increased from 9.83% to 11.38% of total payroll between the 2004 and 2005 actuarial valuations. The 1.55% increase in the rate is entirely attributable to the increase in the amortization of the unfunded liability as a percentage of member payroll (from 4.14% to 5.69%), while the normal cost rate remained stable (from 9.62% to 9.63%). Table 1 provides further details concerning the components of the employer contribution rate for the 2002, 2003, 2004 and 2005 valuations.

Under the entry age normal funding method, actuarial gains or losses affect the actuarial accrued liability and, therefore, the amortization payment on the unfunded actuarial accrued liability. Table 2 shows the unfunded (overfunded) actuarial accrued liability for pension benefits for each of the past two fiscal years, and the derivation of the actuarial gain or loss for each year. Note that, for fiscal 2005, an experience loss of \$1.868 billion was realized. This compares to a loss of \$2.001 billion in the prior year. The fiscal 2005 loss consists of a \$2.086 billion investment loss, partially offset by a \$218 million gain from demographic factors. The fiscal 2004 loss consists of a \$1.960 billion investment loss, as well as a \$41 million loss from demographic factors. Table 3 shows each component of actuarial gain/loss for the year ending September 30, 2005, along with the corresponding experience during the prior three years.

Table 4 shows the actuarially-determined percent of payroll employer contribution rates over the past 29 years. Also shown are the actual contribution and actual payroll for each year. Table 5 presents an actuarial balance sheet for the System (pension benefits) as of September 30, 2005 and 2004.

There is no single all-encompassing test for measuring a retirement system's funding progress and current funded status. However, some common indicators of the progress that a system has achieved in funding their obligations include observing the changes over time in the following items:

1. The ratio of valuation assets to actuarial accrued liabilities.
2. The pattern of the unfunded actuarial accrued liability as a percentage of active payroll.
3. The ratio of valuation assets to the actuarial present value of vested benefits (computed as if the System were terminated on the valuation date).
4. A comparison of the plan's present assets (at actuarial value) with (1) active member contributions on deposit, (2) liabilities for future benefits to retired lives, and (3) the actuarial accrued liabilities for service already rendered by active members.

Table 6 presents the historical changes in the first two funding measures over the past 22 years. Table 7 shows the funding progress achieved in measure 3 indicated above. Finally, Table 8 indicates the historical change in funding measure 4.

Table 1

Contribution Rates as a Percentage of Payroll

Pension Benefits Only

	October 1, 2005 Valuation	October 1, 2004 Valuation*	October 1, 2003 Valuation	October 1, 2002 Valuation
Normal Cost	9.63%	9.62%	10.46%	10.35%
Amortization payment	<u>5.69</u>	<u>4.14</u>	<u>3.19</u>	<u>1.92</u>
Total Contribution requirement	15.32%	13.76%	13.65%	12.27%
Member contributions	3.94%	3.93%	3.91%	3.90%
Employer contributions	11.38%	9.83%	9.74%	8.37%
Payroll used in deriving contribution rates (in millions)	\$10,206.0	\$10,407.1	\$10,043.9	\$9,707.3

*With revisions in actuarial assumptions

Table 2

Unfunded Actuarial Accrued Liability and Actuarial Gain (Loss)
Pension Benefits Only

	Unfunded Actuarial Accrued Liability as of	
	September 30, 2005	September 30, 2004
1. Actuarial accrued liability	\$48,206,292,866	\$46,317,017,843
2. Valuation assets	<u>38,211,008,964</u>	<u>38,783,811,565</u>
3. Unfunded (overfunded) actuarial accrued liability = (1) - (2)	\$ 9,995,283,902	\$ 7,533,206,278
	Derivation of Actuarial Gain (Loss) Years Ended	
	September 30, 2005	September 30, 2004
4. Unfunded actuarial accrued liability (UAAL) at start of year	\$ 7,533,206,278	\$ 6,043,289,861
5. Normal cost	1,001,176,406	1,050,233,833
6. Actual employer and member contributions	993,270,562	1,153,999,944
7. Transfer from (to) stabilization subaccount	54,247,323	183,337,379
8. Expected UAAL at end of year = (4) + (5) - (6) - (7), adjusted for interest	8,127,714,698	6,270,174,774
9. Change from revisions in actuarial assumptions	0	(737,522,950)
10. Expected UAAL after changes = (8) + (9)	8,127,714,698	5,532,651,824
11. Actual UAAL at end of year	9,995,283,902	7,533,206,278
12. Gain (loss) = (10) - (11)	(1,867,569,204)	(2,000,554,454)
13. Gain (loss) as percent of pension actuarial accrued liabilities at start of year (\$46,317,017,843 and \$44,769,473,523 as of October 1, 2004 and October 1, 2003, respectively)	-4.03%	-4.47%

Table 3

**Gains/(Losses) in Accrued Liabilities During Years Ended
September 30, 2005, 2004, 2003 and 2002
Resulting from Differences Between Assumed Experience and Actual Experience**

Type of Activity	2005	2004	2003	2002
1. Retirements (including Disability Retirement). If members retire at older ages or with lower final average pay than assumed, there is a gain. If younger ages or higher average pays, a loss.	\$64,636,845	\$12,315,373	\$23,965,774	\$90,580,804
2. Withdrawal From Employment (including death-in-service). If more liabilities are released by withdrawals and deaths than assumed, there is a gain. If smaller releases, a loss.	26,014,588	43,781,403	24,796,239	(115,198,101)
3. Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	68,732,788	(162,444,380)	112,596,689	29,628,935
4. Investment Income. If there is greater investment income than assumed, there is a gain. If less income, a loss.	(2,085,531,857)	(1,959,619,995)	(1,684,111,431)	(1,984,913,290)
5. Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	(84,227,707)	(127,339,279)	(15,977,286)	6,211,923
6. New entrants.	(68,324,763)	(46,357,369)	(169,527,788)	(97,482,047)
7. Other. Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, etc.	<u>211,130,902</u>	<u>239,109,793**</u>	<u>(628,481,462)*</u>	<u>(24,654,475)</u>
8. Composite Gain (or Loss) During Year	\$ (1,867,569,204)	\$ (2,000,554,454)	\$ (2,336,739,266)	\$ (2,095,826,251)

* Includes approximately \$600 million due to change in reporting of benefit service.

** Consists primarily of approximately \$240 million due to change in reported benefit service.

Table 4

Recommended and Actual State Contributions: Pension Benefits Only (Dollar Amounts in Millions)

Fiscal Year	Valuation Date September 30	Actual Contributions	Actual Payroll	% of Payroll Contributions		Fiscal Year	Valuation Date September 30	Actual Contributions	Actual Payroll	% of Payroll Contributions	
				Computed	Actual					Computed	Actual
1977-1978	1976	\$285.3	\$2,809.2	12.34%	10.16%	1991-1992	1991	\$546.9	\$ 6,592.8	8.69%	8.30%
1978-1979	1977	438.2	3,065.2	13.57	14.30	1992-1993	1992	612.2	7,014.7	9.06	8.73
1979-1980	1978	451.7	3,332.0	13.50	13.56	1993-1994	1993	-	-	8.75	-
1980-1981	1979	473.8	3,554.0	13.20	13.33	1993-1994	1993 ⁴	809.8	7,319.5	8.62	11.06
1981-1982	1980	-	-	13.11	-	1994-1995	1994	769.9	7,433.5	10.91	10.36
1981-1982	1980 ¹	413.7	3,686.7	10.98	11.22	1995-1996	1995	829.6	7,732.5	11.21	10.73
1982-1983	1981	438.3	3,842.1	11.17	11.41	1996-1997	1996 ⁵	904.9	8,028.6	10.97	11.27
1983-1984	1982	450.0	3,968.7	11.39	11.34	1997-1998	1997	-	-	10.22	-
1984-1985	1983	486.4	4,220.3	11.62	11.53	1997-1998	1997 ¹	674.7	8,226.1	6.70	8.20
1985-1986	1984	-	-	12.13	-	1998-1999	1998	-	-	6.96	-
1985-1986	1984 ²	567.9	4,561.4	9.42	8.96	1998-1999	1998 ¹	574.4	8,447.7	7.18	6.80
1986-1987	1985	-	-	9.20	-	1999-2000	1999	655.3	9,169.3	6.63	7.15
1986-1987	1986	-	-	9.12	-	2000-2001	2000	756.0	9,374.8	6.48	8.06
1986-1987	1986 ⁴	515.5	4,739.6	7.85	8.05	2001-2002	2001	604.0	9,719.6	7.22	6.21
1987-1988	1987	597.1	5,248.3	7.55	8.70	2002-2003	2002	697.9	10,021.1	8.37	6.96
1988-1989	1988	566.3	5,403.4	8.01	7.86	2003-2004	2003	697.6	10,029.2	9.74	6.96
1989-1990	1989	-	-	8.11	-	2004-2005	2004	715.0	10,137.4	10.72	-
1989-1990	1989 ³	-	-	8.20	-	2004-2005	2004 ¹	715.0	10,137.4	9.83	7.05
1989-1990	1989 ¹	654.2	5,818.3	7.70	8.11	2005-2006	2005	-	-	11.38	-
1990-1991	1990	502.4	6,248.2	8.06	8.04						

¹ Revised actuarial assumptions and/or methods.

² Revised actuarial assumptions and/or methods; benefit changes.

³ Benefit changes.

⁴ Revised asset valuation method.

⁵ Amortization period changed from rolling 50 years to declining 40 years effective 10-1-96.

Table 5

Actuarial Balance Sheet as of September 30, 2005 and 2004
Pension Benefits Only

	Present Resources and Expected Future Resources	
	2005	2004
A. Valuation assets		
1. Net assets from system financial statement (market value)	\$39,216,068,515	\$36,288,506,853
2. Valuation asset adjustment	<u>(1,005,059,551)</u>	<u>2,495,304,712</u>
3. Valuation assets	38,211,008,964	38,783,811,565
B. Present value of expected future employer contributions		
1. For normal costs	\$ 4,041,022,417	\$ 4,121,445,482
2. For unfunded (overfunded) actuarial accrued liabilities	<u>9,995,283,902</u>	<u>7,533,206,278</u>
3. Total	\$ 14,036,306,319	\$ 11,654,651,760
C. Present value of expected future member contributions	<u>3,577,401,669</u>	<u>3,632,455,537</u>
D. Total present and expected future resources	<u>\$ 55,824,716,952</u>	<u>\$54,070,918,862</u>
	Present Value of Expected Future Benefit Payments and Reserves	
A. To retirees and beneficiaries	\$28,046,809,466	\$26,178,244,041
B. To vested terminated members	1,023,538,604	857,423,787
C. To present active members		
1. Allocated to service rendered prior to the valuation date	19,135,944,796	19,281,350,015
2. Allocated to service expected to be rendered after the valuation date	<u>7,618,424,086</u>	<u>7,753,901,019</u>
3. Total	\$26,754,368,882	\$27,035,251,034
D. Reserves		
1. Allocated to retirees and beneficiaries	None	none
2. Unallocated investment income and adjustments	None	none
3. Total	None	none
E. Total present value of expected future benefit payments and reserves	<u>55,824,716,952</u>	<u>\$54,070,918,862</u>

Table 6

Historical Funding Levels for Actuarial Accrued Liabilities
Pension Benefits Only
(Dollar Amounts in Millions)

Valuation Date September 30	Actuarial Accrued Liability	Valuation Assets	Funded Ratio	Unfunded (Over-funded) Accrued Liability	Active Member Payroll ⁵	Unfunded (Over-funded) As % of Active Payroll	Valuation Date September 30	Actuarial Accrued Liability	Valuation Assets	Funded Ratio	Unfunded (Over-funded) Accrued Liability	Active Member Payroll	Unfunded (Over-funded) As % of Active Payroll
1984	\$ 8,945	\$ 6,774	75.7%	\$2,171	\$3,969	54.7%	1997 ⁷	\$29,792	\$30,051	100.9%	\$(259)	\$ 8,027	(3.2)%
1985 ¹	9,487	7,559	79.7	1,928	4,220	45.7	1998	32,137	31,870	99.2	267	8,265	3.2
1986 ²	10,257	9,645	94.0	612	4,561	13.4	1998 ⁶	32,863	31,870	97.0	993	8,265	12.0
1987 ³	11,240	10,930	97.2	310	4,739	6.5	1999	34,348	34,095	99.3	253	8,644	2.9
1988	14,029	11,823	84.3	2,206	5,248	42.0	2000	37,139	36,893	99.3	246	8,985	2.7
1989 ⁴	14,382	12,971	90.2	1,411	5,403	26.1	2001	39,774	38,399	96.5	1,375	9,264	14.8
1990	15,766	13,746	87.2	2,020	5,818	34.7	2002	41,957	38,382	91.5	3,575	9,707	36.8
1991	18,032	14,653	81.3	3,379	6,248	54.1	2003	44,769	38,726	86.5	6,043	10,044	60.2
1992	19,563	15,333	78.4	4,230	6,593	64.2	2004	47,055	38,784	82.4	8,271	10,465	79.0
1993 ²	21,699	16,999	78.3	4,700	7,070	66.5	2004 ⁶	46,317	38,784	83.7	7,533	10,407	72.4
1994	23,500	18,503	78.7	4,997	7,344	68.0	2005	48,206	38,211	79.3	9,995	10,206	97.9
1994 ⁶	25,014	18,503	74.0	6,511	7,344	88.7							
1995	27,402	20,455	74.6	6,947	7,565	91.8							
1996	28,571	22,529	78.9	6,042	7,807	77.4							
1997	30,179	25,485	84.4	4,694	8,027	58.5							

¹ Revised actuarial assumptions/methods and benefit changes.

² Revised asset valuation method.

³ Inclusion of MIP.

⁴ Benefit changes and revised actuarial assumptions.

⁵ Valuation payroll includes payroll projection factor through 1994.

⁶ Revised actuarial assumptions.

⁷ Revised actuarial assumptions and revised asset valuation method.

Table 7

Funding Objective Achievement Indicators - Historical Comparison
Pension Benefits Only (Dollar Amounts in Millions)

Valuation September 30	Valuation Assets	Termination Indicator		Experience Indicator
		Actuarial Present Value of Vested Benefits	Funded Ratio	Actuarial Gain (Loss)
1993	\$16,767	\$15,892	105.5%	N/A
1993 ¹	16,999	15,892	107.0	N/A
1994	18,503	17,493	105.8	N/A
1994 ²	18,503	18,488	100.1	N/A
1995	20,455	20,192	101.3	\$ (168.1)
1996	22,529	21,365	105.4	1,185.6
1997	25,485	23,413	108.8	1,563.0
1997 ³	30,051	23,601	127.3	1,563.0
1998	31,870	25,838	123.3	(582.5)
1998 ²	31,870	26,205	121.6	(582.5)
1999	34,095	27,755	122.8	903.7
2000	36,893	30,264	121.9	1.5
2001	38,399	32,755	117.2	(1,259)
2002	38,382	34,686	110.7	(2,096)
2003	38,726	37,424	103.5	(2,337)
2004	38,784	39,659	97.8	(2,001)
2004 ²	38,784	39,737	97.6	(2,001)
2005	38,211	41,595	91.9	(1,868)

¹ Revised asset valuation method.

² Revised actuarial assumptions.

³ Revised actuarial assumptions and asset valuation method.

Table 8
Historical Funding Levels for Actuarial Accrued Liability
Pension Benefits Only

Valuation Date September 30	Actuarial Accrued Liability (\$ in Millions)			Valuation Assets (\$ in Millions)	Portion of Actuarial Accrued Liability Covered by Assets			
	(1)	(2)	(3)		(1)	(2)	(3)	(4)**
	Active Member Contributions	Retirants and Beneficiaries	Active and Inactive Members (Employer Financed Portion)					
1987++	\$ 735	\$ 4,012	\$ 6,493	\$10,930	100%	100%	95.2%	97.2%
1988	874	4,503	8,652	11,823	100	100	74.5	84.3
1989#@	1,003	6,046	7,333	12,971	100	100	80.8	90.2
1990	1,192	6,611	7,963	13,746	100	100	74.6	87.2
1991	1,365	7,505	9,162	14,653	100	100	63.1	81.3
1992	1,510	8,212	9,841	15,333	100	100	57.0	78.4
1993+	1,700	9,177	10,822	16,999	100	100	56.6	78.3
1994	1,892	10,051	11,557	18,502	100	100	56.8	78.7
1994@	1,892	10,312	12,810	18,502	100	100	49.2	74.0
1995	2,057	11,569	13,776	20,455	100	100	49.6	74.6
1996	2,261	12,590	13,720	22,529	100	100	56.0	78.9
1997	2,500	14,303	13,376	25,485	100	100	64.9	84.4
1997@+	2,500	14,303	12,989	30,051	100	100	102.0	100.9
1998	2,505	15,689	13,943	31,870	100	100	98.1	99.2
1998@	2,505	15,888	14,470	31,870	100	100	93.1	97.0
1999	2,706	17,291	14,351	34,095	100	100	98.2	99.3
2000	2,932	19,200	15,007	36,893	100	100	98.4	99.3
2001	3,244	20,943	15,587	38,399	100	100	91.2	96.5
2002	3,490	22,480	15,987	38,382	100	100	77.6	91.5
2003	3,720	24,080	16,969	38,726	100	100	64.4	86.5
2004	3,800	26,178	17,077	38,784	100	100	51.6	82.4
2004@	3,800	26,178	16,339	38,784	100	100	53.9	83.7
2005	3,898	28,047	16,261	38,211	100	100	38.5	79.3

@ Revised actuarial assumptions. # Benefits amended. + Revised asset valuation method. ** Percents funded on a total valuation asset and total actuarial accrued liability basis. ++ After inclusion of Member Investment Plan.

III. FINANCIAL EXPERIENCE

As of September 30, 2005, the market value of total System assets amounted to approximately \$39.74 billion. Of this total, \$524 million was set aside for health benefits, leaving \$39.22 billion in pension assets. Table 9 shows the distribution of assets at market value by type of investment as of the current and preceding valuation dates.

Legislation adopted in late 1997 (Public Act 143 of 1997) provided that, for actuarial valuation purposes, market value would be used as of September 30, 1997. For investment gains or losses that occur after that date, a 5-year smoothing technique will be used. This is the same procedure as was used prior to September 30, 1997, and is described below.

The actuarial value of assets as of September 30, 1997 was market value. For valuations prior to 1997 and after 1997, the actuarial value of assets is determined on the basis of a valuation method that assumes the fund earns the expected rate of return of 8%, and includes an adjustment to reflect market value. This procedure is applied as follows:

- (i) The preliminary value is determined by taking the sum of the actuarial value at the beginning of the year and the excess of income over expenses during the year, assuming that the fund earns the assumed rate of 8% during the year.
- (ii) This value is written-up or written-down by taking 20% of each year's difference between actual and expected return for the next five years. Actual return for the year includes net interest, dividends, and asset appreciation or depreciation.

For the September 30, 2005 valuation, the actuarial value of pension assets is \$38.21 billion, which is approximately \$1.01 billion 2.56% less than the market value of \$39.22 billion. Table 10 shows the historical growth in market value of the System's assets. Table 11 presents the details of the determination of the actuarial value of assets for the current and prior years.

Table 9

Assets and Fund Balances at Market Value

Plan Net Assets (Market Value)		
	Assets September 30,	
Type of Asset	2005	2004
Equity in Common Cash	\$ 82,512,540	\$ 156,865,685
Total Receivables	265,384,174	458,557,180
Short-Term Investment Pool	1,391,102,975	1,153,592,222
Total Fixed income Investment Pool	6,507,075,783	6,337,628,367
Total Domestic Equity Investment Pools	19,418,437,105	17,684,365,607
Real Estate Investment Pool	2,958,413,840	2,433,331,455
Alternative Investment Pool	4,596,675,402	4,812,901,668
International Equities Investment Pool	<u>4,614,426,207</u>	<u>3,811,045,785</u>
Total Assets	\$39,834,028,026	\$36,848,287,969
Less: Total Liabilities	<u>(94,084,679)</u>	<u>(75,802,938)</u>
Net Assets Held in Trust for Pension and Health Benefits	\$39,739,943,347	\$36,772,485,031
Reported Fund Balance (Market Value)		
	Balance September 30,	
Description	2005	2004
Employee Contributions	\$ 1,300,801,506	\$ 1,359,662,572
Member Investment Plan	3,446,912,858	3,327,269,740
Employer Contributions	(9,466,878,674)	(4,068,688,974)
Retired Benefit Payments	19,397,610,246	20,011,512,347
Health Benefits	523,874,832	483,978,178
Undistributed Investment Income	24,537,622,580	15,604,503,845
Stabilization Subaccount	<u>0</u>	<u>54,247,323</u>
Total Fund balances	<u>\$39,739,943,347</u>	<u>\$36,772,485,031</u>

Table 10

Historical Growth of Assets at Market Value

Year Ended September 30,	Revenues			Expenses			Net Assets at Market Value
	Member Contributions	Employer Contributions	Investment Income	Benefit Payments	Contribution Refunds	Administrative Expenses	
1978	\$ -	\$ -	N/A	\$ -	\$ -	\$ -	N/A
1979	4,371,642	453,326,089	N/A	208,627,316	10,496,482	2,291,412	N/A
1980	4,335,747	470,896,425	N/A	224,744,415	9,115,471	2,548,045	N/A
1981	6,705,051	494,018,362	N/A	241,153,835	7,396,962	3,168,889	N/A
1982	3,413,290	441,061,814	N/A	287,565,834	6,309,515	3,657,465	N/A
1983	7,847,450	474,369,763	N/A	323,784,018	4,034,185	4,104,159	N/A
1984	4,527,101	492,725,287	N/A	347,047,646	3,676,715	4,556,693	N/A
1985	5,986,653	532,675,122	N/A	371,054,811	2,243,571	6,263,001	N/A
1986	16,765,728	567,879,458	N/A	621,025,615	1,861,920	7,436,516	N/A
1987	100,364,158	515,458,166	N/A	791,194,027	1,515,904	7,191,225	N/A
1988	141,662,530	597,092,668	N/A	616,882,022	1,560,025	8,184,566	N/A
1989	157,309,641	566,307,528	N/A	741,995,367	1,425,086	8,251,139	N/A
1990	174,658,758	654,221,516	N/A	821,705,321	2,418,522	9,162,434	N/A
1991	175,136,454	673,399,035	N/A	897,827,918	3,317,244	17,398,261	N/A
1992	208,791,106	751,909,882	N/A	1,002,123,397	3,453,421	25,990,432	\$16,498,623,006
1993	242,018,294	760,446,814	1,980,352,703	1,094,442,442	3,940,883	36,407,714	18,346,649,778
1994	264,638,521	877,409,856	444,815,417	1,208,331,304	5,457,370	45,812,746	18,673,912,152
1995	271,859,995	1,017,486,956	3,116,656,100	1,359,988,407	8,369,566	48,211,560	21,663,345,670
1996	279,052,573	1,110,808,092	3,299,263,857	1,533,696,715	186,198,045	52,518,344	24,580,057,088
1997	278,789,985	1,222,326,910	5,766,520,214	1,650,304,796	17,904,603	41,833,668	30,137,651,130
1998	266,105,558	984,274,725	2,413,274,166	1,811,893,540	21,252,147	47,154,514	31,921,005,378
1999	549,259,484	920,601,920	5,104,774,748	1,955,626,410	15,585,460	51,061,591	36,473,368,069
2000	355,229,988	1,084,255,551	4,765,922,069	2,161,697,019	17,486,704	53,957,715	40,445,634,239
2001	415,565,528	1,260,006,294	(4,564,964,529)	2,347,069,816	19,908,136	58,691,608	35,130,571,972
2002	456,381,392	1,208,577,347	(3,823,824,261)	2,554,611,684	20,880,961	68,383,190	30,327,830,615
2003	426,478,552	1,355,314,526	4,557,655,910	2,739,257,114	13,706,711	70,924,708	33,843,391,070
2004	509,118,487	1,316,478,440	4,166,118,397	2,973,632,976	18,494,863	70,493,524	36,772,485,031
2005	340,797,914	1,415,347,006	4,569,347,953	3,260,262,708	22,253,862	75,517,986	39,739,943,348

Note: Above figures include supplemental payments and health benefits, and administration fees for self-insured health benefits. Assets include pension, health and the stabilization subaccount.

Table 11
Derivation of Valuation Assets (Pension Only)

	Year Ending September 30				
	2005	2004	2003	2002	2001
1. Beginning of Year Assets					
a) Market Value	\$36,288,506,853	\$33,162,274,148	\$29,655,593,676	\$34,605,769,223	\$40,010,183,836
b) Valuation Assets	38,783,811,565	38,726,183,662	38,382,189,323	38,399,142,454	36,892,927,721
2. End of Year Assets at Market Value	39,216,068,515	36,288,506,853	33,162,274,148	29,655,593,676	34,605,769,223
3. Net Additions to Market Value					
a) Member Contributions	278,290,298	456,352,606	379,084,549	413,163,871	377,080,269
b) Employer Contributions	714,980,264	697,647,338	697,906,265	603,949,327	756,002,136
c) Investment Income	4,476,382,374	4,184,883,142	4,532,071,835	(3,865,135,521)	(4,575,628,001)
d) Benefit Payments	(2,554,278,925)	(2,358,216,073)	(2,180,574,193)	(2,041,439,863)	(1,890,812,400)
e) Contribution Refunds/Transfers	(22,061,718)	(18,397,014)	(13,642,300)	(20,813,845)	(19,835,729)
f) Administrative Expenses	(19,997,954)	(19,374,673)	(23,016,963)	(23,529,221)	(17,312,250)
g) Transfer (to) from stabilization subaccount	<u>54,247,323</u>	<u>183,337,379</u>	<u>114,851,279</u>	<u>(16,370,295)</u>	<u>(33,908,638)</u>
h) Total Additions to Market Value	2,927,561,662	3,126,232,705	3,506,680,472	(4,950,175,547)	(5,404,414,613)
4. Summary of Net Additions to Market Value					
a) Net Contributions and transfers = (3a) + (3b) + (3e) + (3g)	1,025,456,167	1,318,940,309	1,178,199,793	979,929,058	1,079,338,038
b) Net Investment Income = (3c) + (3f)	4,456,384,420	4,165,508,469	4,509,054,872	(3,888,664,742)	(4,592,940,251)
c) Benefit Payments = (3d)	<u>(2,554,278,925)</u>	<u>(2,358,216,073)</u>	<u>(2,180,574,193)</u>	<u>(2,041,439,863)</u>	<u>(1,890,812,400)</u>
d) Total Additions to Market Value	2,927,561,662	3,126,232,705	3,506,680,472	(4,950,175,547)	(5,404,414,613)
5. Average Valuation Assets = (1b) + .5 x [(4a) + (4c)]	38,019,400,186	38,206,545,780	37,881,002,123	37,868,387,052	36,487,190,540
6. Imputed Income at Valuation Rate = 8% x (5)	3,041,552,015	3,056,523,662	3,030,480,170	3,029,470,964	2,918,975,243
7. Gain (Loss) from Investments = (4b) - (6)	1,414,832,405	1,108,984,807	1,478,574,702	(6,918,135,706)	(7,511,915,494)
8. Portion of Gains (Losses) recognized from prior years					
a) From this year = .2 x (7)	282,966,481	221,796,961	295,714,940	(1,383,627,141)	(1,502,383,099)
b) From one year ago	221,796,961	295,714,940	(1,383,627,141)	(1,502,383,099)	408,878,343
c) From two years ago	295,714,940	(1,383,627,141)	(1,502,383,099)	408,878,343	497,305,526
d) From three years ago	(1,383,627,141)	(1,502,383,099)	408,878,343	497,305,526	(5,086,919)
e) From four years ago	<u>(1,502,383,099)</u>	<u>408,878,343</u>	<u>497,305,526</u>	<u>(5,086,919)</u>	<u>N/A</u>
f) Total	(2,085,531,857)	(1,959,619,995)	(1,684,111,431)	(1,984,913,290)	(601,286,149)
9. Change in Valuation Assets = (4a) + (4c) + (6) + (8f)	(572,802,601)	57,627,903	343,994,339	(16,953,131)	1,506,214,733
10. End of Year Assets					
a) Market Value = (2)	39,216,068,515	36,288,506,853	33,162,274,148	29,655,593,676	34,605,769,223
b) Valuation Assets = (1b) + (9)	38,211,008,964	38,783,811,565	38,726,183,662	38,382,189,323	38,399,142,454
11. Actuarial Rate of Return	2.51%	2.87%	3.55%	2.76%	6.35%
12. Market Rate of Return	12.54%	12.76%	15.47%	(11.41)%	(11.60)%

IV. MEMBERSHIP CHARACTERISTICS

A total of 484,663 active, inactive vested, and retired members of the Michigan Public School Employees' System are included in this 2005 actuarial valuation.

Computer tapes containing membership data as of September 30, 2005 were provided to us by the Office of Retirement Services. For purposes of the actuarial valuation, we prepared various tabulations of the membership data recorded on the computer tapes. Summaries of these tabulations are presented in this section and in the tables which follow.

Active Employees

The 316,151 active employees covered by the System as of September 30, 2005 had a total reported payroll of \$10.21 billion and an average annual salary of \$32,282. The payroll figure used in the valuation was actual earnings for the year ended September 30, 2005, with a salary projection factor to estimate earnings on the valuation date. Between the 2004 and 2005 actuarial valuations, the number of active members decreased by 6,343, or 2.0%, while average age, service and salary changed, as shown below:

	<u>September 30,</u>	
	<u>2005</u>	<u>2004</u>
Number of Active Members	316,151	322,494
Average Age	43.7 years	43.8 years
Average Service	9.7 years	9.7 years
Reported Payroll*	\$10,205,972,353	\$10,407,072,474
Average Annual Pay	\$32,282	\$32,271

* Actual prior year pay projected to valuation date.

Table 12-A shows the average age, average years of service, and average salary of active employees as of September 30, 2005. Tables 12-B and 12-C show the information separately for MIP members and Basic members. Table 13 shows the distribution of employees as of September 30, 2005 by annual salary. Table 14 presents the characteristics of the active membership by type of plan.

Table 15 presents an historical comparison of the number and characteristics of active members reported for actuarial valuations since 1964.

The data for the active members included 33,287 with no year of birth and 35,228 with no sex indication. Last year the comparable figures were 42,476 and 44,074, respectively. The unknown data were adjusted by endowing them with an average entry age and the most common sex code (*i.e.*, female) of the group.

Inactive Members

The 2005 actuarial valuation also takes account of the actuarial liabilities for 16,806 reported inactive vested members, as compared to 15,756 in the 2004 valuation and 14,247 in 2003.

Retirees and Beneficiaries

As of September 30, 2005, the System was paying pensions to a total of 151,706 retirees and beneficiaries in an annual amount of approximately \$2,645 million. During fiscal 2005, the total number of benefit recipients increased by 6,328 as shown below.

	<u>September 30,</u>	
	<u>2005</u>	<u>2004</u>
Retirement Pensions	133,564	127,745
Survivor Pensions*	12,932	12,620
Disability Pensions	<u>5,210</u>	<u>5,013</u>
Total benefit recipients	151,706	145,378

* Includes beneficiaries of disability retirees.

Table 16 shows a distribution of the 151,706 System benefit recipients as of September 30, 2005, by age, type and amount of benefit. Table 17 shows a similar distribution, by type of benefit and monthly amount categories. The average annual pension for all benefit recipients was \$17,433 as of September 30, 2005, after adjustment for optional benefit forms. During fiscal 2004, the average annual pension for all System benefit recipients increased from \$16,726 to \$17,433, or by 4.2%.

Table 18 presents a historical development of the growth in number and amount of benefit recipients in force, as well as the present value of their liabilities, since the 1962 valuation. Finally, Table 19 shows the number and annual pensions for each specific type of pension in force.

Table 20 shows a reconciliation of data from the 2004 to the 2005 valuation.

Table 12-A
Employees in Active Service as of September 30, 2005
by Age and Years of Service
ALL MEMBERS

Age	Total	Years of Service								
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Total	316,151	137,647	60,589	36,433	28,472	18,145	17,263	12,855	4,218	529
Average Salary	\$32,282	\$11,896	\$36,063	\$44,620	\$50,487	\$55,296	\$61,136	\$69,713	\$76,532	\$81,319
Under 20	298	298								
	\$2,225	\$2,224								
20 - 24	12,596	12,434	161	1						
	\$7,553	\$7,266	\$29,185	\$12,511						
25 - 29	24,236	19,455	4,744	37						
	\$27,125	\$22,723	\$45,083	\$39,503						
30 - 34	27,705	12,226	12,578	2,824	77					
	\$35,594	\$15,994	\$49,467	\$58,410	\$44,604					
35 - 39	65,104	45,817	8,339	7,885	2,883	180				
	\$22,082	\$9,391	\$41,296	\$60,055	\$62,340	\$52,892				
40 - 44	38,679	14,959	9,734	5,426	5,907	2,363	283	7		
	\$31,777	\$10,754	\$31,248	\$45,952	\$61,043	\$59,316	\$48,451	\$46,874		
45 - 49	44,510	13,169	10,408	6,997	5,482	4,830	3,267	349	8	
	\$33,561	\$10,602	\$29,280	\$37,998	\$50,571	\$60,944	\$58,964	\$54,246	\$59,385	
50 - 54	47,676	8,549	7,757	7,180	6,750	4,743	7,668	4,876	150	3
	\$42,113	\$10,530	\$28,907	\$37,251	\$45,417	\$55,228	\$66,438	\$69,465	\$61,985	\$39,908
55 - 59	36,573	5,559	4,271	4,296	5,386	4,236	4,218	6,209	2,362	36
	\$45,469	\$9,752	\$27,319	\$35,351	\$43,822	\$51,256	\$59,456	\$72,926	\$76,618	\$69,047
60 - 64	13,073	2,814	1,634	1,316	1,596	1,437	1,452	1,123	1,441	260
	\$38,940	\$7,900	\$23,051	\$30,921	\$38,827	\$46,415	\$49,972	\$63,130	\$79,402	\$84,333
65 - 69	3,586	1,353	555	315	270	258	282	213	178	162
	\$26,007	\$5,322	\$15,237	\$24,743	\$32,888	\$41,188	\$45,859	\$52,902	\$72,828	\$81,450
70 and over	2,115	1,014	408	156	121	98	93	78	79	68
	\$15,786	\$4,270	\$9,567	\$17,105	\$25,125	\$29,605	\$35,690	\$41,663	\$59,279	\$77,829

Table 12-B
Employees in Active Service as of September 30, 2005
by Age and Years of Service
MIP MEMBERS

Age	Total	Years of Service								
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Total	262,843	133,701	56,776	30,794	16,575	8,168	7,565	6,271	2,599	394
Average Salary	\$28,955	\$12,004	\$36,816	\$46,192	\$53,125	\$56,551	\$62,258	\$71,346	\$77,115	\$81,302
Under 20	298	298								
	\$2,225	\$2,224								
20 - 24	12,595	12,433	161	1						
	\$7,553	\$7,266	\$29,185	\$12,511						
25 - 29	24,230	19,453	4,740	37						
	\$27,126	\$22,724	\$45,095	\$39,503						
30 - 34	26,817	11,662	12,415	2,699	41					
	\$36,020	\$16,410	\$49,519	\$58,511	\$45,713					
35 - 39	61,936	45,079	7,765	7,034	1,979	79				
	\$21,078	\$9,370	\$41,648	\$60,472	\$65,497	\$57,305				
40 - 44	31,900	14,249	8,988	4,486	3,147	912	114	4		
	\$28,362	\$10,795	\$31,271	\$46,408	\$63,265	\$62,166	\$50,134	\$55,499		
45 - 49	34,245	12,554	9,692	5,860	2,883	1,766	1,316	168	6	
	\$29,228	\$10,732	\$29,655	\$38,752	\$52,572	\$62,380	\$60,610	\$58,839	\$60,427	
50 - 54	32,508	8,026	7,103	5,893	3,962	2,093	3,128	2,220	80	3
	\$37,353	\$10,658	\$29,694	\$39,016	\$48,527	\$56,674	\$68,298	\$71,359	\$60,798	\$39,908
55 - 59	24,510	5,152	3,799	3,381	3,308	2,253	1,986	3,140	1,467	24
	\$42,283	\$10,021	\$28,573	\$38,082	\$47,199	\$54,136	\$60,866	\$74,270	\$77,440	\$68,073
60 - 64	9,339	2,605	1,387	1,044	1,001	848	795	578	901	180
	\$36,332	\$8,194	\$25,157	\$33,206	\$41,739	\$48,562	\$51,479	\$64,496	\$79,613	\$86,090
65 - 69	2,801	1,265	445	245	178	159	167	109	99	134
	\$23,671	\$5,414	\$16,849	\$28,331	\$34,356	\$43,019	\$47,266	\$56,471	\$72,711	\$81,123
70 and over	1,664	925	281	114	76	58	59	52	46	53
	\$14,757	\$4,466	\$11,645	\$18,671	\$27,547	\$33,018	\$36,812	\$43,621	\$57,845	\$73,850

Table 12-C
Employees in Active Service as of September 30, 2005
by Age and Years of Service
BASIC MEMBERS

Age	Total	Years of Service								
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Total	53,308	3,946	3,813	5,639	11,897	9,977	9,698	6,584	1,619	135
Average Salary	\$48,686	\$8,239	\$24,851	\$36,035	\$46,811	\$54,268	\$60,260	\$68,158	\$75,595	\$81,368
20 - 24	1 \$4,276	1 \$4,276								
25 - 29	6 \$24,070	2 \$9,469	4 \$31,370							
30 - 34	888 \$22,728	564 \$7,402	163 \$45,516	125 \$56,225	36 \$43,341					
35 - 39	3,168 \$41,703	738 \$10,674	574 \$36,528	851 \$56,604	904 \$55,428	101 \$49,440				
40 - 44	6,779 \$47,849	710 \$9,938	746 \$30,976	940 \$43,774	2,760 \$58,509	1,451 \$57,524	169 \$47,315	3 \$35,373		
45 - 49	10,265 \$48,016	615 \$7,940	716 \$24,203	1,137 \$34,109	2,599 \$48,351	3,064 \$60,116	1,951 \$57,854	181 \$49,982	2 \$56,258	
50 - 54	15,168 \$52,315	523 \$8,569	654 \$20,356	1,287 \$29,172	2,788 \$40,997	2,650 \$54,086	4,540 \$65,157	2,656 \$67,883	70 \$63,342	
55 - 59	12,063 \$51,943	407 \$6,343	472 \$17,230	915 \$25,261	2,078 \$38,447	1,983 \$47,984	2,232 \$58,201	3,069 \$71,551	895 \$75,271	12 \$70,995
60 - 64	3,734 \$45,462	209 \$4,230	247 \$11,224	272 \$22,149	595 \$33,929	589 \$43,323	657 \$48,149	545 \$61,682	540 \$79,051	80 \$80,379
65 - 69	785 \$34,338	88 \$3,995	110 \$8,715	70 \$12,187	92 \$30,047	99 \$38,248	115 \$43,816	104 \$49,162	79 \$72,975	28 \$83,006
70 and over	451 \$19,583	89 \$2,233	127 \$4,970	42 \$12,856	45 \$21,034	40 \$24,655	34 \$33,744	26 \$37,746	33 \$61,277	15 \$91,888

Table 13
Members in Active Service
as of September 30, 2005 by Annual Salary

	All Members	Type of Plan	
		MIP Members	Basic Members
Total	316,151	262,843	53,308
Under \$10,000	102,657	96,571	6,086
\$10,000 - 14,999	22,521	20,016	2,505
15,000 - 19,999	19,202	16,411	2,791
20,000 - 24,999	14,049	11,632	2,417
25,000 - 29,999	12,661	9,994	2,667
30,000 - 34,999	12,873	9,849	3,024
35,000 - 39,999	13,272	10,503	2,769
40,000 - 44,999	13,991	11,566	2,425
45,000 - 49,999	12,520	10,665	1,855
50,000 - 54,999	11,947	10,027	1,920
55,000 - 59,999	12,693	10,057	2,636
60,000 - 64,999	13,826	10,178	3,648
65,000 - 69,999	12,756	8,826	3,930
70,000 - 74,999	13,125	8,742	4,383
75,000 - 79,999	8,367	5,580	2,787
80,000 - 84,999	6,543	4,106	2,437
85,000 - 89,999	5,017	3,152	1,865
90,000 - 94,999	2,844	1,769	1,075
95,000 - 99,999	1,672	1,013	659
100,000 and over	3,615	2,186	1,429

Table 14

**Active Member Statistics
by Type of Plan**

	September 30, 2005		
	MIP	Basic	Total
Number of active members	262,843	53,308	316,151
Average age (years)	42.2	51.3	43.7
Average service (years)	7.6	20.3	9.7
Average annual pay	\$28,955	\$48,686	\$32,282
	September 30, 2004		
	MIP	Basic	Total
Number of active members	265,163	57,331	322,494
Average age (years)	42.3	50.9	43.8
Average service (years)	7.5	19.8	9.7
Average annual pay	\$28,917	\$47,786	\$32,271

Table 15
Active Members Reported for Valuation: Historical Comparison

Valuation Date ¹	Active Members					
	Number	Reported Payroll ²	Average			
			Annual Pay	% Increase	Age (Years)	Service (Years)
12-31-1964	114,005	\$ 585,294	\$ 5,134	--	--	--
12-31-1965	109,716	627,510	5,719	11.4%	--	--
12-31-1966	113,429	687,884	6,064	6.0	--	--
12-31-1967	114,168	779,279	6,826	12.6	--	--
12-31-1968	135,946	893,572	6,573	(3.7)	--	--
12-31-1969	160,440	1,159,783	7,229	10.0	--	--
12-31-1970	131,295	1,132,580	8,626	19.3	42.9	12.4
12-31-1971	171,105	1,565,995	9,152	6.1	40.6	9.2
12-31-1972	182,297	1,727,432	9,476	3.5	40.3	9.1
6-30-1974	181,041	1,780,807	9,837	3.8	39.7	8.8
6-30-1975	196,545	1,971,686	10,032	2.0	39.2	8.4
9-30-1976	211,173	2,166,808	10,261	2.3	39.4	9.2
9-30-1977	220,557	2,245,893	10,183	(.8)	39.2	8.9
9-30-1978	231,299	2,466,929	10,666	4.7	39.3	8.8
9-30-1979	238,217	2,688,184	11,285	5.8	39.6	8.8
9-30-1980	303,971	3,231,137	10,630	(5.8)	39.9	7.4
9-30-1981	295,532	3,508,044	11,870	11.7	39.4	7.9
9-30-1982	278,067	3,616,807	13,007	9.6	40.0	8.5
9-30-1983	267,508	3,694,928	13,812	6.2	40.5	9.0
9-30-1984	274,204	3,953,854	14,419	4.4	40.6	9.1
9-30-1985	276,378	4,137,014	14,969	3.8	40.7	9.2
9-30-1986	277,534	4,444,349	16,014	7.0	40.7	9.1
9-30-1987	262,834	4,617,952	17,570	9.7	41.4	9.6
9-30-1988	285,992	4,989,959	17,448	(.7)	41.1	9.2
9-30-1989	287,750	5,284,205	18,364	5.2	41.0	9.4
9-30-1990	288,865	5,633,895	19,504	6.2	41.3	9.5
9-30-1991	293,503	6,032,513	20,553	5.4	41.5	9.6
9-30-1992	297,230	6,427,775	21,626	5.2	41.7	9.5
9-30-1993	296,585	6,897,924	23,258	7.5	42.2	9.8
9-30-1994	291,006	7,164,807	24,621	5.9	42.5	10.0
9-30-1995	294,911	7,564,876	25,651	4.2	43.4	10.1
9-30-1996	295,096	7,807,029	26,456	3.1	43.6	9.9
9-30-1997	295,691	8,027,450	27,148	2.6	43.6	10.0
9-30-1998	302,016	8,265,463	27,368	0.8	43.5	9.7
9-30-1999	309,324	8,643,718	27,944	2.1	43.6	9.5
9-30-2000	312,699	8,984,737	28,733	2.8	43.6	9.7
9-30-2001	318,538	9,264,183	29,083	1.2	43.6	9.6
9-30-2002	326,350	9,707,281	29,745	2.3	43.6	9.5
9-30-2003	326,938	10,043,862	30,721	3.3	43.8	9.7
9-30-2004	322,494	10,407,072	32,271	5.0	43.8	9.7
9-30-2005	316,151	10,205,972	32,282	0.0	43.7	9.7

¹ Prior to 1974, Detroit data as of June 30 is combined with Outstate data as of the previous December 31.

² In thousands of dollars. Reported payroll for year ended September 30 (adjusted).

Table 16

**Pensions in Force on September 30, 2005
By Age, Type and Amount of Pension**

Attained Age Groups	All Retirees and Beneficiaries		Age and Service Retirees		Disability Retirees		Surviving Beneficiaries*	
	Number	Annual Pensions	Number	Annual Pensions	Number	Annual Pensions	Number	Annual Pensions
Total	151,706	2,644,699,838	133,564	2,446,292,710	5,210	47,529,342	12,932	150,877,787
25 – 29	46	625,434	0	0	0	0	46	625,434
30 – 34	34	360,694	0	0	1	3,773	33	356,922
35 – 39	83	829,947	0	0	12	67,579	71	762,369
40 – 44	165	1,438,073	1	13,299	66	441,671	98	983,102
45 – 49	549	6,230,595	100	2,258,690	271	2,100,579	178	1,871,326
50 – 54	2,573	56,633,015	1,600	45,528,674	624	6,286,450	349	4,817,890
55 – 59	15,903	420,264,628	13,988	396,140,215	1,123	11,973,513	792	12,150,900
60 – 64	28,254	612,716,475	26,073	586,019,413	1,058	10,130,272	1,123	16,566,790
65 – 69	27,986	501,391,704	25,831	476,015,831	741	6,406,404	1,414	18,969,470
70 – 74	25,279	405,001,221	22,910	376,260,016	490	3,841,534	1,879	24,899,671
75 – 79	21,469	310,427,228	18,619	277,926,444	357	2,830,210	2,493	29,670,574
80 – 84	15,364	190,050,036	12,889	166,535,021	278	2,209,709	2,197	21,305,306
85 – 89	8,887	92,182,270	7,309	79,079,427	137	859,745	1,441	12,243,098
90 – 94	3,800	35,012,465	3,125	30,228,574	46	338,541	629	4,445,350
95 – 99	1,128	10,025,271	964	8,981,871	4	26,624	160	1,016,776
100 & over	186	1,510,782	155	1,305,235	2	12,738	29	192,809
Average Annual Pension		17,433		18,316		9,123		11,667

* Includes beneficiaries of disability retirees.

Table 17
Pensions in Force on September 30, 2005
by Type and Amount of Pension

Monthly Amount	Type of Pension			
	Total	Age and Service Retirees	Disability Retirees	Surviving Beneficiaries*
Total	151,706	133,564	5,210	12,932
Less than \$200	13,375	11,552	472	1,351
\$ 200- 399	19,229	15,816	1,220	2,193
400- 599	14,244	11,570	927	1,747
600- 799	10,975	8,843	714	1,418
800- 999	8,900	7,193	491	1,216
1,000-1,199	7,728	6,413	367	948
1,200-1,399	7,090	5,962	278	850
1,400-1,599	6,749	5,868	212	669
1,600-1,799	6,788	6,028	201	559
1,800-1,999	7,058	6,417	130	511
2,000-2,199	7,858	7,371	81	406
2,200-2,399	8,246	7,841	60	345
2,400-2,599	7,572	7,303	34	235
2,600-2,799	6,667	6,504	12	151
2,800-2,999	5,306	5,191	5	110
3,000-3,199	4,139	4,055	2	82
3,200-3,399	2,925	2,873	1	51
3,400-3,599	2,048	2,020	1	27
3,600-3,799	1,442	1,419	1	22
3,800-3,999	970	955	0	15
4,000-4,199	657	652	1	4
4,200-4,399	516	508	0	8
4,400-4,599	335	331	0	4
4,600-4,799	245	243	0	2
4,800-4,999	180	177	0	3
5,000 & over	464	459	0	5
Average Monthly Amount	\$1,452.76	\$1,526.29	\$760.23	\$972.25

* Includes beneficiaries of disability retirees.

Table 18

Retirees and Beneficiaries - Historical Comparison

Valuation Date ¹	Retirees and Beneficiaries on Rolls					Discounted Value of Pensions	
	Number	Annual Pension ²	Annual % Increase		Average Pension	Total ²	Average
			Number	Annual Pension			
12-31-1962	14,632	\$ 24,835	-	-	\$ 1,697	\$ -	\$ -
12-31-1963	15,836	27,890	8.2%	12.3%	1,761	-	-
12-31-1964	17,326	31,482	9.4	12.9	1,817	-	-
12-31-1965	18,591	34,931	7.3	11.0	1,879	-	-
12-31-1966	20,131	39,127	8.3	12.0	1,944	-	-
12-31-1967	21,679	43,600	7.7	11.4	2,011	-	-
12-31-1968	23,620	49,686	9.0	14.0	2,104	-	-
12-31-1969	25,833	56,949	9.4	14.6	2,205	-	-
12-31-1970	27,931	64,587	8.1	13.4	2,312	637,480	22,823
12-31-1971	30,409	75,412	8.9	16.8	2,480	716,247	23,554
12-31-1972	32,877	85,871	8.1	18.9	2,612	818,946	24,909
6-30-1974	36,684	112,267	11.3	30.7	3,069	1,067,473	29,179
6-30-1975	37,484	129,684	2.5	15.5	3,460	1,174,863	31,343
9-30-1976	41,481	144,176	10.7	11.2	3,476	1,349,628	32,536
9-30-1977	43,835	170,355	5.7	18.2	3,886	1,607,977	36,682
9-30-1978	45,513	184,887	3.8	8.5	4,062	1,719,823	37,788
9-30-1979	48,195	199,371	5.9	7.8	4,137	1,825,670	37,881
9-30-1980	50,368	213,170	4.5	6.9	4,232	1,698,872	33,729
9-30-1981	52,887	231,512	5.0	8.6	4,378	1,843,382	34,855
9-30-1982	55,257	250,700	4.5	8.3	4,537	1,998,357	36,165
9-30-1983	57,854	273,840	4.7	9.2	4,733	2,189,263	37,841
9-30-1984	60,420	298,961	4.4	9.2	4,948	2,396,493	39,664
9-30-1985	63,184	326,691	4.6	9.3	5,170	2,644,192	41,849
9-30-1986	69,001	439,766	9.2	34.6	6,373	3,431,512	49,731
9-30-1987	73,316	500,353	6.3	13.8	6,825	4,012,058	54,723
9-30-1988	76,111	547,015	3.8	9.3	7,187	4,503,014	59,164
9-30-1989	79,917	611,424	5.0	11.8	7,651	5,196,570	65,025
9-30-1990	83,286	686,850	4.2	12.3	8,247	6,610,881	79,376
9-30-1991	86,253	749,717	3.6	9.2	8,692	7,305,158	84,695
9-30-1992	90,201	831,290	4.6	10.9	9,216	8,211,766	91,039
9-30-1993	93,574	911,686	3.7	9.7	9,743	9,177,364	97,211
9-30-1994	97,989	1,018,819	4.7	11.8	10,397	10,312,029	105,237
9-30-1995	103,151	1,141,972	5.3	12.1	11,071	11,568,988	112,156
9-30-1996	107,465	1,251,811	4.2	9.6	11,649	12,590,199	117,156
9-30-1997	111,842	1,371,479	4.1	9.6	12,263	14,302,668	127,883
9-30-1998	116,620	1,505,362	4.3	9.8	12,908	15,888,468	136,241
9-30-1999	120,913	1,639,825	3.7	8.9	13,562	17,290,954	143,003
9-30-2000	126,115	1,798,028	4.3	9.6	14,257	19,200,060	152,242
9-30-2001	130,790	1,943,444	3.7	8.1	14,859	20,943,464	160,130
9-30-2002	135,277	2,094,382	3.4	7.8	15,482	22,480,421	166,181
9-30-2003	139,814	2,251,766	3.4	7.5	16,105	24,080,074	172,229
9-30-2004	145,378	2,431,636	4.0	8.0	16,726	26,178,244	180,070
9-30-2005	151,706	2,644,700	4.4	8.8	17,433	28,046,810	184,876

¹ Prior to 1974 Detroit data as of June 30 is combined with Outstate data as of the previous December 31. ² In thousands of dollars.

Table 19

**Retirees and Beneficiaries Reported September 30, 2005
By Type of Pension**

Type of Pension	Number	Annual Pension
Age and Service		
Straight Life	68,585	\$1,130,210,414
Diminishing Refund	19	271,199
Survivor Pension - 100%	20,653	396,024,069
Survivor Pension – 50%	23,629	480,114,003
Survivor Pension – 75%	3,913	101,572,847
Soc. Sec. Equated		
- Straight Life	8,602	165,647,957
- Survivor Pension - 100%	3,421	68,052,238
- Survivor Pension – 50%	4,298	90,413,536
- Survivor Pension – 75%	444	13,986,448
Beneficiaries	<u>8,510</u>	<u>97,795,481</u>
Subtotal	142,074	\$2,544,088,192
Disability		
Duty	394	\$ 2,321,989
Non-duty Straight Life	2,996	27,089,343
Non-duty Diminishing Refund	6	32,336
Survivor Pension – 100%	1,168	11,324,335
Survivor Pension – 50%	551	5,431,643
Survivor Pension – 75%	95	1,329,698
Beneficiaries	<u>1,087</u>	<u>9,303,492</u>
Subtotal	6,297	\$ 56,832,836
Survivors of Members		
Duty	5	48,506
Non-Duty	<u>3,330</u>	<u>43,730,308</u>
Subtotal	<u>3,335</u>	<u>\$ 43,778,814</u>
Total Pensions	151,706	\$2,644,699,842

Table 20

Reconciliation of Data

	Active Participants	Vested Former Participants	Disability Annuities	Retirement Annuities	Survivor Annuities	Total
Number as of September 30, 2004	322,494	15,756	5,013	127,745	12,620	483,628
New participants	46,475	N/A	N/A	N/A	N/A	46,475
Terminations – with vested rights	(3,571)	3,571	N/A	N/A	N/A	0
Terminations – without vested rights	(42,077)	N/A	N/A	N/A	N/A	(42,077)
Retirements	(7,163)	(1,312)	0	8,475	0	0
New disabilities	(251)	(101)	352	N/A	N/A	0
Died with beneficiary	(86)	(63)	(51)	(692)	892	0
Died without beneficiary	(5)	0	(104)	(1,964)	(580)	(2,653)
Rehired	576	(576)	0	0	N/A	0
Refund of Contributions	(241)	0	0	0	N/A	(241)
Data adjustments	<u>0</u>	<u>(469)</u>	<u>0</u>	<u>0</u>	<u>0</u>	(469)
Number as of September 30, 2005	316,151	16,806	5,210	133,564	12,932	484,663

V. ACTUARIAL ASSUMPTIONS AND FUNDING METHOD

Actuarial Assumptions

To calculate System contribution requirements, assumptions are made about all of the future events that could affect the amount and timing of benefits to be paid and the assets to be accumulated. The assumptions include several economic and demographic predictions such as:

- o An assumed rate of investment return which is used to discount liabilities and project what plan assets will earn.
- o A mortality table projecting the number of employees who will die before retirement and the duration of benefit payments after retirement.
- o Assumed retirement rates projecting when employees will retire and commence receiving retirement benefits.
- o Withdrawal and disability rates to estimate the number of employees who will leave the work force before retirement.
- o Assumed rates of salary increases to project employees' compensation in future years.

Based on an actuarial experience investigation covering the period from September 30, 1997 through September 30, 2002, several changes in actuarial assumptions were first adopted for use beginning with the 2004 valuation. The actuarial assumptions used in connection with this 2005 actuarial valuation of the System are summarized in the following paragraphs

Investment Yield

Funding the System on an actuarial reserve basis involves the accumulation of substantial reserves to pay benefits in the future. These reserves are invested and the net rate of investment earnings is a major factor in determining the contributions required to support the ultimate cost of benefits.

The net rate of investment yield is comprised of imputed income at the valuation interest rate, plus a write-up (down). This write-up (down) reflects 20% of the actual investment return (including interest, dividends, and asset appreciation or depreciation, less administrative expenses) in excess of (less than) this assumption, over each year during the current year and the subsequent four-year period.

For the 2005 actuarial valuation of the System, the long-term net investment yield rate is assumed to be 8.0%. This is the same assumption used for the last several years.

The schedule below shows the approximate net investment yield rate on average total assets at actuarial value for each of the past 17 fiscal years (determined as investment income net of expenses, divided by the average actuarial value of assets during the year):

<u>Fiscal Year</u> <u>Ended September 30,</u>	<u>Net investment</u> <u>Yield rate</u>
2005	2.51%
2004	2.87
2003	3.55
2002	2.76
2001	6.35
2000	10.67
1999	9.56
1998	7.98
1997*	13.93
1996	10.99
1995	10.95
1994	8.48
1993	11.04
1992	5.16
1991	7.00
1990	6.20
1989	10.00

* Note that the above yield for 1997 excludes the additional write-up due to the resetting of actuarial value to market value as of September 30, 1997. If included, the net investment yield rate for fiscal 1997 would be 20.33% higher, or 34.26%.

Salary Increases

Because System benefits are based on a member's final average compensation, it is necessary to make an assumption with respect to the salary progression of employees in the future. The salary increase assumption used in this 2005 actuarial valuation projects annual salary increases of 3.5% representing inflation, plus a percentage based on an age-related scale to reflect merit, longevity and promotional salary increases. The current assumption was first instituted for the 2004 valuation.

The salary increase assumption projects the following salary increases for selected ages:

<u>Age</u>	<u>Assumed Percentage Increase in Salary</u>
20	15.92%
25	12.30
30	8.67
35	7.18
40	6.09
45	5.21
50	4.28
55	3.81
60	3.50
65	3.50

Unknown Data

Members with unknown sex were assumed to be female. Members with unknown dates of birth were assumed to have entry-age equal to 35 for MIP and 31 for Basic members.

Withdrawal Rates

The withdrawal rates used in an actuarial valuation project the percentage of employees at each age who are assumed to terminate employment before qualifying for retirement benefits. The withdrawal rates do not apply to members eligible to retire, and do not include separation on account of death or disability.

The assumed rates of withdrawal applied in the current valuation have been in use since the 2004 valuation:

<u>Sample Ages</u>	<u>Years of Service</u>	<u>Percent Separating Within Next Year</u>
All	0	28.00%
	1	15.00
	2	9.00
	3	7.00
	4	5.50
20	5 & Over	5.00
25		5.00
30		3.50
35		2.65
40		2.10
45		1.60
50		1.40
55		1.40
60		1.40

Disability Rates

The assumed rates of disablement (in effect since the 1998 valuation), are shown below at various ages:

<u>Sample Age</u>	<u>Percent Becoming Disabled Within Next Year</u>
20	0.00%
25	0.01
30	0.01
35	0.02
40	0.06
45	0.13
50	0.23
55	0.33
60	0.45

The mortality table currently used for disabled lives is called the Michigan 1992-1997 Disability Experience Mortality Table and is based primarily on 1992-97 MPSERS experience.

Retirement Age

A schedule of retirement rates is used to measure the probability of eligible members retiring during the next year. The following retirement rates apply to members eligible for normal retirement (*i.e.*, with an unreduced benefit):

<u>Retirement Ages</u>	<u>Basic Members</u>	<u>MIP Members</u>
46 - 49	-	40% each year
50	-	40
51	-	30
52	-	25
53	-	20
54	-	20
55	35%	20
56	18	20
57	20	20
58	20	22
59	20	24
60	22	26
61	20	22
62	35	36
63	25	25
64	23	23
65	36	36
66	25	25
67	22	22
68	22	22
69	25	25
70	25	25
71	25	25
72	25	25
73	25	25
74	25	25
75 and over	100	100

A member is eligible for retirement after attaining age 55 with 30 or more years of credited service (no age requirement for MIP members), or after attaining age 60 with 10 or more years of credited service (5 years for MIP members).

For members eligible for early retirement (*i.e.*, age 55 with 15 but less than 30 years of credited service), but not yet eligible for an unreduced retirement benefit, the following rates apply:

<u>Age</u>	<u>Basic Members</u>	<u>MIP Members</u>
55	11.50%	11.50%
56	5.50	7.00
57	6.00	7.50
58	6.00	8.50
59	7.50	9.50

The current retirement age assumption was first used for the 2004 valuation.

Mortality

In estimating the amount of the reserves required at the time of retirement to pay an employee's benefit for the remainder of his or her lifetime, it is necessary to make an assumption with respect to expected mortality after retirement. In addition, the same assumption is used to measure the probability of members dying before retirement.

The mortality table used to project the mortality experience of System members is the 1994 Group Annuity Mortality Table (in effect since 1998).

The life expectancies projected by the assumed mortality table for male and female System retirees are shown below for selected ages, along with the present value of \$1 payable monthly for life (at an 8% interest rate):

<u>Age</u>	<u>Expected Years of Life Remaining</u>		<u>Present Value of \$1 Monthly for Life</u>	
	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
50	30.73	34.92	\$135.13	\$140.82
55	26.19	30.21	127.66	134.90
60	21.86	25.62	118.28	127.10
65	17.88	21.31	107.30	117.63
70	14.33	17.34	95.23	106.61
75	11.16	13.64	81.86	93.29
80	8.41	10.35	67.67	78.48

Funding Method

Funding the System on an actuarial reserve basis seeks to achieve the following major objectives:

- o Level required contribution rates as a percentage of payroll;
- o Finance benefits earned by present employees on a current basis;
- o Accumulate assets to enhance members' benefit security;
- o Produce investment earnings on accumulated assets to help meet future benefit costs;
- o Make it possible to estimate the long-term actuarial cost of proposed amendments to System provisions; and
- o Assist in maintaining the System's long-term financial viability.

The basic funding objective is a level pattern of cost as a percentage of salary throughout an employee's working lifetime. The funding method used in this actuarial valuation - the entry age normal cost method - is intended to meet this objective and result in a relatively level long-term contribution requirement as a percentage of salary.

Under the entry age normal cost method, the total actuarially-determined contribution requirement is the sum of the normal cost and the payment required to amortize the unfunded accrued liability as a level percentage of payroll over the adopted amortization period of 40 years from October 1, 1996 (31 years remaining as of the valuation date).

Normal Cost

In general terms, the normal cost is the cost of benefit rights accruing on the basis of current service. Technically, the normal cost rate is the level percentage-of-salary contribution required each year, with respect to each employee, to accumulate over his or her projected working lifetime the reserves needed to meet the cost of earned benefits. The normal cost represents the ultimate cost of the System if the unfunded liability is paid up and the actual experience of the System conforms to the assumptions.

Normal cost contributions for death and disability benefits were determined using a one-year term cost method. This method produces contributions sufficient to fund the value of (i) disability benefits likely to be incurred during the year, and (ii) survivor benefits likely to be incurred during the year because of a member's death while employed.

Actuarial Accrued Liabilities

The total actuarial present value of future benefits is computed as the current discounted value of all benefits expected to be paid in the future to all active, retired, and inactive vested members. Subtracting the present value of future normal costs results in the actuarial accrued liability.

The total actuarial accrued liability essentially represents the amount that would have been accumulated as of September 30, 2005 if contributions sufficient to meet the normal costs of the System had been made each year in the past. If assets equaled the total accrued liability, there would be no unfunded liability and future contribution requirements would consist solely of the calculated normal cost rates.

Amortization of Unfunded Actuarial Accrued Liabilities

Unfunded actuarial accrued liabilities are amortized by level percent of payroll contributions over a 40-year period from October 1, 1996 (31 years remaining as of October 1, 2005). Active member payroll is assumed to increase 3.5% a year for the purpose of determining the level percent contributions (revised from 4.0% that applied prior to 2004). In accordance with Public Act 300 of 1980 (as amended by Public Act 143 of 1997), section 36(3), overfunding is credited to a stabilization subaccount.

VI. SUMMARY OF SYSTEM PROVISIONS

Our actuarial valuation of the System as of September 30, 2005 is based on the present provisions of the Public School Employees' Retirement Act (Act 300 of 1980, as amended).

Regular Retirement (no reduction factor for age):

Eligibility - Age 55 with 30 years credited service; or age 60 with 10 years credited service. For Member Investment Plan (MIP) members, any age with 30 years credited service; or age 60 with 10 years credited service; or age 60 with 5 years of credited service provided member worked through 60th birthday and has credited service in each of the last 5 years.

Mandatory Retirement Age - None.

Annual Amount - Total credited service times 1.5% of final average compensation.

Final Average Compensation - Average of highest 5 consecutive years. (3 years for MIP members).

Early Retirement (age reduction factor used):

Eligibility - Age 55 with 15 or more years credited service and earned credited service in each of the last 5 years.

Annual Amount - Regular retirement benefit, reduced by 1/2% for each month by which the commencement age is less than 60.

Deferred Retirement (vested benefit):

Eligibility - 10 years of credited service. Benefit commences at the time age qualification is met.

Annual Amount - Regular retirement benefit based on service and final average compensation at time of termination.

Duty Disability Retirement:

Eligibility - No age or service requirement; in receipt of workers' disability compensation.

Annual Amount - Computed as regular retirement benefit with minimum benefit based on 10 years credited service. Additional limitation such that disability benefits plus authorized outside earnings limited to 100% of final average compensation (increased by 2% each year retired).

Non-Duty Disability Retirement:

Eligibility - 10 years of credited service.

Annual Amount - Computed as regular retirement benefit based on credited service and final average compensation at time of disability. Additional limitation such that disability benefits plus authorized outside earnings limited to 100% of final average compensation (increased by 2% each year retired).

Duty Death Before Retirement:

Eligibility - No age or service requirement. Beneficiary is in receipt of workers' compensation. Also applies to "duty disability" retirees during first three years of disability.

Annual Amount - Spouse benefit computed as regular retirement benefit with minimum benefit based on ten years of credited service, reduced for 100% joint and survivor election. If no surviving spouse, children under 18 share in benefit; if no spouse or children, a disabled and dependent parent is eligible.

Non-Duty Death Before Retirement:

Eligibility - 15 years of credited service, or age 60 and 10 years of credited service. 10 years of credited service, or age 60 and 5 years of credited service for MIP members.

Annual Amount - Computed as regular retirement benefit, reduced in accordance with a 100% joint and survivor election, with payments commencing first of month following death. For the beneficiary of a deferred member, benefit commences at time member would have attained the minimum age qualification.

Post-Retirement Cost-of-Living Adjustments: One-time upward adjustments have been made in 1972, 1974, 1976, and 1977 for members retired on or after July 1, 1956 and prior to July 1, 1976 who were eligible for Social Security benefits. For members who retired prior to July 1, 1956 and not eligible for Social Security benefits based upon membership service, the minimum base pension was increased in 1965, 1971, 1972, 1974 and 1981, and in 1976 and 1977 one-time upward adjustments were made.

Beginning in 1983, eligible recipients received an annual distribution of investment earnings in excess of 8% (supplemental payment). On January 1, 1986, all members who retired prior to January 1, 1986 were given a permanent 8% increase. On January 1, 1990 a one-time upward adjustment for members who retired prior to October 1, 1981 was made.

Currently members receive annual increases based on the following schedule:

Retired before January 1, 1987 - greater of supplemental payment or automatic 3% increase.

Retired on or after January 1, 1987 under MIP - automatic 3% increases only.

Retired on or after January 1, 1987 not under MIP - supplemental payment only.

Post-Retirement Health Benefits: Members in receipt of pension benefits are eligible for fully System-paid Master Health Care Plan coverage (90% System-paid Dental Plan, Vision Plan and Hearing Plan coverage) with the following exceptions:

- 1) Members not yet eligible for Medicare coverage pay an amount equal to the Medicare Part B premiums.
- 2) Members with less than 30 years of service, who terminate employment after October 31, 1980 with vested deferred benefits, are eligible for partially System-paid health benefit coverage (no System payment if less than 21 years service).

Dependents are eligible for 90% System-paid health benefit coverage (partial System payment for dependents of deferred vested members who had 21 or more years of service).

Member Contributions:

MIP Participants hired before January 1, 1990 - 3.9% of pay

MIP Participants hired on or after January 1, 1990 - 3.0% of first \$5,000 of pay, plus 3.6% of next \$10,000 of pay, plus 4.3% pay in excess of \$15,000.

Non-MIP Participants - None

VII. ACCOUNTING INFORMATION

The Governmental Accounting Standards Board (GASB) has changed the way governmental entities account for their pension plans. The new standards, GASB Statements Nos. 25 and 27, replaced the prior reporting requirements under GASB Statement No. 5 beginning in 1998.

GASB Statement No. 25

For plan years commencing after June 15, 1996, the plan became subject to the disclosure requirements of Statement No. 25 of the Governmental Accounting Standards Board (GASB).

Statement No. 25 establishes financial reporting standards for defined benefit pension plans as they relate to the Plan's financial accounting. As used in Statement No. 25, pension benefits include retirement income as well as other types of postemployment benefits (disability, death benefits, life insurance) but exclude postemployment healthcare.

Statement No. 25 for defined benefit plans requires two plan financial statements on an accrual basis (statement of plan net assets and a statement of changes in plan net assets). The statement now requires the fair value of assets for those financial statements where previously cost or amortized cost could be used.

Statement No. 25 also requires notes to the Financial Statements including plan description, classes of employees covered, brief description of benefit provisions and a summary of significant accounting policies (including funding policy).

Also required (after the notes) is supplementary information ("Required Supplementary Information") including a schedule of funding progress and a schedule of employer contributions. The actuarial information to be shown must be determined under certain parameters. These parameters are the same as those required under GASB Statement No. 27, and are summarized below:

Actuarial Valuations: Must occur at least every two years and the results must be applied within 12 months (24 months for biennial valuations) for plans and 24 months for employers.

Actuarial Assumptions: Best estimate of individual assumptions and consistency of all assumptions. Investment return assumption (discount rate) based on estimated long-term investment yield for plan.

Actuarial Cost Method: Entry age, frozen entry age, attained age, frozen attained age, aggregate or projected unit credit are acceptable.

Actuarial Value of Assets: Market-related.

Annual Required Contributions of Employers: Must include normal (current service) cost and amortization of the plan's total unfunded actuarial liability (UAL).

Amortization Period: Periods of up to 40 years will be acceptable for the first 10 years after the effective date of Statement No. 25. After that, periods cannot exceed 30 years. Significant decreases in UAL caused by changing actuarial methods must be amortized over at least 10 years.

Amortization Method: Level dollar or level percentage of projected payroll, open or closed basis.

It is important to note that GASB Statement No. 25 eliminates the need to report actuarial accrued liabilities on a standardized basis (*i.e.*, pension benefit obligation) and instead substitutes all actuarially determined information based on the plan's funding method (*e.g.*, Entry Age Normal Actuarial Cost for the Michigan Public School Employees' Retirement System).

Paragraph 39 states that the required "Schedules of Funding Progress" and "Employer Contributions" should include information for the current year and as many of the prior years as information, according to the parameters, is available.

The "Schedule of Funding Progress" is presented in Table 6, which appears in Section II.

The "Schedule of Employer Contributions" is presented in Table 4, which also appears in Section II. Each applicable computed contribution (or the annual required contribution) is

based on the actuarial valuation for that year. Actual contributions shown are based on data provided by the System.

Additional “Required Supplementary Information” is shown in Table 21.

GASB Statement No. 27

GASB Statement No. 27 establishes the standards of accounting and financial reporting for pension expenditures/expense and related pension liabilities, pension assets, note disclosures and required supplementary information in the financial reports of governmental employers. (The financial reporting for the pension trust funds is covered by GASB Statement No. 25 as described above.)

GASB Statement No. 27 does not mandate or require the employer to fund (contribute) any specific amount. Rather it determines the standards (parameters) to be used for the purpose of expensing the cost of pension benefits on the employer’s financial statements. To the extent that an employer wants to fund (contribute) the same amount that it expenses, the amount contributed must be determined under certain parameters. When the funding methods and assumptions meet the parameters, the same methods and assumptions are used for both funding and expensing (accounting). If they do not, the employer/entity must choose between making two calculations at each actuarial valuation - one for funding and one for accounting - or modifying the funding approach to meet the parameters. Using different methods for accounting and funding may result in increasing employer liabilities (Net Pension Obligation).

Statement No. 27 uses some new terms, including:

Net Pension Obligation (NPO) - Represents the employer’s transition obligation/asset for past underfunding/overfunding of contribution amounts compared to those actuarially determined. After the effective date of Statement No. 27, it will include the cumulative difference between annual pension expense and the employer’s contributions.

It is our understanding that the System is considered a cost-sharing multiple-employer plan for purposes of Statement No. 27.

The NPO at transition of a cost-sharing employer is equal to the employer's contractually required contributions that are due and payable at the effective date and pension-related debt, if applicable. Each employer contributing to the System will need to determine their NPO at transition based on the preceding.

Actuarial Required Contribution (ARC) - Represents the contribution amount that can also be used for purposes of reporting annual pension expense/accounting. Employers that participate in a cost-sharing multiple-employer plan (such as the System) report, for annual pension expense/accounting purposes, an amount equal to their contractually required contributions to the Plan.

Table 21

Required Supplementary Information
- GASB Statement Nos. 25 and 27

Valuation date	9/30/2005
Actuarial cost method	Entry Age Normal
Amortization method	Level Percent, Closed
Remaining amortization period	31 Years
Asset valuation method	5-Year Smoothed Market Value
Actuarial assumptions:	
Investment rate of return	8.00%
Projected salary increases	3.50%-15.92%
Cost-of-living adjustments	3% Annual Non-Compounded for MIP Members

March, 2006

MICHIGAN PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

Actuarial Valuation Statement

This is to certify that we have prepared an actuarial valuation of the Michigan Public School Employees' Retirement System (the "System") as of September 30, 2005, recognizing the present provisions of Public Act No. 300 of 1980 (as amended).

Actuarial calculations were made with respect to a total of 484,663 System members: 316,151 active members, 16,806 members with vested rights to a deferred pension; and 151,706 retirees and surviving beneficiaries.

The actuarial cost factors for pension benefits for System members are as follows:

	<u>Current Assumptions</u>
1. Actuarial accrued liability	
Active employees	\$19,135,944,796
Inactive vested members	1,023,538,604
Retirees and surviving beneficiaries	<u>28,046,809,466</u>
Total	48,206,292,866
2. Assets at actuarial value (\$39,216,068,515 at market value)	38,211,008,964
3. Unfunded (overfunded) actuarial accrued liability* = [item (1) - item 2)]	9,995,283,902
4. Payment required to amortize unfunded actuarial accrued liability over 31 years as a level percentage of payroll = 0.05809114 x (3)	580,637,436
5. Normal cost — total	983,075,457
Employer share	581,205,803
Expected employee contributions (under MIP plan)	401,869,654
6. Total cost = (4) + (5)	1,563,712,893
7. Total payroll	10,205,972,353
8. Normal cost as a percentage of projected payroll - total	9.63%
Employer share	5.69%
Employee share	3.94%
9. Payment required to amortize unfunded actuarial accrued liability as a percentage of payroll	5.69%
10. Total cost = (8) + (9)	15.32%
11. Member portion	3.94%
12. Total employer cost = (10) - (11)	11.38%

* Under Public Act 300 of 1980 (as amended by Public Act 143 of 1997), Section 36(3), overfunding is credited to a stabilization subaccount.

MICHIGAN PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

Actuarial Valuation - 2 -

The actuarial assumptions used in the September 30, 2005 actuarial valuation are summarized below:

Interest Rate: 8%

Salary Scale:

3.50% per year, plus percentage based on age-related scale. Projected increases at selected ages are: 12.30% at 25, 8.67% at 30, 7.18% at 35, 6.09% at 40, 5.21% at 45, 4.28% at 50, 3.81% at 55, and 3.50% at 60 and over.

Retirement Ages

**Percentage of Eligible Members
Retiring Within the Coming Year**

<u>Retirement Ages</u>	<u>Basic Members</u>	<u>MIP Members</u>
46 - 49	-	40% each year
50	-	40
51	-	30
52	-	25
53	-	20
54	-	20
55	35%	20
56	18	20
57	20	20
58	20	22
59	20	24
60	22	26
61	20	22
62	35	36
63	25	25
64	23	23
65	36	36
66	25	25
67	22	22
68	22	22
69	25	25
70	25	25
71	25	25
72	25	25
73	25	25
74	25	25
75 and over	100	100

MICHIGAN PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

Actuarial Valuation - 3 -

A member was assumed to be eligible for retirement after attaining age 55 with 30 or more years of credited service (no age requirement for MIP members), or after attaining age 60 with 10 or more years of service (5 years for MIP members).

For members eligible for early retirement (i.e., age 55 with 15 but less than 30 years of credited service), but not yet eligible for an unreduced retirement benefit, the following rates apply:

<u>Age</u>	<u>Basic Members</u>	<u>MIP Members</u>
55	11.50%	11.50%
56	5.50	7.00
57	6.00	7.50
58	6.00	8.50
59	7.50	9.50

Termination Rates Before Retirement

<u>Sample Ages</u>	<u>Years of Service</u>	<u>Percent Separating Within Next Year</u>
All	0	28.00%
	1	15.00
	2	9.00
	3	7.00
	4	5.50
20	5 & Over	5.00
25		5.00
30		3.50
35		2.65
40		2.10
45		1.60
50		1.40
55		1.40
60		1.40

MICHIGAN PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

Actuarial Valuation - 4 -

Disability Rates:

<u>Sample Age</u>	<u>Percent Becoming Disabled Within Next Year</u>
20	0.00%
25	0.01
30	0.01
35	0.02
40	0.06
45	0.13
50	0.23
55	0.33
60	0.45

The mortality table used for disabled lives is the Michigan 1992-1997 Disability Experience Mortality Table.

Mortality Rates:

In accordance with the 1994 Group Annuity Mortality Table.

Credited Service Earned

Members are assumed to earn .92 years of credited service each year.

The actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, and were based on the actuarial assumptions adopted by the Board of Trustees upon the recommendation of the actuary.

Michael Karlin, F.S.A., M.A.A.A.
Senior Vice President and Actuary

APPENDIX:

ACTUARIAL CERTIFICATION STATEMENT

MPSERS