GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

CHARTER TOWNSHIP OF YPSILANTI
POLICE AND FIREFIGHTER'S RETIREMENT SYSTEM
FORTY-SEVENTH ANNUAL ACTUARIAL VALUATION REPORT
DECEMBER 31, 2010

OUTLINE OF CONTENTS

April 29, 2011

The Retirement Board
Charter Township of Ypsilanti
Police and Firefighter's Retirement System
7200 South Huron River Drive
Ypsilanti, Michigan 48197

Dear Board Members:

Submitted in this report are the results of the Forty-Seventh Annual Actuarial Valuation of the assets, actuarial values and contribution requirements associated with benefits provided by the Charter Township of Ypsilanti Police and Firefighter's Retirement System, which is based on Act No. 345 of the Public Acts of 1937, as amended.

The date of the valuation was December 31, 2010.

Valuation results and conclusions are contained in Section A.

The valuation was based upon information, furnished by the Township Treasurer, concerning Retirement System benefits, financial transactions, and individual members, terminated members, retirees and beneficiaries. Data was checked for year-to-year consistency, but was not otherwise audited by us. This information is summarized in Section B.

Descriptions of the actuarial cost methods and actuarial assumptions are contained in Section C, along with a glossary of technical terms.

This report has been prepared by an actuary who has substantial experience valuing public employee retirement systems. To the best of our knowledge, this report is complete and accurate and was made in accordance with standards of practice promulgated by the Actuarial Standards Board of the American Academy of Actuaries. The actuarial assumptions used for the valuation are reasonable individually and in the aggregate.

The undersigned are Members of the American Academy of Actuaries (MAAA) as indicated, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,

David T. Kausch, FSA, EA, MAAA Curtis Powell, ASA, EA, MAAA

RJD:bd

SECTION A

PENSION VALUATION RESULTS, COMMENTS, AND CONCLUSION

FINANCIAL OBJECTIVE

The financial objective of the Retirement System is to establish and receive contributions, expressed as percents of active member payroll, which will remain approximately level from year-to-year and will not have to be increased for future generations of citizens. This objective meets the requirements of Act No. 345 of the Public Acts of 1937, as amended, and the Michigan Constitution.

CONTRIBUTION RATES

The Retirement System is supported by member contributions, Township contributions and investment income from Retirement System assets.

Contributions which satisfy the financial objective are determined by an annual actuarial valuation and are sufficient to:

(1) cover the actuarial present value of benefits assigned to the current year by the actuarial cost methods described in Section C (the normal cost); and

(2) amortize over a period of future years the actuarial present value of benefits not covered by valuation assets and anticipated future normal costs (unfunded actuarial accrued liability).

Contribution requirements for the fiscal year beginning January 1, 2012 are shown on page A-2 for pensions.

CONTRIBUTIONS COMPUTED TO MEET THE FINANCIAL OBJECTIVE OF THE RETIREMENT SYSTEM FOR THE FISCAL YEAR BEGINNING JANUARY 1, 2012

Contributions for	Contributions for Pensions Expressed as Percents of Payroll
Normal Cost	
Age & service benefits	21.44 %
Death and disability benefits	1.81
Termination benefits	
Deferred age & service benefits	0.71
Refunds of member contributions	0.32
Total Normal Cost	24.28
Amortization Payment	
Retired members and beneficiaries	0.00
Active and vested terminated members	5.50
Total Amortization Payment	5.50
Temporary Funding Credit	0.00
Total Contribution Requirement	29.78 %
Member portion	6.00 %
Township's Required Employer Contribution	23.78 %

Unfunded actuarial accrued liabilities (or surpluses) were amortized as a level percent of active member payroll over a period of 15 years. The characteristics of this method of amortizing unfunded actuarial accrued liabilities are illustrated on page C-6.

Procedures for determining dollar contribution amounts are described on page A-3.

Comparative contribution amounts for prior fiscal years are shown on page A-7.

DETERMINING DOLLAR CONTRIBUTIONS

For any period of time, the percent-of-payroll contribution rate needs to be converted to dollar amounts. We recommend one of the following procedures:

(1) Contribute dollar amounts at the end of each payroll period which are equal to the Township's percent-of-payroll contribution requirement, 23.78%, multiplied by the covered active member payroll for the period. Adjustments should be made as necessary to exclude items of pay that are not covered compensation for Retirement System benefits and to include special payments that are covered compensation.

(2) Contribute $472,337 in approximately equal installments during the fiscal year beginning January 1, 2012. This dollar amount was derived by multiplying the percent-of-payroll contribution requirement, 23.78%, by the December 31, 2010 valuation payroll including estimated payroll for DROP members, $1,879,944, projected to the fiscal year beginning January 1, 2012. The projection factor is equal to 1.0565629 (1.045^1.25).

FINANCIAL OBJECTIVE ACHIEVEMENT TESTS

The Retirement System's financial objective is to meet long-term benefit promises through contributions that remain approximately level from year-to-year as a percent of active member payroll. If the contributions to the System are level in concept and soundly executed, the System will ***pay all promised benefits when due -- the ultimate test of financial soundness***. Testing for level contribution rates is ***the long-term solvency test***. Year by year computed contribution rates are displayed on page A-7.

There is no single all-encompassing test to measure a Retirement System's funding progress and current funded status. Measures based on the actuarial accrued liability are shown on page A-5, and are described below.

The ratio of valuation assets to the actuarial accrued liability - The ratio is expected to gradually move toward 100% in the absence of benefit changes and changes in actuarial assumptions.

The ratio of the unfunded actuarial accrued liability to member payroll. In a soundly financed retirement system, the amount of the unfunded actuarial accrued liability will be controlled and prevented from increasing in the absence of benefit changes or strengthening of actuarial assumptions. However, in an inflationary environment it is seldom practical to impose this control on dollar amounts which are depreciating in value. The ratio is a relative index of condition where inflation is present in both items. The ratio is expected to gradually decrease in the absence of benefit changes and changes in actuarial assumptions.

FINANCIAL OBJECTIVE ACHIEVEMENT TESTS - COMPARATIVE STATEMENT

Valuation Date December 31,	(1) Valuation Assets	(2) Member Payroll	(3) Actuarial Accrued Liability**	Funded Ratio (1) / (3)	Unfunded Accrued Liability** (4) Dollars (3) - (1)	Unfunded Accrued Liability** % of Payroll (4) / (2)
1985	$ 5,368,893	$ 1,085,094	$ 6,907,882	77.7 %	$ 1,538,989	141.8 %
1990	9,989,626	1,289,090	9,748,955	102.5	(240,671)	-
1995	14,957,910	1,463,341	10,935,241	136.8	(4,022,669)	-
1996	15,848,190	1,637,213	11,527,495	137.5	(4,320,695)	-
1997	17,102,734	1,660,635	11,858,802	144.2	(5,243,932)	-
1998	18,868,177	1,658,459	12,486,609	151.1	(6,381,568)	-
1999 #	20,704,196	1,862,245	14,433,723	143.4	(6,270,473)	-
2000	22,122,513	1,850,554	15,010,643	147.4	(7,111,870)	-
2001	23,036,055	1,972,538	15,848,237	145.4	(7,187,818)	-
2002	23,738,457	1,977,181	16,957,687	140.0	(6,780,770)	-
2003	23,632,588	2,143,204	18,055,207	130.9	(5,577,381)	-
2004	23,815,715	2,274,281	19,060,810	124.9	(4,754,905)	-
2005 @#	24,105,951	2,449,553	20,780,318	116.0	(3,325,633)	-
2006	25,338,997	2,422,211	21,766,018	116.4	(3,572,979)	-
2007	27,173,331	2,752,251	23,911,443	113.6	(3,261,888)	-
2008	27,097,583	2,641,821	24,935,159	108.7	(2,162,424)	-
2009 @	27,211,032	2,669,178	26,117,456	**104.2**	**(1,093,576)**	-
2010	27,042,094	2,524,741 Est.	26,282,475	**102.9**	**(759,619)**	-
2010 #	**27,042,094**	**1,879,944**	**28,278,783**	**95.6**	**1,236,689**	**65.8**

@ After changes in actuarial assumptions or methods.
 # After changes in benefit provisions.
*** Prior to the 1998 valuation, the present value of credited projected benefits, and the unfunded present value, are reported.*

The Short Condition Test is another way of looking at a system's progress under its funding program - based on the actuarial accrued liability. In a short condition test, the plan's valuation assets are compared with: 1) active member contributions on deposit; 2) the liabilities for future benefits to present retired lives; 3) the liabilities allocated to service already rendered by active members. In a system that has been following the discipline of level percent-of-payroll financing, the liabilities for active member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by valuation assets (except in rare circumstances). In addition, the liabilities assigned to service already rendered by active members (liability 3) will be partially covered by the remainder of valuation assets. The larger the funded portion of liability 3, the stronger the condition of the system. Liability 3 being fully funded is not necessarily the by-product of level percent-of-payroll funding methods.

The schedule below illustrates the history of liabilities 1, 2 and 3.

Short Condition Test
Comparative Statement

Val. Date Dec. 31,	Actuarial Accrued Liability** (1) Active Member Contr.	(2) Retirants and Benef.	(3) Active Members (Employer Financed Portion)	Valuation Assets	Portion of Accrued Liability Covered by Assets (1)	(2)	(3)
1985	$ 454,201	$ 2,853,202	$ 3,600,479	$ 5,368,893	100 %	100 %	57 %
1990	461,893	6,261,508	3,025,554	9,989,626	100	100	108
1995	559,516	7,435,931	2,939,794	14,957,910	100	100	237
1996	640,891	7,322,395	3,564,209	15,848,190	100	100	221
1997	667,854	7,538,647	3,652,301	17,102,734	100	100	244
1998	704,067	7,852,791	3,929,751	18,868,177	100	100	262
1999 #	811,934	7,860,968	5,760,821	20,704,196	100	100	209
2000	922,965	7,633,537	6,454,141	22,122,513	100	100	210
2001	931,809	8,521,338	6,395,090	23,036,055	100	100	212
2002	954,723	9,585,777	6,417,187	23,738,457	100	100	206
2003	1,027,138	10,003,549	7,024,520	23,632,588	100	100	179
2004	1,165,972	9,891,884	8,002,954	23,815,715	100	100	159
2005 @#	1,272,365	10,771,503	8,736,450	24,105,951	100	100	138
2006	1,377,974	11,278,705	9,109,339	25,338,997	100	100	139
2007	1,568,703	10,959,266	11,383,474	27,173,331	100	100	129
2008	1,680,491	11,332,133	11,922,535	27,097,583	100	100	118
2009 @	1,641,145	13,081,874	11,394,437	27,211,032	100	100	110
2010	1,684,853	13,539,704	11,057,918	27,042,094	100	100	107
2010 #	**1,175,561**	**20,118,278**	**6,984,944**	**27,042,094**	**100**	**100**	**82**

@ After changes in actuarial assumptions or methods.
 # After changes in benefit provisions.
*** Prior to the 1998 valuation, the present value of credited projected benefits is shown.*

COMPUTED AND ACTUAL TOWNSHIP CONTRIBUTIONS
COMPARATIVE STATEMENT

Fiscal Year Beg. January 1,	Valuation Date December 31,	Valuation Payroll	Fiscal Year Contributions		
			Computed % of Pay Contrib.	Computed Dollar Contrib. *	Actual Dollar Contrib. &
1982	1980	$ 841,059	33.85 %	$ 284,698	$ 280,163
1987	1985	1,085,094	28.39	329,381	326,157
1992	1990	1,289,090	21.69	298,957	378,366
1993	1991	1,213,163	16.44	213,249	259,668
1994	1992	1,348,350	11.43	164,784	221,271
1995	1993	1,444,603	9.54	147,354	150,789
1996	1994	1,431,926	8.11	124,167	129,642
1997	1995	1,463,341	3.01	47,095	49,162
1998	1996	1,637,213	2.33	40,787	47,609
1999	1997	1,660,635	0	0	0
2000	1998	1,658,459	0	0	0
2001	1999 #^	1,862,245	0	0	0
2002	2000	1,850,554	0	0	0
2003	2001	1,972,538	0	0	0
2004	2002	1,977,181	0	0	0
2005	2003	2,143,204	0	0	0
2006	2004	2,274,281	2.99	72,708	72,708
2007	2005 @#	2,449,553	5.79	149,851	149,851
2008	2006	2,422,211	4.85	124,122	136,559
2009	2007	2,752,251	7.97	231,762	231,762
2010	2008	2,641,821	10.91	304,525	304,525
2011	2009 @	2,669,178	14.96	421,895	
2012	2010	2,524,741 Est.	15.94	425,207	
2012	**2010 #**	**1,879,944**	**23.78**	**472,337**	

@ After changes in actuarial assumptions or methods.

 # After changes in benefit provisions.

^ The change in benefit provisions increased contributions by 4.00% of payroll. The remaining funding credit offset the additional cost of the benefit increases.

** Includes payroll projection factor beginning with the 1981 valuation. The current projection factor is 1.0565629.*

& Prior to 1994 fiscal year actual contribution equals total Township contribution less amounts paid for post-retirement health insurance benefits.

COMMENTS AND CONCLUSION

Comment A: After taking the 2010 Early Retirement Incentive into account, the overall actuarial experience for the year ended December 31, 2010 was less favorable than anticipated, as illustrated in the gain/loss derivation on page A-10. Actuarial/economic gains occurred in the following experience areas:

- lower than expected salary increases
- retired life mortality

Actuarial/economic losses occurred in the following experience area:

- investment return (on a funding value basis), the return on a market value basis was nearly 12%.

Comment B: The computed Township contribution rate increased to 23.78%. Computed actuarial accrued liabilities as of the valuation date exceed valuation assets by $1,236,689. Market experience in 2010 and 2009 was better than expected, but 2008 market losses are still affecting the valuation asset rate of return negatively. For reference, the employer contribution rate would have been approximately 32% of payroll, if valuation assets were set to market value for this valuation. This means we expect the contribution rate to approach 32% of payroll over the next few years (assuming 7.5% annual rate of return). Note the long-term employer expected contribution rate is 18.28%, the normal cost.

Comment C: We have included a load to estimate the effect of lump sum payments in the Average Final Compensation calculations. This adjustment increased the actuarial accrued liability by $353,045 and the employer contribution rate by 2.59% of payroll. The appropriate load was determined from historical data supplied by the Township. We will monitor this experience from year to year. Please see page B-10 for details.

Comment D: As a result of the 2010 Early Retirement Incentive, the ratio of active to retirement member decrease from 0.7 last year to 0.4 this year. This is an indication of a super mature plan and is expected to persist for several years. Super mature plans may have large changes in contribution rates from year to year because payroll is small relative to the actuarial accrued liability.

State Economic and Legislative Climate: Earlier this year the State of Michigan passed Public Act 4 (PA 4) granting certain powers to State appointed emergency financial managers. Sec. 19.(1)(m) of PA 4 applies to public employee retirement systems under 80% funded in municipalities with an emergency financial manger. As of December 31, 1010, the Charter Township of Ypsilanti Police and Firefighter's Retirement System was 95.6% funded based on the funding value of assets and 89.0% on a market value of assets.

In addition, the Governor has proposed certain requirements for municipalities to receive state revenue sharing included recommending that defined benefit plans be closed to new hires and newly hired employees be put into a defined contribution of hybrid plan. It is important to note that if an underfunded retirement system is closed to new hires, then the method sued to amortize the unfunded actuarial accrued liability must be changed to reflect the declining payroll of the closed group of active members. This means that short-term contributions to the retirement system will have to increase to pay off the unfunded more quickly, in addition to new contributions that would be required to fund any defined contribution plan.

Conclusion: The Township's contribution (member contributions are additional) to the Retirement System, for the fiscal year beginning January 1, 2012, has been computed to be 23.78% of active member payroll or $472,337. Contributing this amount conforms to the requirements of PA 728 of 2003.

ACTUARIAL BALANCE SHEET - DECEMBER 31, 2010

Present Resources and Expected Future Resources

A. Valuation assets:	
1. Net assets(market value)	$25,178,772
2. Valuation adjustment	1,863,322
3. Valuation assets	27,042,094
B. Actuarial present value of expected future employer contributions:	
1. For normal costs	2,733,489
2. For unfunded actuarial accrued liabilities	1,236,689
3. Total	3,970,178
C. Actuarial present value of expected future member contributions	899,191
D. Total Actuarial Present Value of Present and Expected Future Resources	$31,911,463

Actuarial Present Value of Expected Future Benefit Payments and Reserves

A. To retirants and beneficiaries	$20,118,278
B. To vested terminated members	0
C. To present active members:	
1. Allocated to service rendered prior to valuation date	8,160,505
2. Allocated to service likely to be rendered after valuation date	3,632,680
3. Total	11,793,185
D. Total Actuarial Present Value of Expected Future Benefit Payments	31,911,463
E. Reserves:	
1. Allocated to retirants and beneficiaries	none
2. Unallocated investment income	none
3. Total	none
F. Total Actuarial Present Value of Expected Future Benefit Payments and Reserves	$31,911,463

DERIVATION OF ACTUARIAL GAIN (LOSS)
YEAR ENDED DECEMBER 31, 2010

The actuarial gains or losses realized in the operation of the Retirement System provide an experience test. Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is expected that gains and losses will cancel each other over a period of years, but sizeable year-to-year fluctuations are common. Detail on the derivation of the actuarial gain (loss) is shown below, along with a year-by-year comparative schedule.

(1)	UAAL* at start of year	$ (1,093,576)
(2)	Township normal cost from last valuation	490,862
(3)	Actual Township contributions for pensions	304,525
(4)	Interest accrual: (1) x .075 + [(2) - (3)] x .0375	(75,031)
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	(982,270)
(6)	Change from benefit changes	1,996,308
(7)	Change from revised actuarial assumptions/methods	none
(8)	Expected UAAL after changes: (5) + (6) + (7)	1,014,038
(9)	Actual UAAL at end of year	1,236,689
(10)	Gain (loss): (8) - (9)	(222,651)
(11)	Gain (loss) as percent of actuarial accrued liabilities at start of year ($26,117,456)	(0.9%)

Year Ended December 31,	Actuarial Gain (Loss) As % of Beginning Accrued Liabilities
2001	0.4 %
2002	(8.6)
2003	(6.8)
2004	(4.4)
2005	(5.4)
2006	1.7
2007	(1.4)
2008	(4.1)
2009	(1.6)
2010	**(0.9)**

* *Unfunded actuarial accrued liability.*

SECTION B

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

BRIEF SUMMARY OF ACT 345 BENEFIT CONDITIONS EVALUATED (DECEMBER 31, 2010)

Eligibility	*Amount*
SERVICE RETIREMENT	
25 or more years of service regardless of age or age 60 regardless of service. Military service prior to employment may be purchased.	Straight life pension equals 3.0% of 3-year average final compensation (AFC) times first 25 years of service plus 1% of AFC times years of service in excess of 25 years.
DEFERRED RETIREMENT	
10 or more years of service.	Computed as service retirement but based upon service, AFC and benefit in effect at termination. Benefit begins at date retirement would have occurred had member remained in employment.
DEATH AFTER RETIREMENT SURVIVOR'S PENSION	
Payable to a surviving spouse, if any, upon the death of a retired member who was receiving a straight life pension which was effective July 1, 1975 or later.	Spouse's pension equals 60% of the straight life pension the deceased retiree was receiving.
NON-DUTY DEATH-IN-SERVICE SURVIVOR'S PENSION	
Payable to a surviving spouse, if any, upon the death of a member with 20 or more years of service.	Accrued straight life pension actuarially reduced in accordance with an Option I election.
DUTY DEATH-IN-SERVICE SURVIVOR'S PENSION	
Payable upon the expiration of worker's compensation to the survivors of a member who died in the line of duty.	Same amount that was paid by worker's compensation.
NON-DUTY DISABILITY	
Payable upon the total and permanent disability of a member with 5 or more years of service.	To Age 55: 1.5% of AFC times years of service.
DUTY DISABILITY	
Payable upon the total and permanent disability of a member in the line of duty.	To Age 55: 50% of AFC. At Age 55: Same as Service Retirement Pension with service credit from date of disability to age 55.
DEFERRED RETIREMENT OPTION PLAN (DROP)	
Same as Normal Retirement.	Member's accrued benefit at the date of election to participate in DROP. Maximum DROP period is 5 years. Member contributions cease upon entering DROP. DROP account balances earn interest at 5% per year.
MEMBER CONTRIBUTIONS	
	7% of pay. (6% directed to the Pension Fund and 1% to the Health Care Fund)

REPORTED FUND BALANCE (MARKET VALUE)

Reserves	Reported Fund Balance Dec. 31, # 2010	2009
Reserve for Employees' Contributions	$ 1,175,561	$ 1,641,145
Reserve for Employer Contributions	3,884,933	8,798,167
Reserve for Retired Benefit Payments	20,118,278	13,081,874
Reserve for Health Benefits	-	-
Reserve for Undistributed Investment Income	none	none
Total Fund Balance	**$25,178,772**	**$23,521,186**

 # Allocated by the actuary.

Valuation assets were equal to reported cost value of assets as of December 31, 1986. Then existing unrealized appreciation, and all subsequent capital value changes, were recognized over a 5-year period. Due to the change to market value accounting, beginning with the December 31, 1998 actuarial valuation, the method was modified to fully reflect the projected investment income (7.5% assumption) and spread over 5 years any differences between actual and projected investment income. See pages B-3 to B-5 for details on the asset valuation method.

In financing actuarial accrued liabilities, valuation assets of $27,042,094 were distributed as follows:

Reserves for	Valuation Assets Applied to Actuarial Accrued Liabilities for # Active Members	Retirants & Beneficiaries	Contingency Reserve	Totals
Employees' Contributions	$ 1,175,561			$ 1,175,561
Employer Contributions	3,884,933			3,884,933
Retired Benefit Payments		$ 20,118,278		20,118,278
Undistributed Investment Income				-
Valuation Asset Adjustment	1,863,322			1,863,322
Total	**$ 6,923,816**	**$ 20,118,278**	**$ -**	**$ 27,042,094**

 # Allocated by the actuary.

DERIVATION OF VALUATION ASSETS
MARKET VALUE WITH 20% RECOGNITION OF CAPITAL VALUE CHANGES

	Year Ended December 31,						
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
A. Funding Value Beginning of Year	$27,173,331	$27,097,583	$27,211,032				
B. Market Value End of Year	20,502,714	23,521,186	25,178,772				
C. Market Value Beginning of Year	27,321,607	20,502,714	23,521,186				
D. Non-Investment Net Cash Flow	(720,453)	(744,267)	(1,064,319)				
E. Investment Return							
E1. Market Total: B-C-D	(6,098,440)	3,762,739	2,721,905				
E2. Assumed Rate	7.50%	7.50%	7.50%				
E3. Amount for Immediate Recognition	2,011,308	2,004,745	2,001,396				
E4. Amount for Phased-In Recognition	(8,109,748)	1,757,994	720,509				
F. Phased-In Recognition of Investment Return							
F1. Current Year: 0.2 x E4	(1,621,950)	$351,599	144,102				
F2. First Prior Year	(250,627)	(1,621,950)	351,599	$ 144,102			
F3. Second Prior Year	270,860	(250,627)	(1,621,950)	351,599	$144,102		
F4. Third Prior Year	103,089	270,860	(250,627)	(1,621,950)	351,599	$144,102	
F5. Fourth Prior Year	132,025	103,089	270,861	(250,627)	(1,621,948)	351,598	$144,101
F6. Total Recognized Investment Gain	(1,366,603)	(1,147,029)	(1,106,015)	(1,376,876)	(1,126,247)	495,700	144,101
G. Funding Value End of Year: A+D+E3+F6	27,097,583	27,211,032	27,042,094				
H. Difference Between Market & Funding Value	(6,594,869)	(3,689,846)	(1,863,322)				
I. Recognized Rate of Return	2.40%	3.21%	3.36%				
J. Ratio of Funding Value to Market Value	132.2%	115.7%	107.4%				

SUMMARY OF
CURRENT ASSET INFORMATION
MARKET VALUE REPORTED FOR VALUATION

ASSETS

	December 31,	
	2010	**2009**
Cash & equivalents	$ 1,956,964	$ 550,914
Receivables & accruals	92,015	75,824
Stocks	14,674,600	12,879,719
Bonds and notes	8,481,734	10,042,371
Total Assets	25,205,313	23,548,828
Less accounts payable	26,541	27,642
Net Assets Available for Benefits	**$25,178,772**	**$23,521,186**

REVENUES AND EXPENSES

	2010	**2009**
Balance - January 1, 2010	$23,521,186	$20,502,714
Revenues		
Employees' contributions	179,706	179,048
Township contributions	304,525	231,762
Investment income	2,833,755	3,866,041
Miscellaneous income	0	0
Expenses		
Benefit payments	1,548,550	1,155,077
Health insurance premiums for retired members	0	0
Refunds of member contributions	0	0
Investment & Administrative expenses	111,850	103,302
Balance - December 31, 2010	$25,178,772	$23,521,186
Approximate Market Value Rate of Investment Return (net of expenses)	11.8%	18.7%

ASSET INFORMATION REPORTED FOR VALUATION
COMPARATIVE STATEMENT

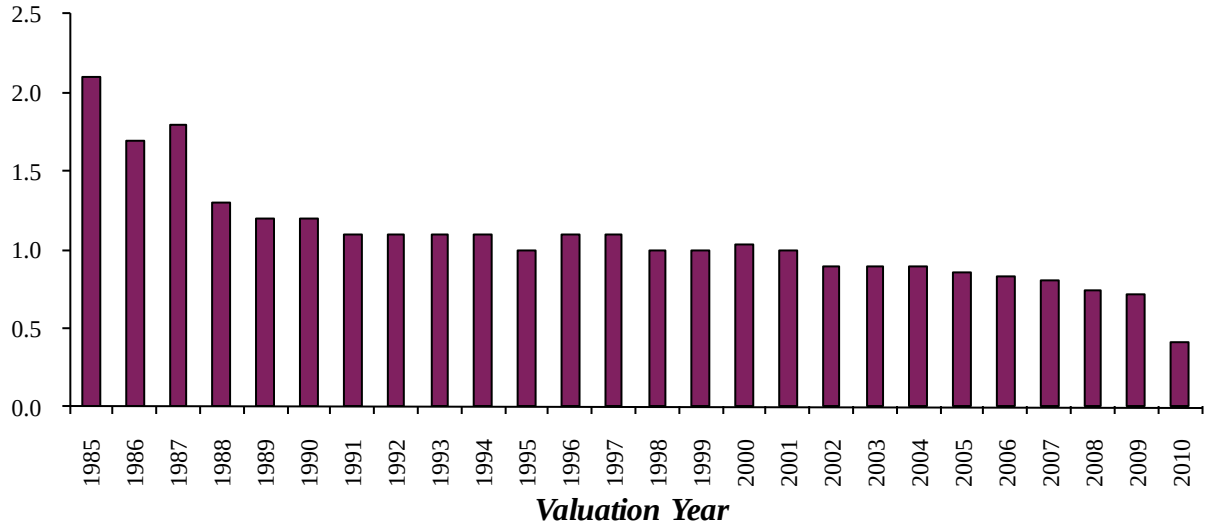
Year Ended Dec. 31,	Assets Beginning of Year	Revenues				Expenses				Assets Year-End
		Employee Contrib.	Employer Contrib.	Investment Income	Misc. Income	Retirement Benefits	Health Insur.	Contrib. Refunds	Admin. Expenses	
1980	$ 2,469,758	$ 48,578	$ 178,127	$ 204,844	$ 0	$ 58,962	$ 0	$0	$ 0	$ 2,842,345
1985	4,896,140	55,984	338,636	366,461	0	218,136	43,671	0	26,521	5,368,893
1990	9,643,810	68,764	497,909	885,128	0	471,270	76,406	0	52,412	10,495,523
1991	10,495,523	69,607	566,160	902,680	0	547,713	102,546	0	58,367	11,325,344
1992	11,325,344	68,796	509,509	1,273,791	0	666,745	131,143	0	46,407	12,333,145
1993	12,333,145	64,889	409,428	1,555,700	0	690,711	149,760	0	68,922	13,453,769
1994	13,453,769	76,922	497,350	917,685	0	717,385	147,991	0	83,025	13,997,325
1995	13,997,325	79,421	379,629	1,358,601	0	707,812	152,876	0	75,763	14,878,525
1996	14,878,525	81,376	355,183	1,393,736	4,638	680,326	154,838	0	89,013	15,789,281
1997	15,789,281	80,447	280,446	1,871,392	0	714,322	161,976	0	103,280	17,041,988
1998	17,041,988	80,538	297,187	2,134,080	3,859,107 #	726,604	164,999	0	90,667	22,430,630
1999	22,430,630	94,445	343,290	574,748	0	732,289	188,492	896	0	22,521,436
2000	22,521,436	137,371	354,234	1,009,594	0	771,895	223,945	0	0	23,026,795
2001	23,026,795	42,757	276,474	363,269	655	801,930	263,392	0	141,385	22,503,243
2002	22,503,243	0	0	(1,597,831)	0	889,301	0	0	144,463	19,871,648
2003	19,871,648	0	0	3,807,088	0	945,112	0	0	147,191	22,586,433
2004	22,586,433	33,977	0	2,442,044	0	967,718	0	0	159,958	23,934,778
2005	23,934,778	0	0	2,243,672	0	1,033,232	0	0	96,882	25,048,335
2006	25,048,335	177,572	72,708	3,447,409	(206,029)	1,030,039	0	0	108,021	27,401,935
2007	27,401,935	165,132	149,851	647,571	22,320	1,016,607	0	0	48,595	27,321,607
2008	27,321,607	165,588	136,559	(5,943,486)	(1,014)	1,022,600	0	0	153,940	20,502,714
2009	20,502,714	179,048	231,762	3,866,041	0	1,155,077	0	0	103,302	23,521,186
2010	**23,521,186**	**179,706**	**304,525**	**2,833,755**	**0**	**1,548,550**	**0**	**0**	**111,850**	**25,178,772**

 # Adjust from cost value to market value.

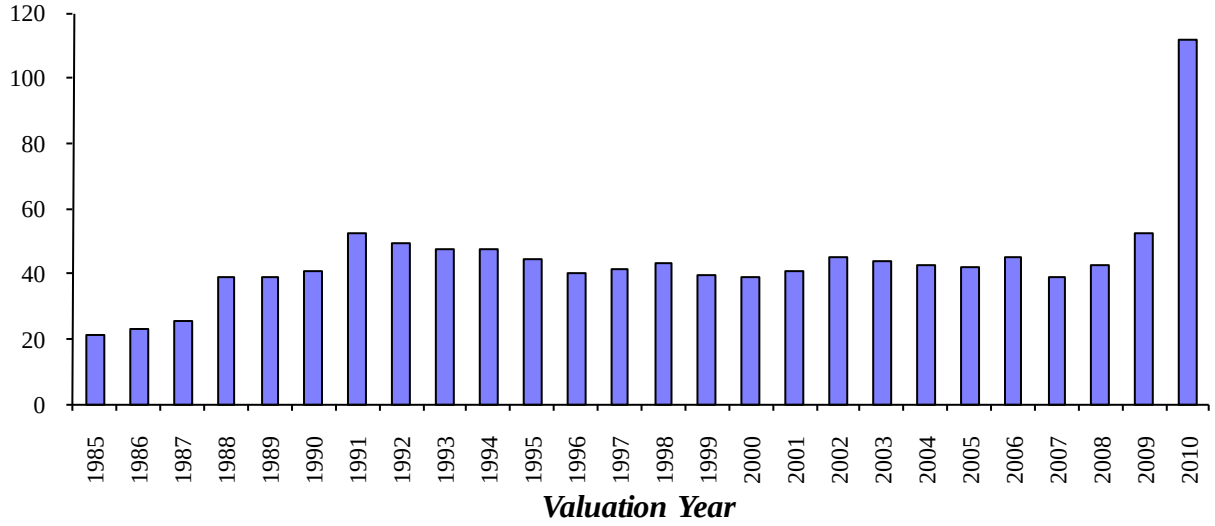
COMPARATIVE STATEMENT
RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS
INCLUDING DROP MEMBERS

Year Ended Dec. 31,	Added to Rolls			Removed from Rolls		Rolls End of Year		Active Per Retired	Benefit As % of Non-DROP Pay	% Incr. Annual Benefits	Present Value of Pension Benefits
	No.	Annual Benefits	Post-Ret. Increases	No.	Annual Benefits	No.	Annual Benefits				
1980	3	$ 36,628			$ -	6	$ 72,478	5.7 %	8.6 %	102.2 %	$ 979,515
1985	2	42,608				16	231,960	2.1	21.4	22.5	2,853,202
1990	2	64,898				27	523,018	1.2	40.6	14.2	6,261,508
1995				1	28,045	32	652,353	1.0	44.6	(4.1)	7,435,931
1996						32	652,353	1.1	39.8	0.0	7,322,395
1997	1	29,848				33	682,201	1.1	41.1	4.6	7,538,647
1998	2	52,369		1	16,160	34	718,410	1.0	43.3	5.3	7,852,791
1999	1	14,419				35	732,829	1.0	39.4	2.0	7,860,968
2000				1	9,696	34	723,133	1.0	39.1	(1.3)	7,633,537
2001	2	90,903		1	11,271	35	802,765	1.0	40.7	11.0	8,521,338
2002	2	93,104				37	895,869	0.9	45.3	11.6	9,585,777
2003	3	71,437		1	26,259	39	941,047	0.9	43.9	5.0	10,003,549
2004		24,981				39	966,028	0.9	42.5	2.7	9,891,884
2005	2	67,964				41	1,033,992	0.9	42.2	7.0	10,771,503
2006	1	58,240	3,823	1	8,356	41	1,087,699	0.8	44.9	5.2	11,278,705
2007	3	45,611	(29,677)	2	28,231	42	1,075,402	0.8	39.1	(1.1)	10,959,266
2008	2	69,130	1,080	1	23,011	43	1,122,601	0.7	42.5	4.4	11,332,133
2009	3	178,703		1	25,411	45	1,275,893	0.7	52.3	13.7	13,081,874
2010	**11**	**600,500**		**1**	**21,964**	**55**	**1,854,429**	**0.4**	**111.5**	**45.3**	**20,118,278**

Actives Per Retired



Benefits as Percent of Pay



RETIREES AND BENEFICIARIES DECEMBER 31, 2010
TABULATED BY TYPE OF BENEFITS BEING PAID

Type of Benefits Being Paid	Number*	Annual Benefits
Age and Service Benefit		
Regular benefit - benefit terminating upon death of retirant	17	$ 386,318
Regular benefit - automatic 60% joint and survivor benefit	30	1,159,350
Benefit being paid survivor beneficiary of deceased age and service retirant	3	44,809
DROP Benefits	3	221,696
Total age and service benefits	53	1,812,173
Casualty Benefits		
Duty disability benefit	2	42,256
Total casualty benefits	2	42,256
Total Benefits Being Paid	**55**	**$1,854,429**

* *Including three members in DROP and one alternate payee.*

RETIREES AND BENEFICIARIES DECEMBER 31, 2010
TABULATED BY ATTAINED AGES

Attained Ages	No.	Annual Benefits
43	1	$ 71,383
47	1	12,573
48	3	180,208
49	2	128,920
50	2	148,594
51	3	197,023
52	1	65,879
53	1	14,700
56	1	50,462
57	3	117,204
58	1	31,802
59	1	42,642
60	2	55,683
61	1	61,981
64	1	14,973
65	3	101,930
66	1	25,318
68	3	44,797
69	1	32,934
70	2	52,109
71	1	5,982
72	3	59,765
73	5	130,196
74	2	53,670
76	5	86,984
77	1	8,977
78	1	15,503
82	1	13,806
86	1	17,571
89	1	10,860
Totals	**55**	**$1,854,429**

RETIREES AND BENEFICIARIES DECEMBER 31, 2010

Average Final Compensation With and Without Vacation and Compensatory Time Lump Sums For New Retirees

Year Ending June 30,	Final Average Salary		Ratio
	With Lump Sum	Without Lump Sum	
2009	$ 217,872	$ 206,898	1.05304
2010	817,971	794,980	1.02892
Totals	**$ 1,035,843**	**$ 1,001,878**	**1.03390**

In the valuation process a person's salary is assumed to increase by a certain percentage each year (see page C-10). However, there are often lump sum payment upon retirement for things such as unused sick leave, valuation pay, etc. which increase person's retirement benefit but that are not included in the assumptions .

INACTIVE VESTED MEMBERS DECEMBER 31, 2010
TABULATED BY ATTAINED AGE

Attained Ages	No.	Annual Benefits
	None.	
Totals	**0**	**$0**

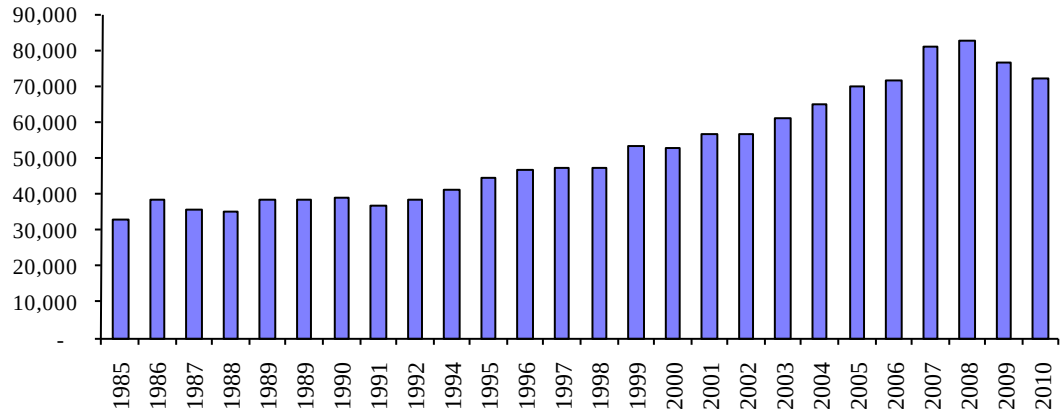
ACTIVE MEMBERS INCLUDED IN VALUATION
COMPARATIVE SCHEDULE

Valuation Date Dec. 31,	Active Members*	Valuation Payroll	Average			% Inc. Avg. Pay
			Age	Service	Pay	
1985	33	$1,085,094	40.8 yrs.	14.7 yrs.	$32,882	(1.5) %
1990	33	1,289,090	37.1	10.4	39,063	2.3
1995	33	1,463,341	37.4	9.5	44,344	8.4
1996	35	1,637,213	37.9	10.0	46,778	5.5
1997	35	1,660,635	38.3	10.0	47,447	1.4
1998	35	1,658,459	38.5	10.5	47,385	(0.1)
1999	35	1,862,245	39.5	11.5	53,207	12.3
2000	35	1,850,554	40.5	12.5	52,873	(0.6)
2001	35	1,972,538	40.4	12.0	56,358	6.6
2002	35	1,977,181	40.0	11.6	56,491	0.2
2003	35	2,143,204	40.3	11.9	61,234	8.4
2004	35	2,274,281	41.3	12.9	64,979	6.1
2005	35	2,449,553	42.2	13.2	69,987	7.7
2006	34	2,422,211	42.9	14.3	71,242	1.8
2007	34	2,752,251	43.9	15.3	80,949	13.6
2008	32	2,641,821	44.4	16.4	82,557	2.0
2009	32	2,440,391	44.5	15.3	76,262	(7.6)
2010	23	1,663,027	44.9	14.6	72,306	(5.2)

**Does not include DROP members.*

Valuation Year

Average Pay

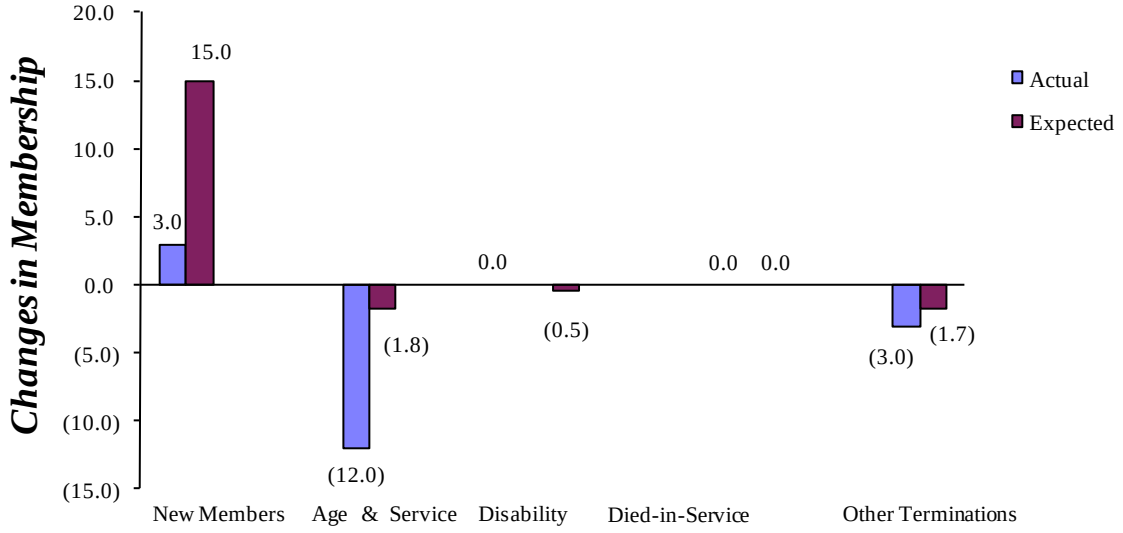


ADDITIONS TO AND REMOVALS FROM ACTIVE MEMBERSHIP
ACTUAL AND EXPECTED NUMBERS

Year Ended Dec. 31,	Number Added During Year		Terminations During Year								Active Members End of Year
			Normal Retirement		Disability Retirement		Died-In Service		Other Terminations		
	A	E	A	E	A	E	A	E	A	E	
2001	2	2	2	0.4	0	0.1	0	0.1	0	0.4	35
2002	2	2	2	0.0	0	0.1	0	0.1	0	0.5	35
2003	1	1	1	0.3	0	0.1	0	0.1	0	0.5	35
2004	0	0	0	0.5	0	0.1	0	0.1	0	0.5	35
2005	1	1	1	0.4	0	0.1	0	0.1	0	0.4	35
2006	0	1	1	0.3	0	0.1	0	0.0	0	0.4	34
2007	0	0	0	0.0	0	0.1	0	0.0	0	0.3	34
2008	0	2	1	0.3	0	0.1	0	0.0	1	0.3	32
2009	3	3	2	0.6	0	0.1	0	0.0	1	0.2	32
2010	**0**	**9**	**8**	**0.6**	**0**	**0.1**	**0**	**0.0**	**1**	**0.5**	**23**
5-Year Totals	3	15	12	1.8	0	0.5	0	0.0	3	1.7	

A represents actual number.
E represents expected number based on assumptions outlined in Section C.

Actual and Expected Changes in Active Membership
Five Year Totals 2006-2010



*ACTIVE MEMBERS DECEMBER 31, 2010**
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
30-34		1						1	$ 75,432
35-39		3	1					4	279,450
40-44	1	1	4					6	413,452
45-49				5	1			6	447,463
50-54	1			2	1	1		5	374,073
55-59				1				1	73,157
Totals	**2**	**5**	**5**	**8**	**2**	**1**		**23**	**$1,663,027**

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age:	44.9	years
Service:	14.6	years
Annual Pay:	$72,306	

** Excluding three members in DROP. The 3 DROP members are assumed to have aggregate salary of $216,917.*

SECTION C

FINANCIAL PRINCIPLES, ACTUARIAL VALUATION PROCESS, ACTUARIAL COST METHODS, ACTUARIAL ASSUMPTIONS AND DEFINITIONS OF TECHNICAL TERMS

BASIC FINANCIAL PRINCIPLES AND OPERATION OF THE RETIREMENT SYSTEM

Benefit Promises Made Which Must Be Paid For. A retirement program is an orderly means of handing out, keeping track of, and financing pension promises to a group of employees. As each member of the retirement program acquires a unit of service credit the member is, in effect, handed an "IOU" which reads: "The Retirement System promises to pay you one unit of retirement benefits, payments in cash commencing when you retire."

The principal related financial question is: When shall the money required to cover the "IOU" be contributed? This year, when the benefit of the member's service is received? Or, some future year when the "IOU" becomes a cash demand?

The Constitution of the State of Michigan is directed to the question:

> "Financial benefits arising on account of service rendered in each fiscal year shall be funded during that year and such funding shall not be used for financing unfunded accrued liabilities."

This Retirement System meets this requirement by having as its ***financial objective the establishment and receipt of contributions, expressed as percents of active member payroll, which will remain approximately level*** from year-to-year and will not have to be increased for future generations of taxpayers.

Translated into actuarial terminology, a level percent-of-payroll contributions objective means that the contribution rate must be at least:

> ***Normal Cost*** (the present value of future benefits assigned to members' service being rendered in the current year)
>
> ... plus ...
>
> ***Interest on the Unfunded Actuarial Accrued Liability*** (the difference between the actuarial accrued liability and current system assets).

The accumulation of invested assets ***is a by-product of level percent-of-payroll contributions, not the objective***. Investment income becomes the third major contributor to the retirement program, and the amount is directly related to the amount of contributions and investment performance.

If contributions to the retirement program are less than the preceding amount, the difference, ***plus investment earnings not realized thereon***, will have to be contributed at some later time (or benefits will have to be reduced) to satisfy the fundamental fiscal equation under which all retirement programs must operate:

B = C + I - E

The aggregate amount of Benefit payments to any group of members and their beneficiaries cannot exceed the sum of:

The aggregate amount of Contributions received on behalf of the group

... plus ...

Investment earnings on contributions received and not required for immediate cash payments of benefits

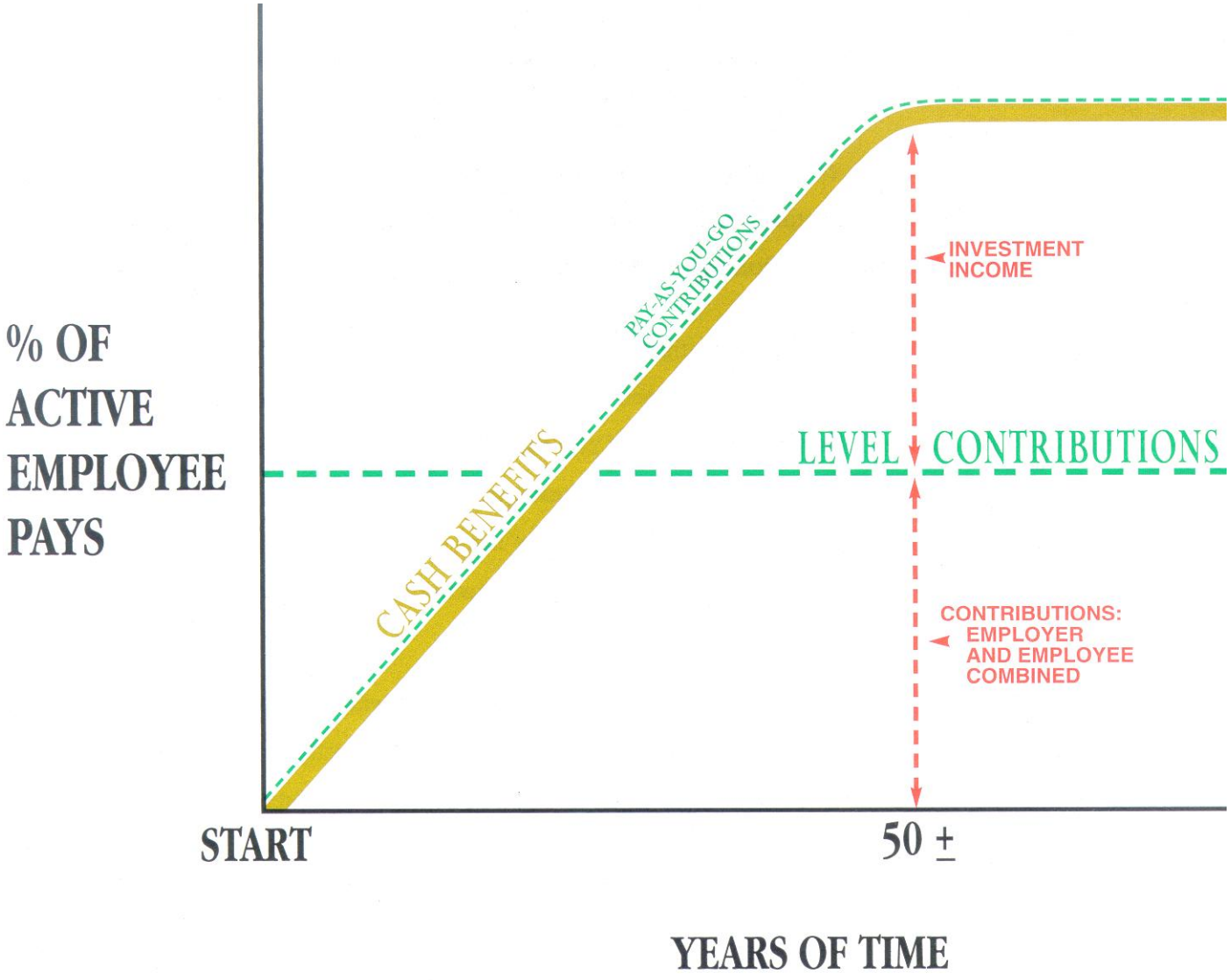
... minus ...

The Expenses of operating the program.

There are retirement programs designed to defer the bulk of contributions far into the future. The present contribution rate for such systems is ***artificially low***. The fact that the contribution rate is destined to increase relentlessly to a much higher level, is often ignored.

This method of financing is prohibited in Michigan by the state constitution.

Computed Contribution Rate Needed to Finance Benefits. From a given schedule of benefits and from the data furnished him, the actuary calculates the contribution rate ***by means of an actuarial valuation*** - the technique of assigning monetary values to the risks assumed in operating a retirement program.



CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

LEVEL CONTRIBUTION LINE. Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

Economic Risk Areas

- Rates of investment return
- Rates of pay increase
- Changes in active member group size

Non-Economic Risk Areas

- Ages at actual retirement
- Rates of mortality
- Rates of withdrawal of active members (turnover)
- Rates of disability

THE ACTUARIAL VALUATION PROCESS

The financing diagram on the previous page shows the relationship between the two fundamentally different philosophies of paying for retirement benefits: the method where contributions match cash benefit payments (or barely exceed cash benefit payments, as in the Federal Social Security program) which is an ***increasing contribution method;*** and the ***level contribution method*** which equalizes contributions between the generations.

The actuarial valuation is the mathematical process by which the level contribution rate is determined, and the flow of activity constituting the valuation may be summarized as follows:

A. ***Covered Person Data***, furnished by plan administrator.

Retired lives now receiving benefits

Former employees with vested benefits not yet payable

Active employees

B. + ***Asset data*** (cash & investments), furnished by plan administrator

C. + ***Assumptions concerning future financial experience in various risk areas,*** which assumptions are established by the Retirement Board after consulting with the actuary

D. + ***The funding method*** for employer contributions (the long-term, planned pattern for employer contributions)

E. + ***Mathematically combining the assumptions, the funding method, and the data***

F. = Determination of:

Plan financial position

and/or New Employer Contribution Rate

ACTUARIAL COST METHODS USED FOR THE VALUATION

Age and Service and Casualty Benefits. Normal cost and the allocation of actuarial present values between service rendered before and after the valuation date were determined using an individual entry-age actuarial cost method having the following characteristics:

(i) the annual normal costs for each individual active member, payable from the date of hire to the date employment ceases, are sufficient to accumulate the actuarial present value of the member's or survivor's benefit at the time benefits commence;

(ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Amortization of Unfunded Actuarial Accrued Liabilities. Unfunded actuarial accrued liabilities were amortized by level percent-of-payroll contributions (principal and interest combined) over a period of 15 years for pensions.

Active member payroll was assumed to increase 4.5% a year for the purpose of determining the level percent contributions. Characteristics of this method of amortization for pensions are illustrated on page C-6.

FINANCING UNFUNDED ACTUARIAL ACCRUED LIABILITIES WHICH WERE CALCULATED USING AN INFLATION ASSUMPTION OF 4.50% AND AN INVESTMENT RETURN ASSUMPTION OF 7.50% COMPOUNDED ANNUALLY

Level % of Payroll Amortization: Open Amortization 15 Years Perpetually in Future

Year	Active Employee Payroll	Unfunded Actuarial Accrued Liability	Annual Contributions		UAAL as % of Payroll
			Dollars	% of Payroll	
	(- - - - - - - $ in Thousands - - - - -)				
1	$1,880	$ 1,237	$ 103	5.50 %	66 %
2	1,965	1,222	102	5.20	62
3	2,053	1,207	101	4.92	59
4	2,145	1,194	100	4.65	56
5	2,242	1,179	99	4.40	53
6	2,343	1,166	97	4.16	50
7	2,448	1,152	96	3.93	47
8	2,558	1,137	95	3.72	44
9	2,673	1,125	94	3.52	42
10	2,794	1,112	93	3.33	40
11	2,919	1,100	92	3.15	38
12	3,051	1,087	91	2.98	36
13	3,188	1,074	90	2.82	34
14	3,332	1,063	89	2.67	32
15	3,482	1,051	88	2.53	30

ACTUARIAL ASSUMPTIONS IN THE VALUATION PROCESS

The actuary calculates contribution requirements and actuarial present values for a retirement system by applying actuarial assumptions to the benefit provisions and people information of the system, using the actuarial cost methods described on page C-5.

The principal areas of risk which require assumptions about future experience are:

(i) Long-term rates of investment return to be generated by the assets of the system

(ii) patterns of pay increases to members

(iii) rates of mortality among members, retirees, and beneficiaries

(iv) rates of withdrawal of active members

(v) rates of disability among active members

(vi) the age patterns of actual retirements

(vii) rates of health insurance premium increase

In making a valuation, the actuary calculates the monetary effect of each assumption for as long as a present covered person survives - - - a period of time which can be as long as a century.

The employer contribution rate has been computed to remain level from year-to-year so long as benefits and the basic experience and make-up of members do not change. Examples of favorable experience which would tend to reduce the employer contribution rate are:

(1) Investment returns in excess of 7.5 % per year.

(2) Member non-vested terminations at a higher rate than outlined on page C-12.

(3) Mortality among retirees and beneficiaries at a higher rate than indicated by the 1994 Group Annuity Mortality Table.

(4) Increases in the number of active members.

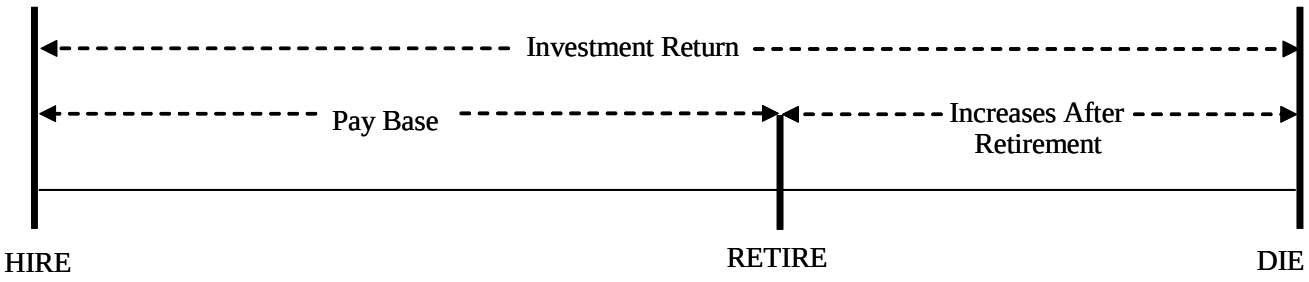
Examples of unfavorable experience which would tend to increase the employer contribution rate are:

(1) Pay increases in excess of the rates outlined on page C-10.
(2) An acceleration in the rate of retirement from the rates outlined on page C-13.
(3) A pattern of hiring employees at older ages than in the past.

Actual experience of the system will not coincide exactly with assumed experience, regardless of the choice of the assumptions, or the skill of the actuary or the precision of the calculations. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time to time one or more of the assumptions is modified to reflect experience trends (but not random or temporary year-to-year fluctuations).

Relationship of Economic Assumptions In Computing Contributions to a Retirement System



Investment Return

An increase in this assumption reduces computed contributions. The assumption operates over all parts of an employee's lifetime.

Pay Base

An increase in this assumption increases computed contributions. However, a 1% increase in this assumption, coupled with a 1% increase in Investment Return reduces computed contributions. This is because the Pay Base assumption operates only over an employee's working lifetime, while the Investment Return assumption operates over the employee's entire lifetime, and therefore has a greater effect.

Increases After Retirement

An increase in this element increases computed contributions.

If Investment Return, Pay Base, and Increases After Retirement are each increased by equal amounts, computed contributions remain the same (except in plans using Final Average Pay as a factor in computing benefits; the multi-year average used for Final Average Pay causes computed contributions to decrease slightly).

If Investment Return and Pay Base are increased by equal amounts, with no change in Increases After Retirement, computed contributions decrease – sometimes significantly. The decreases represent the projected devaluation of an employee's benefits following retirement.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

Investment Return. 7.5% a year, net of expenses, compounded annually. This rate consists of a real rate of return of 3.0% a year plus a long term rate of wage inflation of 4.5% a year.

	Year Ended December 31					3-Year Average	5-Year Average
	2010	2009	2008	2007	2006		
Rate of Investment Return	3.4 %	3.2 %	2.4 %	10.1 %	8.5 %	3.0 %	5.5 %
Increase in Average Pay *	(2.6)	(2.1)	1.7	13.6	2.5	(1.0)	2.6

This assumption is used to equate the value of payments due at different points in time and was first used for the December 31, 2005 valuation. Approximate rates of investment return, for the purpose of comparisons with assumed rates, are shown below. Actual increases in average active member pay are also shown for comparative purposes.

* *Based on persons who were active members at both beginning and end of year.*

The nominal rate of return was computed using the approximate *formula i = I divided by 1/2 (A + B - I),* where I is actual investment income (gross), A is the beginning of year asset value, and B is the end of year asset value.

These rates of return should not be used for measurement of an investment advisor's performance or for comparisons with other systems -- ***to do so will mislead***.

Pay Projections. These assumptions are used to project current pays to those upon which benefits will be based. The assumptions (merit and longevity) were first used for the March 31, 1974 valuation.

Sample Ages	Annual Rate of Pay Increase for Sample Ages		
	Base (Economic)	Merit and Longevity	Total
20	4.50 %	3.50 %	8.00 %
25	4.50	3.50	8.00
30	4.50	3.10	7.60
35	4.50	1.60	6.10
40	4.50	0.70	5.20
45	4.50	0.70	5.20
50	4.50	0.70	5.20
55	4.50	0.60	5.10
60	4.50	0.50	5.00

If the number of active members remains constant, the total active member payroll will increase 4.5% annually, the base portion of the individual pay increase assumptions. This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities.

Changes actually experienced in average pay and total payroll have been as follows:

Increase in	Year Ended December 31,					3-Year Average	5-Year Average
	2010	2009	2008	2007	2006		
Average pay *	(2.6) %	(2.1) %	1.7 %	13.6 %	2.5 %	(1.0) %	2.6 %
Total Payroll	(31.9)	(7.6)	(4.0)	13.6	(1.1)	(14.5)	(6.2)

** Based on persons who were active members at both the beginning and end of the year.*

Mortality Table. The 1994 Group Annuity Mortality Table. This table was first used for the December 31, 2005 valuation. Sample values follow:

Sample Ages	Actuarial Present Value of $1 Monthly for Life		Future Life Expectancy (Years)	
	Men	Women	Men	Women
50	$140.93	$147.30	30.69	34.89
55	132.64	140.64	26.15	30.17
60	122.40	132.01	21.83	25.59
65	110.53	121.65	17.84	21.28
70	97.62	109.73	14.29	17.30
75	83.48	95.52	11.12	13.60
80	68.62	79.89	8.37	10.31

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement.

For death-in-service mortality, sixty percent of the post-retirement mortality tables were used. Seventy percent of pre-retirement deaths were assumed to be duty related.

The mortality table was set forward eight years at disability for current active members and set forward three years for current disability retirees for projecting disability costs.

Rates of separation from active membership. The rates do not apply to members eligible to retire and do not include separation on account of death or disability. This assumption measures the probabilities of members remaining in employment.

Sample Ages	Years of Service	Percent Separating within Next Year
ALL	0	10.0 %
	1	7.0
	2	5.0
	3	4.0
	4	3.5
25	5 & Over	3.5
30		2.9
35		1.5
40		0.6
45		0.5
50		0.5
55		0.5
60		0.5

The rates were first used for the March 31, 1977 valuation.

Rates of Disability. These assumptions represent the probabilities of active members becoming disabled.

Sample Ages	Percent Becoming Disabled within Next Year	
	Men	Women
20	0.07 %	0.03 %
25	0.09	0.05
30	0.10	0.07
35	0.14	0.13
40	0.21	0.19
45	0.32	0.28
50	0.52	0.45
55	0.92	0.76
60	1.53	1.10

These rates were first used for the December 31, 1981 valuation.

Seventy percent of disabilities were assumed to be duty related.

Rates of Retirement. These rates are used to measure the probabilities of an eligible member retiring from active employment during the next year.

Years of Service	Percents of Eligible Active Members Retiring Within Next Year
25	30 %
26	30
27	30
28	50
29	60
30 or more	100

A member was assumed eligible for retirement after 25 years of service, or, after attaining age 60 regardless of service. Retirement rates reflect ultimate end of employment.

These rates were first used for the December 31, 2005 valuation.

Active Member Group Size. The number of active members was assumed to remain constant. This assumption is unchanged from previous valuations.

SUMMARY OF ASSUMPTIONS USED
DECEMBER 31, 2010
MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

Marriage Assumption:	90% of males and 90% of females are assumed to be married for purposes of death-in-service benefits.
Pay Increase Timing:	Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and exact fractional service on the date the decrement is assumed to occur.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Decrement Relativity:	Decrement rates are used directly, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and mortality decrements do not operate during the first 5 years of service. Disability and turnover do not operate during retirement eligibility.
Normal Form of Benefit:	The assumed normal form of benefit is the straight life form with 60% continued to spouse, if any.
Liability Adjustments:	Active liabilities for retirement benefit were adjusted by 5% to account for accrued vacation time and compensatory time.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant benefits.

DEFINITIONS OF TECHNICAL TERMS

Accrued Service. Service credited under the system which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability. The difference between the actuarial present value of system benefits and the actuarial present value of future normal costs. Also referred to as "past service liability."

Actuarial Assumptions. Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future benefits" between future normal costs and actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent. One series of payments is said to be actuarially equivalent to another series of payments if the two series have the same actuarial present value.

Actuarial Gain (Loss). The difference between actual unfunded actuarial accrued liabilities and anticipated unfunded actuarial accrued liabilities -- during the period between two valuation dates. It is a measurement of the difference between actual and expected experience.

Actuarial Present Value. The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payments.

DEFINITIONS OF TECHNICAL TERMS (CONCLUDED)

Amortization. Paying off an interest-discounted amount with periodic payments of interest and (generally) principal -- as opposed to paying off with a lump sum payment.

Credited Projected Benefit. The portion of a member's projected benefit attributable to service before the valuation date - allocated based on the ratio of accrued service to projected total service and based on anticipated future compensation.

Normal Cost. The portion of the actuarial present value of future benefits that is assigned to the current year by the actuarial cost method. Sometimes referred to as "current service cost."

Unfunded Actuarial Accrued Liabilities. The difference between actuarial accrued liabilities and valuation assets. Sometimes referred to as "unfunded past service liability" or "unfunded supplemental present value."

Most retirement systems have unfunded actuarial accrued liabilities. They arise each time new benefits are added and each time an actuarial loss occurs.

The existence of unfunded actuarial accrued liabilities is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial accrued liabilities do not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial accrued liabilities and the trend in their amount (after due allowance for devaluation of the dollar).

SECTION D

CERTAIN DISCLOSURES REQUIRED BY STATEMENTS NO. 25 AND NO. 27 OF THE GOVERNMENTAL ACCOUNTING STANDARDS BOARD

This information is presented in draft form for review by the System's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the System's financial statements.

GASB STATEMENTS NO. 25 AND NO. 27
REQUIRED ACTUARIAL INFORMATION
SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date December 31,	(a) Actuarial Value of Assets	(b) Entry Age Actuarial Accrued Liability	(b-a) Unfunded Accrued Liability (UAL)	(a/b) Funded Ratio	(c) Annual Covered Payroll	[(b-a)/c] UAL as a Percentage of Covered Payroll
1995	$ 14,957,910	$ 11,098,119	$ (3,859,791)	135 %	$ 1,463,341	- %
1996	15,848,190	11,672,783	(4,175,407)	136	1,637,213	-
1997	17,102,734	12,005,001	(5,097,733)	142	1,660,635	-
1998	18,868,177	12,486,609	(6,381,568)	151	1,658,459	-
1999 #	20,704,196	14,433,723	(6,270,473)	143	1,862,245	-
2000	22,122,513	15,010,643	(7,111,870)	147	1,850,554	-
2001	23,036,055	15,848,237	(7,187,818)	145	1,972,538	-
2002	23,738,457	16,957,687	(6,780,770)	140	1,977,181	-
2003	23,632,588	18,055,207	(5,577,381)	131	2,143,204	-
2004	23,815,715	19,060,810	(4,754,905)	125	2,274,281	-
2005 #	24,105,951	20,780,318	(3,325,633)	116	2,449,553	-
2006	25,338,997	21,766,018	(3,572,979)	116	2,422,211	-
2007	27,173,331	23,911,443	(3,261,888)	114	2,752,251	-
2008	27,097,583	24,935,159	(2,162,424)	109	2,641,821	-
2009	27,211,032	26,117,456	(1,093,576)	104	2,669,178	-
2010 #	**27,042,094**	**28,278,783**	**1,236,689**	**96**	**1,879,944**	**66**

 # After changes in benefit provisions.

GASB STATEMENTS NO. 25 AND NO. 27
REQUIRED ACTUARIAL INFORMATION
SCHEDULE OF EMPLOYER CONTRIBUTIONS

Year Ending December 31,	Annual Required Contribution	Percent Contributed
1995	$147,354	102.3 %
1996	124,167	104.4
1997	47,095	104.4
1998	40,787	116.7
1999	0	100.0
2000	0	100.0
2001	0	100.0
2002	0	100.0
2003	0	100.0
2004	0	100.0
2005	0	100.0
2006	72,708	100.0
2007	149,851	100.0
2008	124,122	110.0
2009	231,762	100.0
2010	304,525	100.0

GASB STATEMENTS NO. 25 AND NO. 27
REQUIRED SUPPLEMENTARY INFORMATION

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest valuation date follows:

Valuation date	December 31, 2010
Actuarial cost method	Individual entry age
Amortization method for unfunded actuarial accrued liabilities	Level percent open
Remaining amortization period	15 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return	7.50%
Projected salary increases including wage inflation at 4.5%	4.5% - 8.0%
Cost-of-living adjustments	None

Membership of the plan consisted of the following at December 31, 2010, the date of the latest actuarial valuation:

Retirees and beneficiaries receiving benefits	55
Terminated plan members entitled to but not yet receiving benefits	0
Active plan members	23
Total	78

April 29, 2011

Retirement Board
Charter Township of Ypsilanti
7200 South Huron River Drive
Ypsilanti, Michigan 48197

Enclosed are 10 copies of the report of the Forty-Seventh Annual Actuarial Valuation for the Charter Township of Ypsilanti Police and Firefighter's Retirement System.

I will be glad to meet with the Retirement Board to discuss this report.

Respectfully submitted,

David T. Kausch

DTK:bd
Enclosures

cc: Abraham & Gaffney, P.C.
Attention: Alan Panter, C.P.A. (+1 copy)

Karen Lovejoy Roe, Township Supervisor (+1 copy)

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