Municipal Employees' Retirement System of Michigan

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

ANNUAL ACTUARIAL VALUATION REPORT

ST JOSEPH COUNTY (7803)

DECEMBER 31, 2009

GRS
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June 9, 2010

The Retirement Board
Municipal Employees' Retirement System of Michigan

Ladies and Gentlemen:

This report presents the results of the Annual Actuarial Valuation, prepared as of December 31, 2009. The report includes the determination of liabilities and contribution rates resulting from the participation of St Joseph County in the Municipal Employees' Retirement System of Michigan ("MERS").

MERS is an agent multiple-employer public employee pension plan and is a tax-qualified plan under section 401(a) of the Internal Revenue Code (most recent letter of Favorable Determination issued June 15, 2005). MERS is an independent non-profit public corporation established by the Legislature pursuant to Public Act 220 of 1996, as amended, and is an instrumentality of the participating municipalities and courts. St Joseph County is responsible for the employer contributions needed to provide MERS benefits for its employees and former employees under the Michigan Constitution and the MERS Plan Document.

For this annual actuarial valuation, the Retirement Board adopted revised actuarial assumptions and/or methods. Please refer to page 42 for an explanation of the Board's action.

The valuation utilized information furnished by the MERS administrative staff concerning Retirement System benefits, financial transactions, and individual member information. Data was checked for consistency with the prior year, but was not otherwise audited by us.

To the best of our knowledge, this report is complete and accurate and was made in accordance with generally recognized actuarial methods in compliance with Act No. 220 of the Public Acts of 1996, as amended, and the MERS Plan Document as revised. All of the undersigned are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The actuarial assumptions used for this valuation produce results that we believe are reasonable. The Retirement Board of the Municipal Employees' Retirement System of Michigan confirms that the System provides for payment of the required employer contribution as described in Section 20m of Act No. 314 of 1965 (MCL 38.1140m).

Please review the Comments on the Investment Markets on page 3.

This report may be provided only in its entirety by the municipality to other interested parties (MERS or the Actuary customarily provides the full report on request to related third parties such as the auditor for the municipality).

Please contact the Finance Department at MERS if you would like to receive future annual valuations in electronic format, instead of a printed report (800-767-6377 ext. 252; accounting@mersofmich.com).

Sincerely,

Alan Sonnanstine, MAAA, ASA

Cathy Nagy, MAAA, FSA

Jim Koss, MAAA, ASA

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Executive Summary

Required Employer Contributions

The computed minimum required employer contributions to the retirement system for the fiscal years beginning January 1, 2011 (2009 Valuation) and January 1, 2010 (2008 Valuation) are as follows:

Division	Minimum Required Monthly Employer Contributions @			
	Percentage of Payroll		$ Based on Valuation Payroll	
	2009 Valuation	2008 Valuation	2009 Valuation	2008 Valuation
01 - General	0.00%	0.00%	$0	$0
02 - Police Dept. *	11.00%	11.00%	18,147	17,781
20 - Shrf Admin	21.89%	28.08%	5,067	3,773
Total Municipality			$23,214	$21,554

@ *The above employer contribution requirements are in addition to the member contributions, if any, shown in Table 1.*

* *The current year's required employer contributions reflect a change in benefit provisions or a change in member contribution rates. Please see Tables 16 and 17 for details.*

Please see the Comments on the Investment Markets on page 3.

For additional details see Table 15.

It is important to note that the contribution rates shown above are not expected to remain at present levels indefinitely. If future experience were to match the valuation assumptions exactly, the computed employer rates for divisions that are open to new hires would trend over time toward the long-term cost of system benefits, known as the Normal Cost (see Table 15). For underfunded divisions that are closed to new hires and are not linked to an open division, the computed employer dollar contribution would increase 4%-8% annually, until full funding is reached. The required employer contribution for such a closed division typically reaches its highest level about 11-12 years after the division becomes closed. Prospective benefit changes as well as Retirement System gains and losses will also affect future contribution rates.

Contribution rates will change from one year to the next as a result of changes in benefit provisions, changes in the actuarial assumptions, and experience of the plan (investment experience and demographic experience).

The 2009 valuation reflects changes in actuarial assumptions and/or methods (please refer to page 42). The effects of the changes are shown in the note below Table 16 for each division. For benefit provision changes see Table 1.

2009 System Experience

Based on the smoothed Actuarial Value of Assets, the recognized rate of investment return for MERS overall was 5.3% (up from 4.7% in 2008, but less than the 8% actuarial assumption). On average this will result in increases in computed employer contributions.

Demographic experience varied by division. This reflects what actually happened to participants (active members, retirees, and vested former members) compared to what was projected by the actuarial assumptions.

2009 Funded Position

The ratio of the Valuation Assets to the Actuarial Accrued Liability for St Joseph County in aggregate is 107%; last year's ratio was 105%.

Comments on the Investment Markets

The dramatic price declines across the world financial markets in 2008 led to volatility unlike any experienced in decades. 2009 was more stable (and MERS earned a healthy 17+% investment return) but the volatility continues. The crisis has been focused on the financial sector. While the U.S. government and business leaders are doing all they can to address the issues, it may be difficult in the short term to meet the investment assumption of 8% annual return.

The actuarial value of assets (funding value), used to determine both your funded status and your required employer contribution, is based on a 10-year smoothed value of assets. Only a portion (two-tenths, for 2008 and 2009) of the 2008 investment market losses were recognized in this actuarial valuation report. This reduces the volatility of the valuation results, which affects your required employer contribution and actuarial funded percentage.

As of December 31, 2009 the actuarial value of assets is 125% of market value (down from 139% in 2008). This means that meeting the actuarial assumption in the next few years will require average annual market returns that substantially exceed the 8% investment return assumption.

If the December 31, 2009 valuation results were based on market value on that date instead of 10-year smoothed funding value: i) the funded percent of your entire municipality would be 85% (instead of 107%); and ii) your total employer contribution requirement for the fiscal year starting January 1, 2011 would be $778,656 (instead of $278,568). If the investment markets do not fully make up for the 2008 losses, employer contribution requirements can be expected to rise. MERS continues to do everything it can to make sure that if this proves to be the case, the increases are incremental as opposed to steep.

Remember that only two-tenths of the 2008 market losses are reflected in this actuarial valuation report. As was true for past market downturns, MERS expects the markets to continue to rebound. By the time the 2008 market losses would be fully recognized (over the following 8 years), future market gains are expected to partly or fully offset 2008 market losses. This smoothing method is a powerful tool for reducing the volatility of your required employer contributions. However, if the financial markets do not rebound, the result would be gradual increases in your employer contribution requirement over the next 8 years (as described above).

Possible Future Changes in Actuarial Assumptions

Actuarial assumptions are reviewed every five years, and sometimes more often. The most recent review of MERS actuarial assumptions was completed in March 2010, and covered the 2004-2008 valuation years. All areas of activity were studied, and the Retirement Board adopted revised actuarial assumptions that will be reflected in this valuation (see page 42), and in the December 31, 2010 and December 31, 2011 valuations. MERS expects to provide employers with general updates concerning pending revised actuarial assumptions and the ongoing effects of the financial markets.

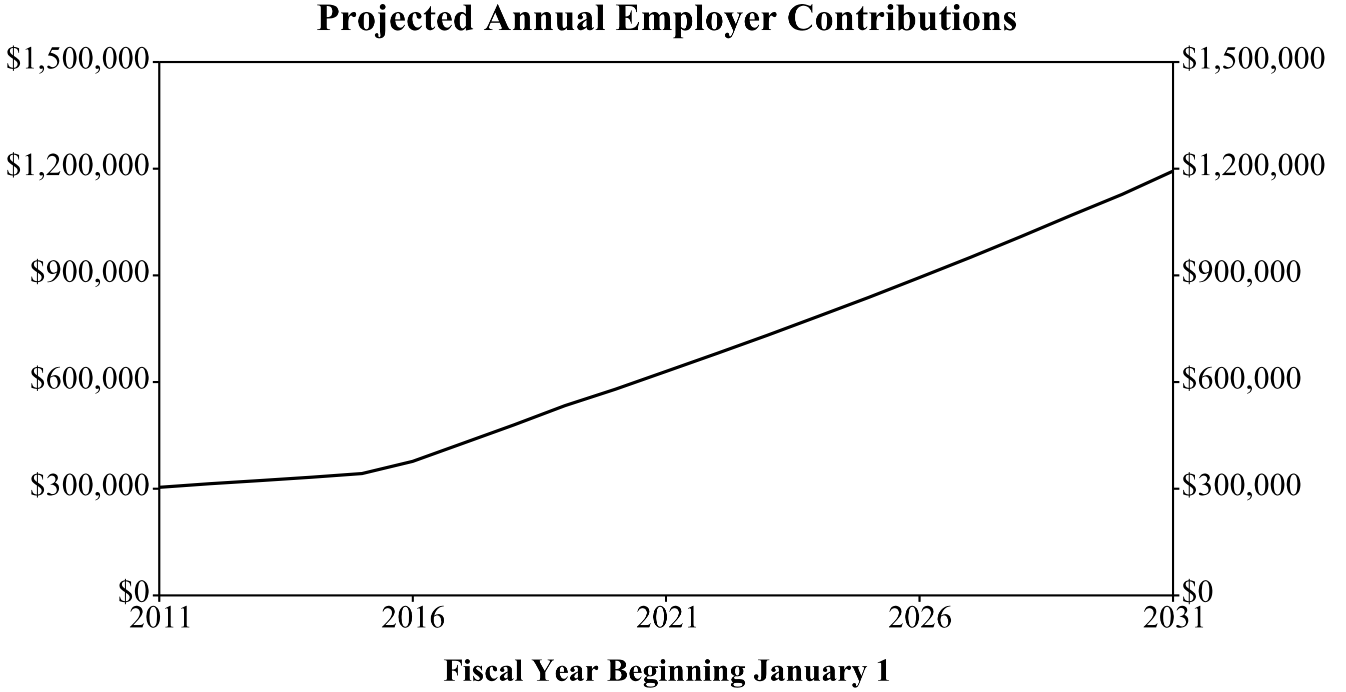
Projections of Employer Contributions and Funded Percentage - Combined for All Divisions

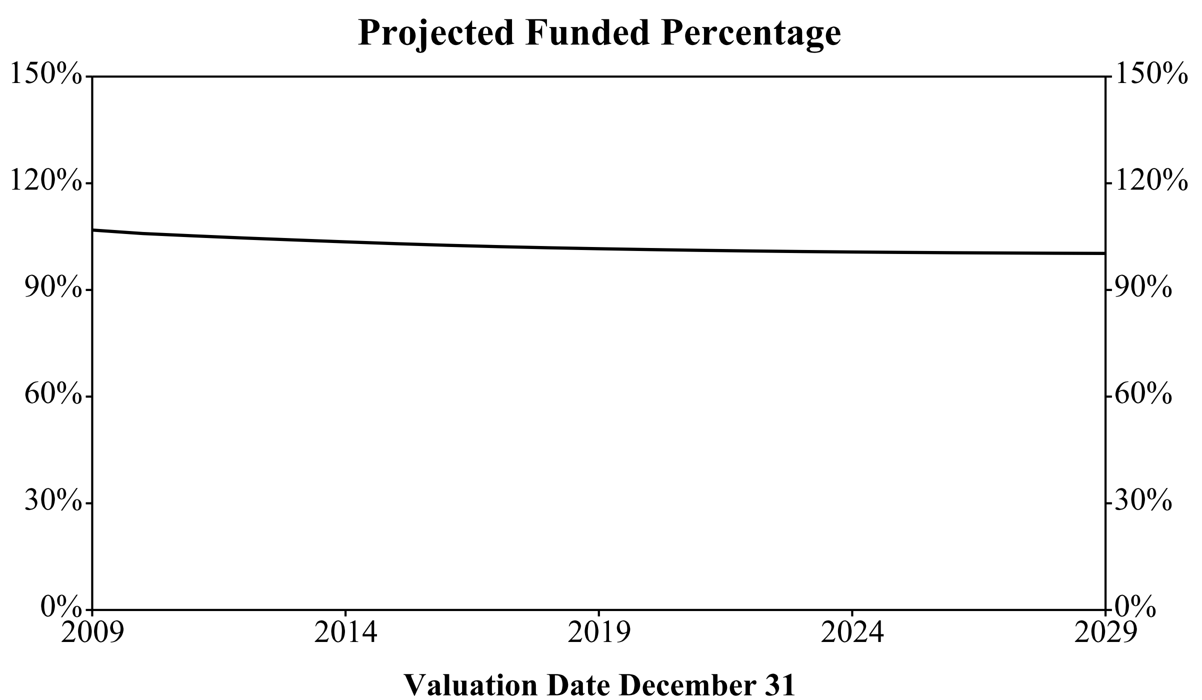
The following page combines the projections for each division (see chart 17.5 for each division) into a projection for the municipality as a whole. Please refer to page 65 for a discussion of the projection. As noted there, the projection should not be used for short term budgeting purposes because the assumptions are designed to be a long term expectation of future events. For example, the projection assumes that the 10-year smoothed actuarial value of assets always reflects 8% annual investment income (which would require all of the 2008 market losses to be recouped sooner than is likely).

Comment on Actuarial Calculations - The projections of your future employer contributions in this report are based on the current actuarial assumptions used in the December 31, 2009 actuarial valuation. As always, your required employer contribution rate changes every year, in response to demographic changes, financial experience, benefit provision changes, etc, within your specific plan. The results of future actuarial valuations will differ from the projections, sometimes materially.

St Joseph County (7803)

All Divisions Combined





Note: Please refer to page 65 for a discussion of the projection.

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Table 1

Benefit Provisions Evaluated and/or Considered

Division	2009 Valuation	2008 Valuation
01 - General	B-2 Normal Ret Age: 60 V-8 FAC-5 1.00% Member Contrib. Act 88 Election (12/17/1968)	B-2 Normal Ret Age: 60 V-8 FAC-5 1.00% Member Contrib. Act 88 Election (12/17/1968)
02 - Police Dept.	B-4 - 80% Max Normal Ret Age: 60 V-8 F/N(25) FAC-3 E-2 (2.5%) (01/01/1999) 8.60% Member Contrib. Act 88 Election (12/17/1968)	B-4 - 80% Max Normal Ret Age: 60 V-8 F/N(25) FAC-3 E-2 (2.5%) (01/01/1999) 8.16% Member Contrib. Act 88 Election (12/17/1968)
20 - Shrf Admin	B-4 - 80% Max Normal Ret Age: 60 V-10 F/N(25) FAC-3 E-2 (2.5%) (01/01/2006) 7.70% Member Contrib. Act 88 Election (12/17/1972)	B-4 - 80% Max Normal Ret Age: 60 V-10 F/N(25) FAC-3 E-2 (2.5%) (01/01/2006) 7.70% Member Contrib. Act 88 Election (12/17/1972)

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Table 2

Membership Summary

Division	2009 Valuation		2008 Valuation	
	Number	Annual Payroll*	Number	Annual Payroll*
01 - General				
Active Members	133	$5,023,036	136	$4,903,868
Vested Former Members	34	288,312	26	188,086
Retirees and Beneficiaries	63	495,428	63	456,739
02 - Police Dept.				
Active Members	41	$1,979,637	41	$1,939,737
Vested Former Members	5	46,113	5	46,113
Retirees and Beneficiaries	17	393,846	17	388,008
20 - Shrf Admin				
Active Members	5	$277,800	3	$161,269
Vested Former Members	0	0	1	20,410
Retirees and Beneficiaries	2	86,358	2	81,191
Total Municipality				
Active Members	**179**	**$7,280,473**	**180**	**$7,004,874**
Vested Former Members	**39**	**334,425**	**32**	**254,609**
Retirees and Beneficiaries	**82**	**975,632**	**82**	**925,938**
Total Participants	**300**		**294**	

* *Annual payroll for active members; annual deferred benefits payable for vested former members; annual benefits being paid for retirees and beneficiaries.*

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Table 3

Active Members in the Valuation - Comparative Schedule

Valuation Date 12/31	Number	Annual Payroll	Average Pay		Average Age	Average Benefit Service*	Average Eligibility Service*
			Annual $	% Increase			
1999	46	$ 1,647,538	$ 35,816	(1.5)%	38.4	8.6	
2000	47	1,764,263	37,537	4.8	38.0	9.0	
2001	47	1,819,067	38,704	3.1	39.4	9.7	9.9
2002	48	1,957,738	40,786	5.4	39.1	9.8	10.0
2003	48	2,082,191	43,379	6.4	40.1	10.9	11.1
2004	48	2,198,798	45,808	5.6	40.7	11.3	11.6
2005	46	2,096,521	45,577	(0.5)	41.7	11.9	12.2
2006	45	2,119,734	47,105	3.4	41.1	11.9	12.1
2007	187	7,304,965	39,064	(17.1)	46.7	11.8	12.0
2008	180	7,004,874	38,916	(0.4)	47.6	12.6	12.7
2009	179	7,280,473	40,673	4.5	47.4	12.5	12.8

** See description on page 60.*

Table 4

Flow of Active Membership

Year Ended 12/31	Retired	Disabled	Died (Survivor Benefit)	Other Termination		Net Transfers*	New Member	End of Year
				Vested	Non-Vested			
2001				(1)	(4)		5	47
2002	(1)				(3)		5	48
2003								48
2004	(1)						1	48
2005	(1)			(1)	(1)		1	46
2006	(1)			(2)	(1)		3	45
2007	(2)				(1)		145	187
2008	(4)			(3)	(7)		7	180
2009	(3)			(7)	(5)	1	13	179

* Net transfers can include members transferring to a Defined Contribution plan or members who transfer between divisions and subsequently retire or terminate within the same plan year.

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Table 5

Vested Former Members in the Valuation - Comparative Schedule

Valuation Date 12/31	Number	Annual Deferred Benefits	Average Age	Average Benefit Service*	Average Eligibility Service*
1999	3	$			
2000	4				
2001	4	44,441	47.5	14.1	14.1
2002	4	32,741	48.5	10.3	10.7
2003	4	32,955	49.5	10.3	11.0
2004	2	10,585	41.0	5.9	7.8
2005	3	21,557	38.9	7.2	8.8
2006	6	62,205	40.1	9.7	10.7
2007	30	226,756	49.2	2.4	13.1
2008	32	254,609	49.4	3.0	13.3
2009	39	334,425	50.3	5.4	13.9

See description on page 60.

Table 6

Flow of Vested Former Members

Year Ended 12/31	Retired	Return To Work	Died (Survivor Benefit)	Forfeit Benefit	Net Transfers*	New	End of Year
2001				(1)		1	4
2002							4
2003							4
2004	(2)						2
2005						1	3
2006						3	6
2007				(1)		25	30
2008	(1)					3	32
2009					(1)	8	39

* Net transfers can include members transferring to a Defined Contribution plan or members who transfer between divisions and subsequently retire or terminate within the same plan year.

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Table 7

Retirees and Beneficiaries in the Valuation - Comparative Schedule

Valuation Date 12/31	Retirees		Beneficiaries		Total Recipients		No. of Actives per Recip.	Benefits As % of Active Payroll
	Number	Annual Benefits	Number	Annual Benefits	Number	Annual Benefits		
1999		$		$	9	$ 183,495	5.1	11.1%
2000					9	184,778	5.2	10.5
2001	8	165,491	1	20,571	9	186,062	5.2	10.2
2002	9	194,679	1	20,571	10	215,250	4.8	11.0
2003	9	197,857	2	23,752	11	221,609	4.4	10.6
2004	11	223,989	2	23,832	13	247,821	3.7	11.3
2005	12	257,856	2	23,911	14	281,767	3.3	13.4
2006	13	287,217	2	23,991	15	311,208	3.0	14.7
2007	73	790,003	7	41,115	80	831,118	2.3	11.4
2008	75	884,823	7	41,115	82	925,938	2.2	13.2
2009	74	926,792	8	48,840	82	975,632	2.2	13.4

Table 8

Flow of Retirees and Beneficiaries

Year Ended 12/31	Added to Rolls			Removed from Rolls			Year End	
	Number@	Annual Benefits	Benefit Adjust. *	Number	Annual Benefits	Benefit Adjust. #	Number	Annual Benefits
1999	2	$ 51,976	$		$ (0)	$	9	$ 183,495
2000		1,283					9	184,778
2001			1,283				9	186,062
2002	1	27,904	1,284				10	215,250
2003	1	3,181	3,178				11	221,609
2004	3	46,928	2,090	(1)	(22,806)		13	247,821
2005	1	31,079	2,867				14	281,767
2006	1	25,795	3,646				15	311,208
2007	65	515,701	4,209				80	831,118
2008	5	124,362	5,840	(3)	(35,382)		82	925,938
2009	4	51,496	11,665	(4)	(13,467)		82	975,632

@ *Includes beneficiaries of retirees who died during the year.*
* *Includes where applicable E, E-1, and E-2 benefits, and corrections.*
# *Includes where applicable C-2 and Accelerated Option benefits, and corrections.*

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Table 9

Retirees and Beneficiaries on the Rolls as of December 31, 2009

Distribution by Type of Benefit Being Paid

Benefits Being Paid to:	Annual Benefits	
	Number	Amount
Age and service retirants	73	$911,526
Non-duty disability retirants	0	0
Duty disability retirants	1	15,266
Beneficiaries of deceased retirants	7	28,269
Beneficiaries of deceased members:		
Non-duty death	1	20,571
Duty death	0	0
Total Benefits Being Paid	82	$975,632

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Table 10

Reported Assets (Market Value)

Division	2009 Valuation		2008 Valuation	
	Employer And Retiree*	Employee#	Employer And Retiree*	Employee#
01 - General	$ 13,994,915	$ 1,539,591	$ 11,979,678	$ 1,461,380
02 - Police Dept.	6,610,912	675,111	5,844,027	584,230
20 - Shrf Admin	1,078,524	106,616	892,115	103,423
Total Municipality	**$ 21,684,351**	**$ 2,321,318**	**$ 18,715,820**	**$ 2,149,033**
Combined Reserves	**$24,005,669**		**$20,864,853**	

** Reserve for Employer Contributions and Benefit Payments*
 # Reserve for Employee Contributions

The December 31, 2009 Valuation Assets are equal to 1.251668 times the reported Market Value of assets. The derivation of Valuation Assets is described on page 69 and the detailed calculations are shown on pages 70 - 72.

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Table 11

Flow of Valuation Assets (Actuarial Value)

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Net Transfers*	Balance
	Employer	Member					
2001	$ 198,690	$ 51,817	$ 451,603	$ (184,778)	$ (15,336)	$ 0	$ 6,214,201
2002	214,702	34,087	238,049	(186,062)	(4,397)	0	6,510,580
2003	227,468	61,669	543,076	(217,478)	(2,217)	0	7,123,098
2004	241,476	76,091	496,895	(241,105)	0	0	7,696,455
2005	205,139	74,319	503,188	(247,821)	0	0	8,231,280
2006	285,340	122,226	674,228	(283,847)	0	0	9,029,227
2007	18,066,222	185,308	1,395,922	(693,628)	(16,542)	0	27,966,509
2008	434,756	164,590	1,280,874	(810,434)	(3,228)	0	29,033,067
2009	367,798	186,220	1,391,974	(924,437)	(7,495)	1	30,047,128

* *Includes employer and member payments for service credit purchases (if any) that the governing body has approved.*

St Joseph County (7803)

Table 12

Termination Liability and Present Value of Accrued Benefits as of December 31, 2009

Termination Liability*	Term. Liability % Funded	Division	PVAB* Present Value of Accrued Benefits	Valuation Assets	PVAB Percent Funded	Unfunded (Overfunded) PVAB
		01 - General				
$ 8,698,890		Active Members	$ 7,051,494			
1,815,847		Vested Former Members	1,815,847			
3,980,490		Retirees and Beneficiaries	3,980,490			
10,567		Pending Refunds	10,567			
$ 14,505,794	134.0%	Total	$ 12,858,398	$ 19,444,044	151.2%	$ (6,585,646)
		02 - Police Dept.				
$ 3,453,795		Active Members	$ 4,076,796			
223,627		Vested Former Members	223,627			
4,720,399		Retirees and Beneficiaries	4,720,399			
2,500		Pending Refunds	2,500			
$ 8,400,321	108.6%	Total	$ 9,023,322	$ 9,119,682	101.1%	$ (96,360)
		20 - Shrf Admin				
$ 770,869		Active Members	$ 702,531			
0		Vested Former Members	0			
1,278,496		Retirees and Beneficiaries	1,278,496			
0		Pending Refunds	0			
$ 2,049,365	72.4%	Total	$ 1,981,027	$ 1,483,402	74.9%	$ 497,625
		Total Municipality				
$ 12,923,554		**Active Members**	**$ 11,830,821**			
2,039,474		**Vested Former Members**	**2,039,474**			
9,979,385		**Retirees and Beneficiaries**	**9,979,385**			
13,067		**Pending Refunds**	**13,067**			
$ 24,955,480	**120.4%**	**Total**	**$ 23,862,747**	**$ 30,047,128**	**125.9%**	**$ (6,184,381)**

* The Termination Liability represents the present value of benefits payable in the event that all active members terminate employment on December 31, 2009, based upon the valuation interest and mortality assumptions. The present value of accrued benefits (PVAB) includes vested and non-vested benefits accrued as of December 31, 2009. For a non-vested active member, the PVAB represents the present value of the non-vested accrued benefit, and the Termination Liability represents the present value of the non-vested accrued benefit (deferred to age 60). For some active members the Termination Liability may exceed the PVAB, because the Termination Liability assumes that members retire at the earliest possible age for commencement of unreduced deferred benefits, whereas the PVAB assumes continued employment based on actuarial assumptions for retirement, death, disability and withdrawal. Pending refunds represent expected refunds of accumulated member contributions to persons who have terminated membership before becoming eligible for pension benefits.

Please see the Comments on the Investment Markets on page 3.

St Joseph County (7803)

Table 13

Actuarial Accrued Liabilities and Valuation Assets as of December 31, 2009

Division	Actuarial Accrued Liabilities	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
01 - General				
Reserve for Employer Contributions and Benefit Payments				
Active Members	$ 8,469,190	$ 12,549,838	148.2%	$ (4,080,648)
Vested Former Members	1,408,436	1,408,436	100.0	0
Retirees and Beneficiaries	3,980,490	3,980,490	100.0	0
Total	$ 13,858,116	$ 17,938,764	129.4%	$ (4,080,648)
Reserve for Employee Contributions				
Active Members	$ 1,087,302	$ 1,087,302		
Vested Former Members	407,411	407,411		
Pending Refunds	10,567	10,567		
Total	$ 1,505,280	$ 1,505,280	100.0%	$ 0
Division Total	**$ 15,363,396**	**$ 19,444,044**	**126.6%**	**$ (4,080,648)**
02 - Police Dept.				
Reserve for Employer Contributions and Benefit Payments				
Active Members	$ 5,051,208	$ 3,532,228	69.9%	$ 1,518,980
Vested Former Members	191,945	191,945	100.0	0
Retirees and Beneficiaries	4,720,399	4,720,399	100.0	0
Total	$ 9,963,552	$ 8,444,572	84.8%	$ 1,518,980
Reserve for Employee Contributions				
Active Members	$ 640,928	$ 640,928		
Vested Former Members	31,682	31,682		
Pending Refunds	2,500	2,500		
Total	$ 675,110	$ 675,110	100.0%	$ 0
Division Total	**$ 10,638,662**	**$ 9,119,682**	**85.7%**	**$ 1,518,980**
20 - Shrf Admin				
Reserve for Employer Contributions and Benefit Payments				
Active Members	$ 823,247	$ 98,291	11.9%	$ 724,956
Vested Former Members	0	0	0.0	0
Retirees and Beneficiaries	1,278,496	1,278,496	100.0	0
Total	$ 2,101,743	$ 1,376,787	65.5%	$ 724,956
Reserve for Employee Contributions				
Active Members	$ 106,615	$ 106,615		
Vested Former Members	0	0		
Pending Refunds	0	0		
Total	$ 106,615	$ 106,615	100.0%	$ 0
Division Total	**$ 2,208,358**	**$ 1,483,402**	**67.2%**	**$ 724,956**

St Joseph County (7803)

Table 13 (continued)

Actuarial Accrued Liabilities and Valuation Assets as of December 31, 2009

Division	Actuarial Accrued Liabilities	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
Municipality Totals				
Reserve for Employer Contributions and Benefit Payments				
Active Members	$ 14,343,645	$ 16,180,357	112.8%	$ (1,836,712)
Vested Former Members	1,600,381	1,600,381	100.0	0
Retirees and Beneficiaries	9,979,385	9,979,385	100.0	0
Total	$ 25,923,411	$ 27,760,123	107.1%	$ (1,836,712)
Reserve for Employee Contributions				
Active Members	$ 1,834,845	$ 1,834,845		
Vested Former Members	439,093	439,093		
Pending Refunds	13,067	13,067		
Total	$ 2,287,005	$ 2,287,005	100.0%	$ 0
Municipality Total	$ 28,210,416	$ 30,047,128	106.5%	$ (1,836,712)

Please see the Comments on the Investment Markets on page 3.

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Table 14

Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Accrued Liability	UAL as Percent of Annual Payroll
1995	$ 3,253,267	$ 2,959,371	91%	$ 293,896	24%
1996	3,194,913	3,302,101	103	(107,187)	0
1997	3,421,966	3,719,590	109	(297,623)	0
1998	4,685,250	4,135,944	88	549,306	35
1999	5,517,963	5,131,754	93	386,209	23
2000	6,260,193	5,712,204	91	547,989	31
2001	6,874,506	6,214,201	90	660,305	36
2002	7,359,941	6,510,580	88	849,361	43
2003	8,190,992	7,123,098	87	1,067,894	51
2004	8,958,765	7,696,455	86	1,262,310	57
2005	9,874,803	8,231,280	83	1,643,523	78
2006	10,389,891	9,029,227	87	1,360,664	64
2007	25,851,877	27,966,509	108	(2,114,632)	0
2008	27,537,485	29,033,067	105	(1,495,582)	0
2009	28,210,416	30,047,128	107	(1,836,712)	0

Notes: Actuarial assumptions were revised for the 1997, 2000, 2004, 2008, and 2009 actuarial valuations.

St Joseph County (7803)

Table 15

Computed Employer Contributions to the Retirement System
For the Fiscal Year Beginning January 1, 2011

Division	Employer Contributions @		
	Normal Cost	Unfunded Accrued Liability #	Total Required Employer Contribution
Percentage of Payroll			
01 - General	7.37%	(8.76)%	0.00%
02 - Police Dept.	6.98%	4.02%	11.00%
20 - Shrf Admin	8.55%	13.34%	21.89%
Estimated Monthly Contribution*			
01 - General	$ 30,850	$ (30,850)	$ 0
02 - Police Dept.	11,515	6,632	18,147
20 - Shrf Admin	1,979	3,088	5,067
Total Municipality	**$ 44,344**	**$ (21,130)**	**$ 23,214**
Estimated Annual Contribution*			
Total Municipality	**$ 532,128**	**$ (253,560)**	**$ 278,568**

@ *The above Employer contribution requirements are in addition to the Member contributions, if any, shown in Table 1.*

* *Based on Valuation Payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts (usually higher).*

The amortization method and period are described in Table 16 for each division.

Please see the Comments on the Investment Markets on page 3.

St Joseph County (7803)

Division 01 - General

Table 16A

Computed Employer Contributions to the Retirement System For the Fiscal Year Beginning January 1, 2011

Contribution for	As Percentage of Active Member Payroll	Estimated Monthly Dollar Contribution *
Total Normal Cost	8.20%	$34,324
Member Contributions	1.00	4,186
Less Potential Refunds	(0.17)	(712)
Net Member Contributions	0.83	3,474
Employer Normal Cost @	7.37%	$30,850
Amortization of Unfunded Accrued Liability (25 years) #	(4.38)	(18,334)
Total Long Term Contribution	2.99	12,516
Overfunding Credit #	(4.38)	(18,334)
Total Employer Contribution @	**0.00%**	**$0 ***

@ *The above Employer contribution requirement is based on Member contributions of 1.00% of pay. If Member contributions are increased/decreased by 1.00% of pay, the Employer long term contribution requirement (based on a 25 year amortization) will decrease/increase by 0.88% of pay.*

* *Based on Valuation Payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts (usually higher).*

For this division, projected assets exceed projected liabilities as of the beginning of the January 1, 2011 fiscal year (see Table 24). The negative unfunded accrued liability is amortized (spread) over 10 years, and used to reduce the employer contribution rate. The total credit is 8.76% (4.38% plus 4.38%). The additional 4.38% results from spreading the negative unfunded accrued liability over 10 years instead of 25 years.

Note: Changes in actuarial assumptions and/or methods were reflected in the December 31, 2009 actuarial valuation. The effects of the changes are shown below:

Increase in Actuarial Accrued Liabilities:	**$(860,170)**
Increase in Computed Long Term Employer Contribution As a Percentage of Active Member Payroll	
Normal Cost:	**(0.07)%**
Amortization Payment:	**(1.02)%**
Total:	**(1.09)%**

Please see the Comments on the Investment Markets on page 3.

St Joseph County (7803)

Division 01 - General

Table 17A

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution
	Number	Annual Payroll	
2007	140	$ 5,054,679	0.00%
2008	136	4,903,868	0.00%
2009	133	5,023,036	0.00%

Notes:

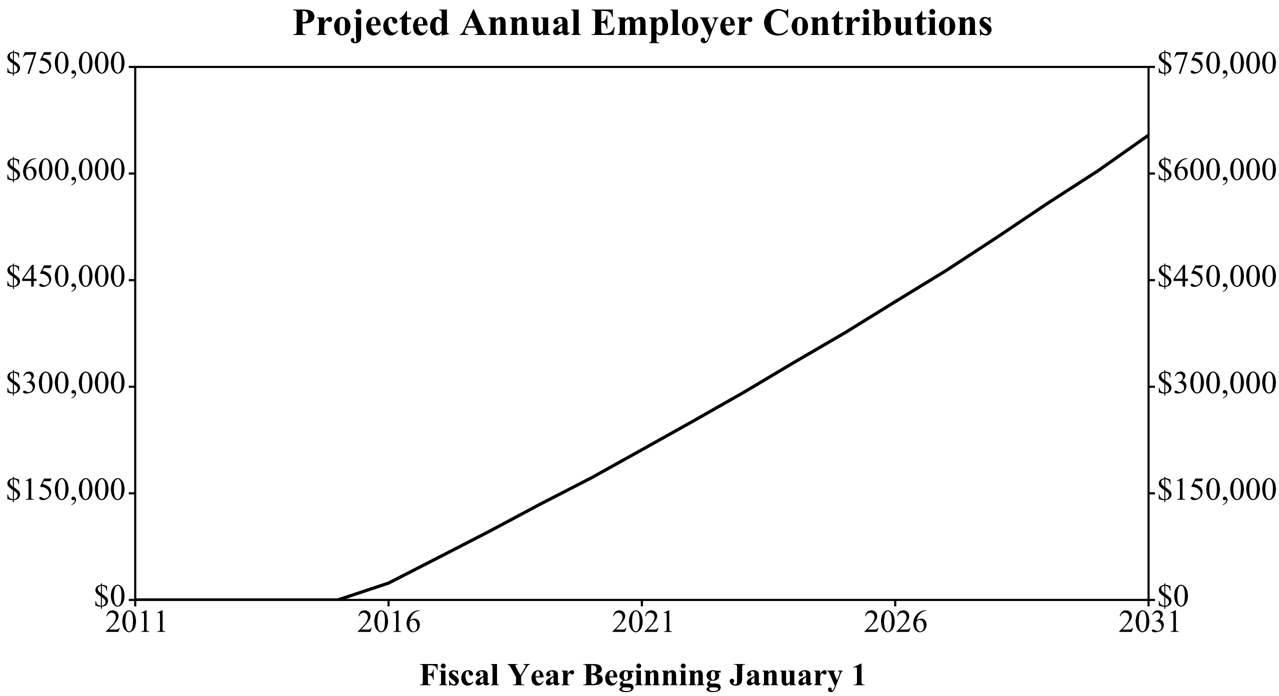
Adoption of Benefit V-8, FAC-5, B-2, Normal Retirement: 60, 1.00% Member Contributions reflected in 2007 valuation.
Actuarial assumptions were revised for the 2008 valuation.
Actuarial assumptions were revised for the 2009 valuation.

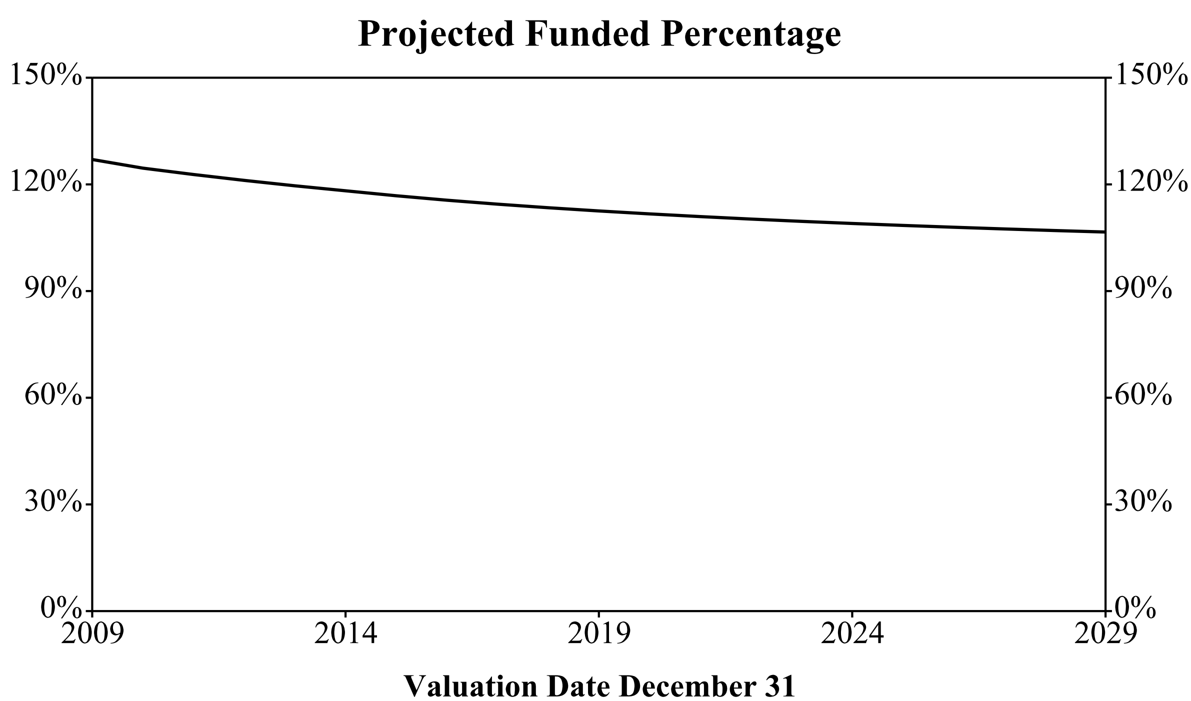
The most recent 15 years of benefit changes are reflected in this table. For a complete benefit history see Table 25.

St Joseph County (7803)

Division 01 - General

Chart 17.5A





Note: Please refer to page 65 for a discussion of the projection.

Table 18A
Flow of Active Membership

Year Ended 12/31	Retired	Disabled	Died (Survivor Benefit)	Other Termination		Transfer		New Member	End of Year
				Vested	Non-Vested	Out	In		
2007								140	140
2008	(2)			(2)	(6)			6	136
2009	(3)			(7)	(4)		1	10	133

Table 19A
Flow of Vested Former Members

Year Ended 12/31	Retired	Return To Work	Died (Survivor Benefit)	Forfeit Benefit	Transfer		New	End of Year
					Out	In		
2007							25	25
2008	(1)						2	26
2009							8	34

St Joseph County (7803)

Division 01 - General

Table 20A

Flow of Retirees and Beneficiaries

Year Ended 12/31	Added to Rolls			Removed from Rolls			Year End	
	Number@	Annual Benefits	Benefit Adjust.*	Number	Annual Benefits	Benefit Adjust.#	Number	Annual Benefits
2007	63	$ 448,950	$		$	$	63	$ 448,950
2008	3	43,171		(3)	(35,382)		63	456,739
2009	3	43,771	660	(3)	(5,742)		63	495,428

@ *Includes beneficiaries of retirees who died during the year.*
* *Includes where applicable E, E-1, and E-2 benefits, and corrections.*
\# *Includes where applicable C-2 and Accelerated Option benefits, and corrections.*

St Joseph County (7803)

Division 01 - General

Table 21A

Flow of Valuation Assets (Actuarial Value)

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Transfer*		Balance
	Employer	Member				Out	In	
2007	$ 17,720,029	$ 55,579	$ 661,699	$ (339,460)	$ (2,489)	$ (1,392,736)	$ 1,392,736	$ 18,095,358
2008	167,595	51,676	814,901	(425,301)	(1,239)	0	0	18,702,990
2009	105,549	52,944	931,512	(451,966)	(625)	0	103,640	19,444,044

* *Transfers out and in are usually related to the transfer of participants between divisions or municipalities, and to employer and member payments for service credit purchases (if any) that the governing body has approved.*

Table 22A

Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Accrued Liability	UAL as Percent of Annual Payroll
2007	$ 14,294,695	$ 18,095,358	127%	$ (3,800,663)	0%
2008	15,062,639	18,702,990	124	(3,640,351)	0
2009	15,363,396	19,444,044	127	(4,080,648)	0

St Joseph County (7803)

Division 02 - Police Dept.

Table 16B

Computed Employer Contributions to the Retirement System
For the Fiscal Year Beginning January 1, 2011

Contribution for	As Percentage of Active Member Payroll	Estimated Monthly Dollar Contribution *
Total Normal Cost	14.37%	$23,706
Member Contributions	8.60	14,187
Less Potential Refunds	(1.21)	(1,996)
Net Member Contributions	7.39	12,191
Employer Normal Cost @	6.98%	$11,515
Amortization of Unfunded Accrued Liability (28 years)	4.02	6,632
Total Long Term Contribution	11.00	18,147
Overfunding Credit #	0.00	0
Total Employer Contribution @	**11.00%**	**$18,147 ***

@ *The above Employer contribution requirement is based on Member contributions of 8.60% of pay. If Member contributions are increased/decreased by 1.00% of pay, the Employer long term contribution requirement (based on a 28 year amortization) will decrease/increase by 0.86% of pay.*

* *Based on Valuation Payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts (usually higher).*

\# *Only applies if projected assets exceed projected liabilities as of the beginning of the January 1, 2011 fiscal year (see Table 24).*

Note: Changes in actuarial assumptions and/or methods were reflected in the December 31, 2009 actuarial valuation. The effects of the changes are shown below:

Increase in Actuarial Accrued Liabilities:	**$(294,014)**
Increase in Computed Long Term Employer Contribution As a Percentage of Active Member Payroll	
Normal Cost:	**0.38%**
Amortization Payment:	**(0.80)%**
Total:	**(0.42)%**

Please see the Comments on the Investment Markets on page 3.

St Joseph County (7803)

Division 02 - Police Dept.

Table 17B

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution	
	Number	Annual Payroll	Regular Contribution	Minimum Required Contribution
1995	44	$ 1,243,172	11.33%	11.33%
1996	44	1,305,529	10.29%	6.84%
1997	41	1,277,582	9.58%	1.25%
1998	43	1,563,622	11.00%	11.00%
1999	42	1,481,328	11.00%	11.00%
2000	43	1,587,365	11.00%	11.00%
2001	43	1,632,899	11.00%	11.00%
2002	44	1,764,549	11.00%	11.00%
2003	44	1,880,029	11.00%	11.00%
2004	44	1,980,039	11.00%	11.00%
2005	42	1,869,298	11.00%	11.00%
2006	41	1,888,512	11.00%	11.00%
2007	43	2,012,984	11.00%	11.00%
2008	41	1,939,737	11.00%	11.00%
2009	41	1,979,637	11.00%	11.00%

Notes:

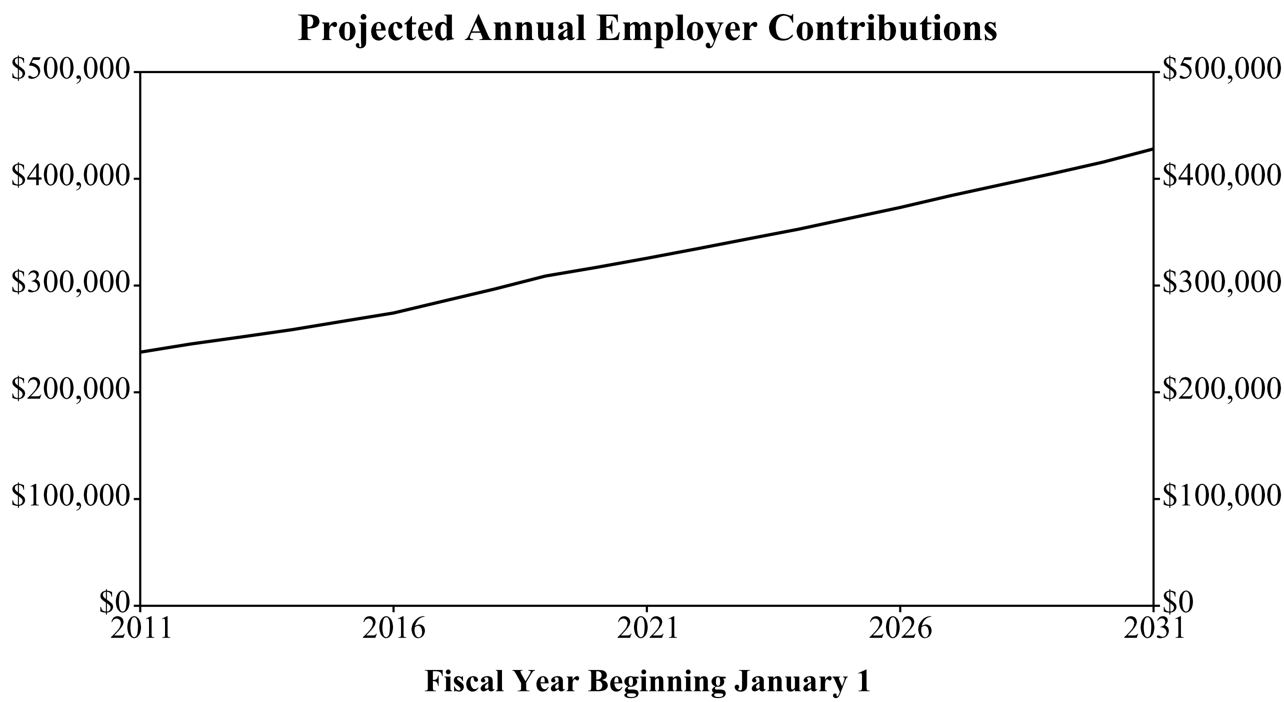
Actuarial assumptions were revised for the 1997 valuation.
Adoption of Benefit FAC-3 reflected in 1998 valuation.
3.19% member contribution reflected in 1998 valuation.
Adoption of Benefit E-2 reflected in 1998 valuation.
2.29% member contribution reflected in 1999 valuation to reflect employer contribution cap.
1.32% member contribution reflected in 2000 valuation to reflect employer contribution cap.
Actuarial assumptions were revised for the 2000 valuation.
2.60% Member Contributions reflected in 2001 valuation to reflect employer contribution cap.
3.07% Member Contributions reflected in 2002 valuation to reflect employer contribution cap.
Adoption of 3.59% Member Contributions (due to employer contribution cap) reflected in 2003 valuation.
Adoption of 4.84% Member Contributions (due to employer contribution cap) reflected in 2004 valuation.
Actuarial assumptions were revised for the 2004 valuation.
Adoption of 5.60% Member Contributions (due to employer contribution cap) reflected in 2005 valuation.
Adoption of 4.64% Member Contributions (due to employer contribution cap) reflected in 2006 valuation.
Adoption of 5.68% Member Contributions (due to employer contribution cap) reflected in 2007 valuation.
Adoption of 8.16% Member Contributions (due to employer contribution cap) reflected in 2008 valuation.
Actuarial assumptions and methods were revised for the 2008 valuation.
Adoption of 8.60% Member Contributions (due to employer contribution cap) reflected in 2009 valuation.
Actuarial assumptions were revised for the 2009 valuation.

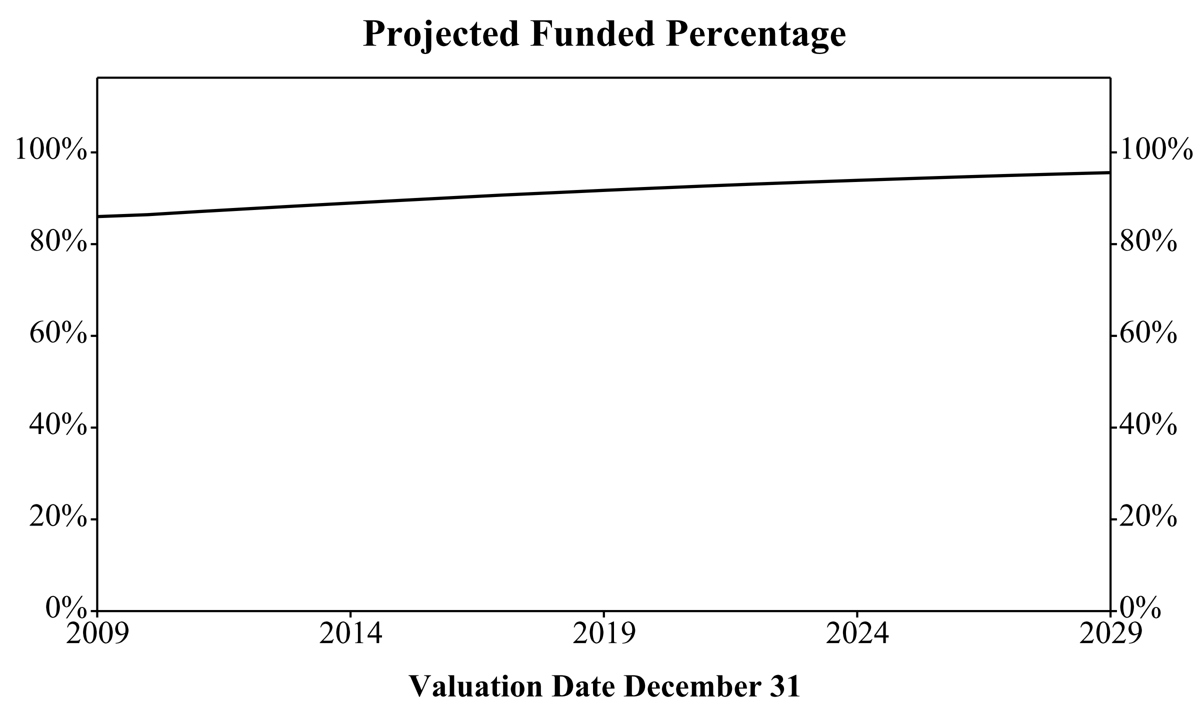
The most recent 15 years of benefit changes are reflected in this table. For a complete benefit history see Table 25.

St Joseph County (7803)

Division 02 - Police Dept.

Chart 17.5B





Note: Please refer to page 65 for a discussion of the projection.

St Joseph County (7803)

Division 02 - Police Dept.

Table 18B
Flow of Active Membership

Year Ended 12/31	Retired	Disabled	Died (Survivor Benefit)	Other Termination		Transfer		New Member	End of Year
				Vested	Non-Vested	Out	In		
2001				(1)	(4)			5	43
2002	(1)				(3)			5	44
2003									44
2004	(1)							1	44
2005	(1)			(1)	(1)			1	42
2006	(1)			(2)	(1)			3	41
2007	(2)				(1)			5	43
2008					(1)	(2)		1	41
2009					(1)	(1)		2	41

Table 19B
Flow of Vested Former Members

Year Ended 12/31	Retired	Return To Work	Died (Survivor Benefit)	Forfeit Benefit	Transfer		New	End of Year
					Out	In		
2001				(1)			1	4
2002								4
2003								4
2004	(2)							2
2005							1	3
2006							3	6
2007				(1)				5
2008								5
2009								5

St Joseph County (7803)

Division 02 - Police Dept.

Table 20B
Flow of Retirees and Beneficiaries

Year Ended 12/31	Added to Rolls			Removed from Rolls			Year End	
	Number@	Annual Benefits	Benefit Adjust.*	Number	Annual Benefits	Benefit Adjust.#	Number	Annual Benefits
2001		$	$ 1,283		$	$	9	$ 186,062
2002	1	27,904	1,284				10	215,250
2003	1	3,181	3,178				11	221,609
2004	3	46,928	2,090	(1)	(22,806)		13	247,821
2005	1	31,079	2,867				14	281,767
2006	1	25,795	3,646				15	311,208
2007	2	66,751	4,209				17	382,168
2008			5,840				17	388,008
2009	1	7,725	5,838	(1)	(7,725)		17	393,846

@ *Includes beneficiaries of retirees who died during the year.*
* *Includes where applicable E, E-1, and E-2 benefits, and corrections.*
# *Includes where applicable C-2 and Accelerated Option benefits, and corrections.*

St Joseph County (7803)

Division 02 - Police Dept.

Table 21B

Flow of Valuation Assets (Actuarial Value)

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Transfer*		Balance
	Employer	Member				Out	In	
2001	$ 185,937	$ 38,580	$ 421,143	$ (184,778)	$ (15,336)	$ 0	$ 0	$ 5,796,566
2002	198,011	23,790	217,268	(186,062)	(4,397)	0	0	6,045,176
2003	207,616	49,256	497,887	(217,478)	(2,217)	(23,132)	23,132	6,580,240
2004	219,885	61,368	456,655	(241,105)	0	0	0	7,077,043
2005	185,686	60,862	461,334	(247,821)	0	(8,131)	8,131	7,537,104
2006	238,641	102,428	615,510	(283,847)	0	(8,096)	8,096	8,209,836
2007	301,936	111,457	667,621	(354,168)	(14,053)	(35,259)	35,259	8,922,629
2008	222,398	93,950	321,692	(382,169)	(1,989)	(231,707)	0	8,944,804
2009	216,483	111,970	378,089	(388,007)	(6,870)	(136,787)	0	9,119,682

* *Transfers out and in are usually related to the transfer of participants between divisions or municipalities, and to employer and member payments for service credit purchases (if any) that the governing body has approved.*

Table 22B

Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Accrued Liability	UAL as Percent of Annual Payroll
2001	$ 6,273,724	$ 5,796,566	92%	$ 477,158	29%
2002	6,685,866	6,045,176	90	640,690	36
2003	7,430,130	6,580,240	89	849,890	45
2004	8,073,986	7,077,043	88	996,943	50
2005	8,660,652	7,537,104	87	1,123,548	60
2006	9,070,273	8,209,836	91	860,437	46
2007	10,160,230	8,922,629	88	1,237,601	61
2008	10,500,122	8,944,804	85	1,555,318	80
2009	10,638,662	9,119,682	86	1,518,980	77

St Joseph County (7803)

Division 20 - Shrf Admin

Table 16C

Computed Employer Contributions to the Retirement System For the Fiscal Year Beginning January 1, 2011

Contribution for	As Percentage of Active Member Payroll	Estimated Monthly Dollar Contribution *
Total Normal Cost	15.00%	$3,473
Member Contributions	7.70	1,783
Less Potential Refunds	(1.25)	(289)
Net Member Contributions	6.45	1,494
Employer Normal Cost @	8.55%	$1,979
Amortization of Unfunded Accrued Liability (28 years)	13.34	3,088
Total Long Term Contribution	21.89	5,067
Overfunding Credit #	0.00	0
Total Employer Contribution @	**21.89%**	**$5,067 ***

@ *The above Employer contribution requirement is based on Member contributions of 7.70% of pay. If Member contributions are increased/decreased by 1.00% of pay, the Employer long term contribution requirement (based on a 28 year amortization) will decrease/increase by 0.85% of pay.*

* *Based on Valuation Payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts (usually higher).*

\# *Only applies if projected assets exceed projected liabilities as of the beginning of the January 1, 2011 fiscal year (see Table 24).*

Note: Changes in actuarial assumptions and/or methods were reflected in the December 31, 2009 actuarial valuation. The effects of the changes are shown below:

Increase in Actuarial Accrued Liabilities:	**$(76,685)**
Increase in Computed Long Term Employer Contribution As a Percentage of Active Member Payroll	
Normal Cost:	**0.18%**
Amortization Payment:	**(1.51)%**
Total:	**(1.33)%**

Please see the Comments on the Investment Markets on page 3.

St Joseph County (7803)

Division 20 - Shrf Admin

Table 17C

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members Number	Active Members Annual Payroll	Employer Contribution
1999	4	$ 166,210	6.85%
2000	4	176,898	8.64%
2001	4	186,168	9.82%
2002	4	193,189	9.87%
2003	4	202,162	9.83%
2004	4	218,759	10.13%
2005	4	227,223	11.00%
2006	4	231,222	18.21%
2007	4	237,302	16.54%
2008	3	161,269	28.08%
2009	5	277,800	21.89%

Notes:

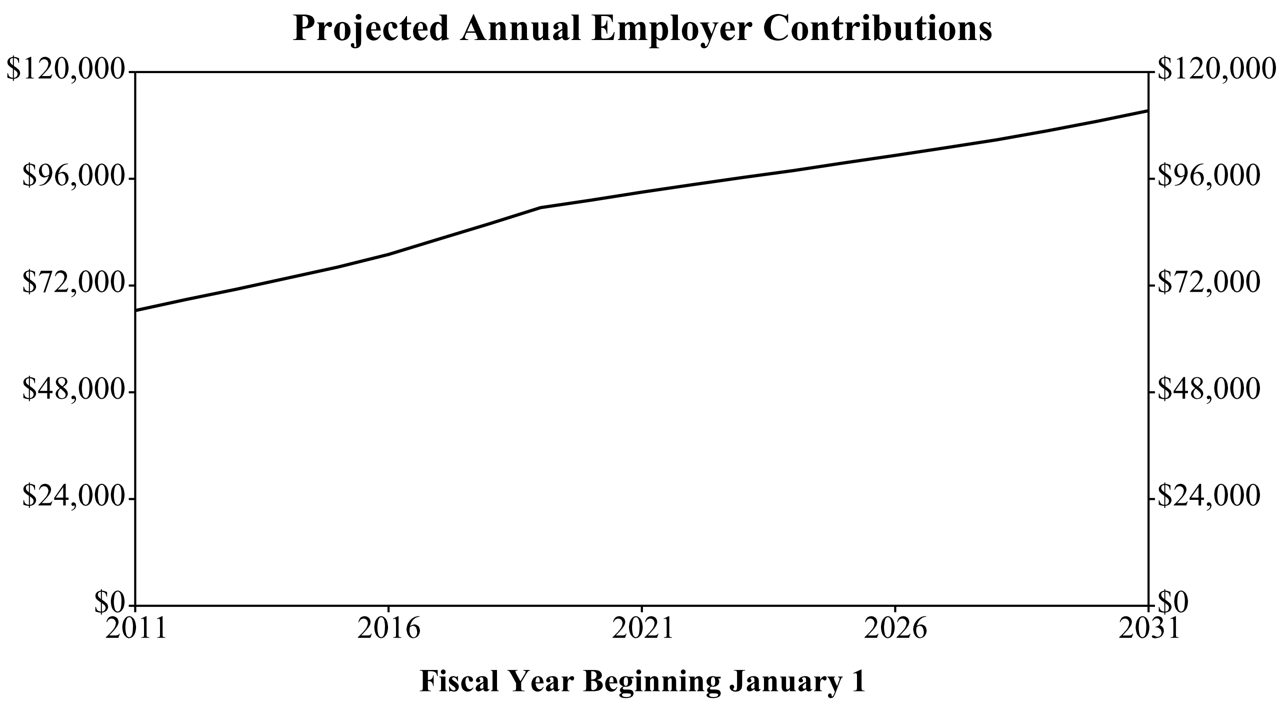
7.11% member contribution reflected in 1999 valuation to reflect employer contribution cap.
5.33% member contribution reflected in 2000 valuation to reflect employer contribution cap.
Actuarial assumptions were revised for the 2000 valuation.
6.14% Member Contributions reflected in 2001 valuation to reflect employer contribution cap.
6.73% Member Contributions reflected in 2002 valuation to reflect employer contribution cap.
Adoption of 6.80% Member Contributions (due to employer contribution cap) reflected in 2003 valuation.
Adoption of 7.70% Member Contributions (due to employer contribution cap) reflected in 2004 valuation.
Actuarial assumptions were revised for the 2004 valuation.
Adoption of Benefit FAC-3, E-2 (2.5%), 16.92% Member Contributions (due to employer contribution cap) reflected in 2005 valuation.
Adoption of 7.70% Member Contributions reflected in 2006 valuation.
Actuarial assumptions and methods were revised for the 2008 valuation.
Actuarial assumptions were revised for the 2009 valuation.

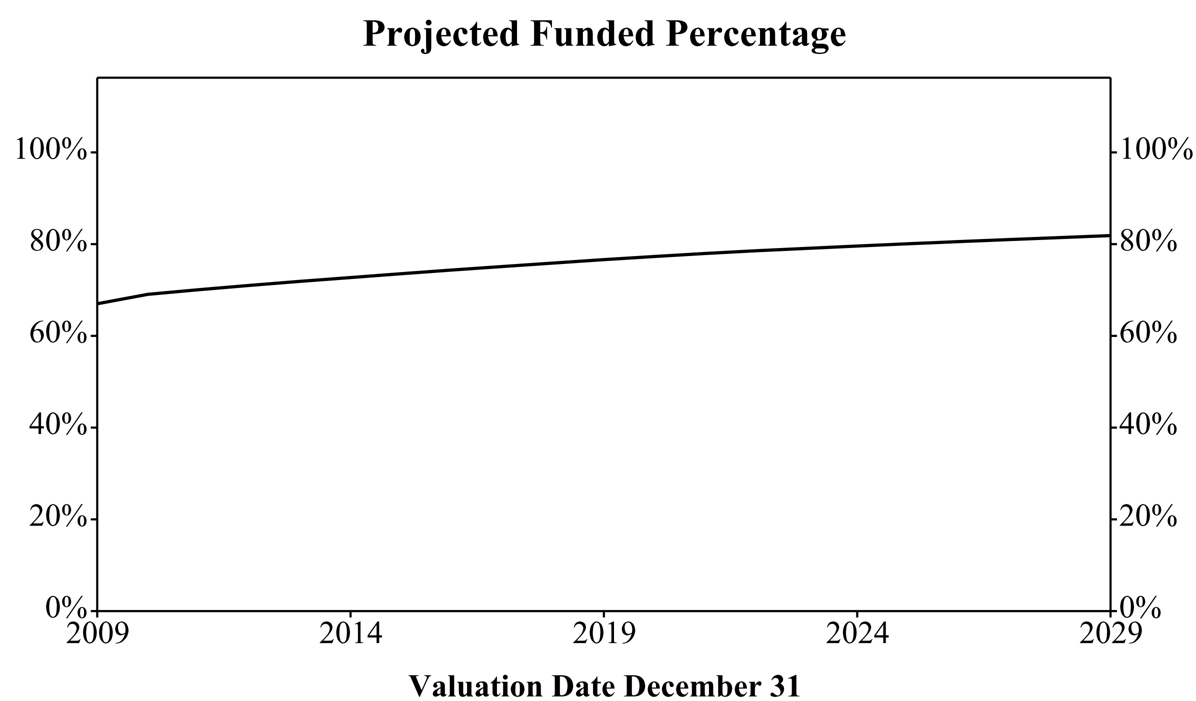
The most recent 15 years of benefit changes are reflected in this table. For a complete benefit history see Table 25.

St Joseph County (7803)

Division 20 - Shrf Admin

Chart 17.5C





Note: Please refer to page 65 for a discussion of the projection.

St Joseph County (7803)

Division 20 - Shrf Admin

Table 18C
Flow of Active Membership

Year Ended 12/31	Retired	Disabled	Died (Survivor Benefit)	Other Termination		Transfer		New Member	End of Year
				Vested	Non-Vested	Out	In		
2001									4
2002									4
2003									4
2004									4
2005									4
2006									4
2007									4
2008	(2)			(1)			2		3
2009							1	1	5

Table 19C
Flow of Vested Former Members

Year Ended 12/31	Retired	Return To Work	Died (Survivor Benefit)	Forfeit Benefit	Transfer		New	End of Year
					Out	In		
2001								0
2002								0
2003								0
2004								0
2005								0
2006								0
2007								0
2008							1	1
2009					(1)			0

St Joseph County (7803)

Division 20 - Shrf Admin

Table 20C
Flow of Retirees and Beneficiaries

Year Ended 12/31	Added to Rolls			Removed from Rolls			Year End	
	Number@	Annual Benefits	Benefit Adjust.*	Number	Annual Benefits	Benefit Adjust.#	Number	Annual Benefits
2001		$	$		$	$	0	$ 0
2002							0	0
2003							0	0
2004							0	0
2005							0	0
2006							0	0
2007							0	0
2008	2	81,191					2	81,191
2009			5,167				2	86,358

@ *Includes beneficiaries of retirees who died during the year.*
* *Includes where applicable E, E-1, and E-2 benefits, and corrections.*
\# *Includes where applicable C-2 and Accelerated Option benefits, and corrections.*

St Joseph County (7803)

Division 20 - Shrf Admin

Table 21C

Flow of Valuation Assets (Actuarial Value)

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Transfer*		Balance
	Employer	Member				Out	In	
2001	$ 12,753	$ 13,237	$ 30,460	$ 0	$ 0	$ 0	$ 0	$ 417,635
2002	16,691	10,297	20,781	0	0	0	0	465,404
2003	19,852	12,413	45,189	0	0	0	0	542,858
2004	21,591	14,723	40,240	0	0	0	0	619,412
2005	19,453	13,457	41,854	0	0	(1,994)	1,994	694,176
2006	46,699	19,798	58,718	0	0	(1,994)	1,994	819,391
2007	44,257	18,272	66,602	0	0	0	0	948,522
2008	44,763	18,964	144,281	(2,964)	0	0	231,707	1,385,273
2009	45,766	21,306	82,373	(84,464)	0	(16,422)	49,570	1,483,402

* *Transfers out and in are usually related to the transfer of participants between divisions or municipalities, and to employer and member payments for service credit purchases (if any) that the governing body has approved.*

Table 22C

Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Accrued Liability	UAL as Percent of Annual Payroll
2001	$ 600,782	$ 417,635	70%	$ 183,147	98%
2002	674,075	465,404	69	208,671	108
2003	760,862	542,858	71	218,004	108
2004	884,779	619,412	70	265,367	121
2005	1,214,151	694,176	57	519,975	229
2006	1,319,618	819,391	62	500,227	216
2007	1,396,952	948,522	68	448,430	189
2008	1,974,724	1,385,273	70	589,451	366
2009	2,208,358	1,483,402	67	724,956	261

St Joseph County (7803)

Table 23

GASB 25 And GASB 27 Information

The following information has been prepared to provide the information necessary to comply with GASB Statements Number 25 and 27. Statement 25 is effective for fiscal years beginning after June 15, 1996 and Statement 27 is effective for fiscal years beginning after June 15, 1997.

All entries and the annual employer contribution amount were based on the actuarial methods and assumptions used in the December 31, 2009 actuarial valuation. The entry age normal actuarial method was used to determine the disclosure entries.

GASB 25 Information (as of 12/31/2009)

Actuarial Accrued Liability	
Retirees and beneficiaries currently receiving benefits	$9,979,385
Terminated employees (vested former members) not yet receiving benefits	2,039,474
Non-vested terminated employees (pending refunds of accumulated member contributions)	13,067
Current employees -	
Accumulated employee contributions including allocated investment income	1,834,845
Employer financed	14,343,645
Total Actuarial Accrued Liability	$28,210,416
Net Assets Available for Benefits at Actuarial Value	30,047,128
(Market Value is $24,005,669)	
Unfunded (Overfunded) Actuarial Accrued Liability	$(1,836,712)

GASB 27 Information (as of 12/31/2009)

Fiscal Year Beginning	January 1, 2011
Annual Required Contribution (ARC)	$ 278,568*
Amortization Factor Used - Underfunded Liabilities (28 years)	0.055889
Amortization Factor Used - Underfunded Liabilities (25 years)	0.060002
Amortization Factor Used - Overfunded Liabilities (10 years)	0.119963

* Based on valuation payroll. For divisions that are open to new hires the actual required contribution will be based on current monthly payroll (during the fiscal year beginning January 1, 2011) times the computed employer contribution rate(s) shown in Tables 15 and 16. The ARC shown here is the sum of the ARC's calculated separately for each division.

St Joseph County (7803)

Table 24

Development of Projected Unfunded Accrued Liability At Beginning of Fiscal Year (January 1, 2011)

Division	Unfunded Accrued Liability 12/31/2009	Employer Normal Cost	Expected Employer Contrib.	Interest	Unfunded Accrued Liability 1/1/2011	Projected Fiscal Year Payroll
01 - General	$ (4,080,648)	$ 386,857	$ 0	$ (310,978)	$ (4,004,769)	$ 5,485,281
02 - Police Dep	1,518,980	144,397	(227,559)	118,192	1,554,010	2,161,813
20 - Shrf Admin	724,956	24,821	(81,517)	55,729	723,989	303,365

The unfunded accrued liability as of December 31, 2009 (see Table 13) is projected to the beginning of the fiscal year for which employer contributions are being calculated (January 1, 2011). This allows the 2009 valuation to take into account the expected future contributions that are based on past valuations. This projection process will result in more stable computed contribution rates, and was first used for the December 31, 2004 actuarial valuations.

The projected unfunded accrued liability is amortized over the appropriate period (see Table 16 for each division) to determine the amortization payment. For divisions that will have no new hires this is the dollar amortization payment. For divisions that are open to new hires this payment is divided by the projected fiscal year payroll to determine the amortization payment as a percentage of active member payroll. The resulting amortization contributions are displayed in Table 16 for each division.

St Joseph County (7803)

Table 25

Benefit Provision History

The following benefit provision history is provided by MERS. Any corrections to this history or discrepancies between this information and information displayed elsewhere in the valuation report should be reported to your Regional Manager in the MERS Office of Marketing and Employer Services.

Division 01 - General

Provisions by Date

4/1/2007	Member Contribution Rate 1.00%
4/1/2007	Day of work defined as 7 Hours a Day for all employees
4/1/2007	8 Year Vesting
4/1/2007	Benefit FAC-5 (5 Year Final Average Compensation)
4/1/2007	Non Standard Compensation Definition
4/1/2007	Benefit B-2
4/1/2007	Part-time Full-time Conversion
7/1/1992	Fiscal Month - January
12/17/1968	Covered by Act 88

Division 02 - Police Dept.

Provisions by Date

1/1/2009	Member Contribution Rate 5.68%
1/1/2008	Member Contribution Rate 4.64%
1/1/2007	Member Contribution Rate 5.60%
1/1/2006	Member Contribution Rate 4.84%
1/1/2005	Member Contribution Rate 3.59%
1/1/2004	Member Contribution Rate 3.07%
1/1/2003	Member Contribution Rate 2.60%
1/1/2002	Member Contribution Rate 1.32%
1/1/2001	Member Contribution Rate 2.29%
1/1/2000	Member Contribution Rate 3.19%
1/1/1999	Member Contribution Rate 4.31%
1/1/1999	E2 2.5% Annual COLA for future retirees (01/01/1999)
1/1/1999	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1995	Member Contribution Rate 0.00%
1/1/1994	Member Contribution Rate 1.85%
1/20/1993	Blanket Resolution (All Service)
11/1/1992	Benefit B-4 (80% max)
8/1/1992	Temporary Benefit B-4 (80% max) (08/01/1992 - 10/01/1992)
8/1/1992	25 Years & Out
8/1/1992	Member Contribution Rate 0.00%
8/1/1992	8 Year Vesting
7/1/1992	10 Year Vesting
7/1/1992	Benefit C-1 (New)

St Joseph County (7803)

Table 25 (continued)

Benefit Provision History

Division 02 - Police Dept.

Provisions by Date

7/1/1992	Fiscal Month - January
7/1/1992	Benefit FAC-5 (5 Year Final Average Compensation)
12/17/1968	Covered by Act 88

Division 20 - Shrf Admin

Provisions by Date

1/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2006	E2 2.5% Annual COLA for future retirees (01/01/2006)
1/1/2006	Member Contribution Rate 7.70%
1/1/2005	Member Contribution Rate 6.80%
1/1/2004	Member Contribution Rate 6.73%
1/1/2003	Member Contribution Rate 6.14%
1/1/2002	Member Contribution Rate 5.33%
1/1/2001	Member Contribution Rate 7.11%
1/1/2000	Member Contribution Rate 2.56%
1/1/1999	25 Years & Out
1/1/1999	Member Contribution Rate 3.00%
1/1/1999	Benefit B-4 (80% max)
1/1/1999	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1999	10 Year Vesting
1/20/1993	Blanket Resolution (All Service)
7/1/1992	Fiscal Month - January
12/17/1972	Covered by Act 88

APPENDIX

SUMMARY OF

PLAN PROVISIONS

AND

ACTUARIAL ASSUMPTIONS

AND

ACTUARIAL FUNDING METHOD

AS OF DECEMBER 31, 2009

FOR THE

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

INTRODUCTION

An actuarial valuation is the mathematical process that estimates plan liabilities and employer contribution requirements for purposes of financing the retirement system. This process is repeated annually to update the liabilities and contribution requirements for changes in member census and plan features, and to reflect actual plan experience in the process. The valuation reflects the present provisions of the Municipal Employees' Retirement Act of 1984, as amended by 1996 Public Act 220 (as amended), as embodied in the MERS Plan Document (as revised). The specific benefit provisions in effect for each municipality are listed in Table 1 in the results section of the report.

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 and methods used in the December 31, 2009 actuarial valuation are those adopted by the Retirement Board. The actuarial assumptions were last revised as of December 31, 2009 to reflect the results of the study of plan experience covering the period from December 31, 2003 through December 31, 2008.

There have been no changes in the funding method which was adopted by the Retirement Board commencing with the December 31, 1993 valuations. The basic funding method is entry age normal and employer contribution amounts are developed as a level percentage of payroll.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA). Gabriel, Roeder, Smith & Company is an independent firm of consultants and actuaries.

Details on MERS plan provisions, actuarial assumptions, and actuarial methodology follow this section.

ASSUMPTION AND METHOD CHANGES FOR THE DECEMBER 31, 2009 ACTUARIAL VALUATION

The December 31, 2009 actuarial valuation reflects the following changes in the actuarial assumptions:

- Revised rates of expected employee retirement.
- Temporary lower wage inflation assumption (see page 55).

The effects of these changes are shown in the note below Table 16 for each division.

SUMMARY OF PLAN PROVISIONS - DEFINED BENEFIT PLAN *

The benefits summarized in this section are intended only as general information regarding the Municipal Employees' Retirement System of Michigan. They are not a substitute for Act. No. 220 of the Public Acts of 1996, and the MERS Plan Document as revised. If any conflict occurs between the information in this summary and Act. No. 220 of the Public Acts of 1996, as amended, or the MERS Plan Document, as revised, the provisions of Act. No. 220 and the MERS Plan Document govern.

Eligibility for Retirement (Plan Section 10)

Age 60 with 10 or more years of credited service (reduced to 8 or 6 years if either Benefit V-8 or V-6, respectively, is adopted).

Age 55 with 15 or more years of credited service (reduced benefit unless Benefit F55 is adopted).

Age 50 with 25 or more years of credited service (reduced benefit unless Benefit F50 is adopted).

The retirement allowance is reduced ½ of 1% for each complete month that the retirement date precedes the age at which full normal retirement benefits are available. The reduction may be partially or fully waived by adopting Benefit F55 and/or Benefit F50 and/or Benefit F(N).

Optional Retirement Programs (Unreduced Benefits) (Plan Section 10)

Benefit F50 - Age 50 with a required period of credited service of either 25 or 30 years.

Benefit F55 - Age 55 with a required period of credited service of 15, 20, 25 or 30 years.

Benefit F(N) - Any age with a required period of credited service of either 20, 21, 22, 23, 24, 25, 26, 27, 28, 29 or 30 years.

Mandatory Retirement

None.

Deferred Retirement (Plan Section 12)

Termination of membership before age 60 other than by retirement or death, after 10 years of credited service (8 or 6 years if Benefit V-8 or V-6 is adopted). Retirement allowance begins upon application filed with MERS and satisfaction of the eligibility requirements for retirement. The deferred retirement allowance is computed in the same manner as a service retirement allowance, based on the benefit program in effect as of the date of termination of membership.

Rights to an allowance are forfeited if the member's accumulated contributions are refunded after termination of employment.

** Please see page 50 for a description of the Hybrid Plan.*

Service Retirement Allowance (Plan Sections 13-19)

Credited service at time of termination of membership is multiplied by:

Benefit A	-	1.0% of a member's final average compensation (FAC). Benefit A may not be adopted after January 2, 1986.
Benefit C New	-	1.3% of FAC.
Benefit C Old	-	Sum of 1.0% times the first $4,200 of FAC, plus 1.5% times the portion of FAC over $4,200. Benefit C Old may not be adopted after January 2, 1986.
Benefit C-1 New	-	1.5% of FAC.
Benefit C-1 Old	-	Sum of 1.2% times the first $4,200 of FAC, plus 1.7% times the portion of FAC over $4,200. Benefit C-1 Old may not be adopted after January 2, 1986.
Benefit B-1	-	1.7% of FAC.
Benefit C-2	-	2.0% of FAC, payable until attainment of the age at which unreduced Social Security benefits are available (currently age 66 for normal retirement, gradually increasing to age 67). Upon attainment of this age, the benefit reverts to the basic Benefit A, C New, C Old, C-1 New, C-1 Old or B-1.
Benefit B-2	-	2.0% of FAC.
Benefit B-3	-	2.25% of FAC, with a maximum benefit of 80% of FAC.
Benefit B-4	-	2.5% of FAC, with a maximum benefit of 80% of FAC.

Maximum Benefit Payable by MERS (Plan Section 55)

The maximum benefit that may be paid by MERS is governed by Section 415 of the Internal Revenue Code (see page 53). Benefits in excess of the maximum benefit will be paid by the MERS Excess Benefit Plan under Plan Section 55A.

Act 88 (Reciprocal Retirement Act, 1961 P.A. 88)

If the municipality has elected to come under the provision of Act 88 (see Table 1), service with former and future public employers in Michigan may be used to satisfy the service eligibility conditions of MERS.

Final Average Compensation (Plan Sections 2A(6) and 2A(11))

MERS plan benefits are based on a member's final average compensation (FAC), subject to the dollar compensation limits under Section 401(a)(17) of the Internal Revenue Code (see page 53). For this purpose, final average compensation means one-fifth of the aggregate amount of compensation (as defined in the MERS Plan Document, Section 2A(6)) paid to a member during the period of 5 consecutive years of the member's credited service in which the aggregate compensation paid is highest, known as FAC-5. Adoption of Benefit FAC-3 results in final average compensation being averaged over 3 years, instead of 5 years.

Disability Retirement Allowance (Plan Section 24)

Total and permanent disability while employed by a participating municipality and after meeting the vesting requirement of the benefit program. The service requirement is waived if the disability is the natural and proximate result of duty-connected causes.

The allowance is computed in the same manner as a service retirement allowance, except that the reduction for retirement before age 60 is not applied.

If disability is due to duty-connected causes, the amount of the retirement allowance shall not be less than 25% of the member's final average compensation.

Adoption of optional Benefit Program D-2 will provide a retirement allowance for a duty-connected disability that is the greater of:

(i) 25% of the member's final average compensation; or

(ii) A benefit based on 10 years of credited service in addition to the member's actual period of service, provided the total years of service do not exceed the greater of 30 years or the member's actual period of service.

Non-Duty Death Allowance (Plan Sections 26 and 28)

If a member or vested former member with the minimum years of service required to be vested dies before retirement, a monthly survivor allowance may be payable.

If the member is married, the spouse is the automatic beneficiary unless the spouse, in writing, declines a benefit in favor of another named beneficiary.

A contingent survivor beneficiary (named in an Option II Contingent Beneficiary Designation form filed with MERS) will receive a retirement allowance computed in the same manner as a service retirement allowance, based on service and final average compensation at death, but reduced to reflect an Option II (100% joint and survivor) election. The reduction for retirement before age 60 is not applied. Payment of a retirement allowance to the contingent survivor beneficiary of a deceased member commences immediately. Payment of a retirement allowance to the contingent survivor beneficiary of a deceased vested former member commences on the date the member would have first satisfied eligibility for retirement with an unreduced service retirement allowance.

If there is no named beneficiary and the member leaves a spouse, the spouse will receive an Option II survivor allowance. Payment of a retirement allowance to the surviving spouse of a deceased member commences immediately. Payment of a retirement allowance to the surviving spouse of a deceased vested former member commences on the date the member would have first satisfied eligibility for retirement for an unreduced service retirement allowance. The amount of a surviving spouse's retirement allowance shall be 85% of the deceased member's or deceased vested former member's accrued retirement allowance computed in the same manner as a service retirement allowance, based on service and final average compensation at time of death.

The amount of a surviving spouse's benefit is always the larger of i) the benefit computed as a contingent survivor beneficiary, and ii) the 85% of accrued retirement allowance benefit described above.

If there is no named beneficiary and no retirement allowance being paid to a surviving spouse, unmarried children under age 21 will be paid an equal share of 50% of the deceased member's or deceased vested former member's accrued retirement allowance. The reduction for retirement before age 60 is not applied.

If no retirement allowance becomes payable at death, the member's accumulated contributions, if any, are paid to the beneficiary or to the decedent's estate.

Duty-Connected Death Allowance (Plan Section 27)

A duty death allowance, computed in the same manner as a non-duty death allowance, may be payable to a spouse or children if death occurs as the natural and proximate result of performance of duty with a participating municipality. The vesting requirement is waived, and the minimum benefit is 25% of the deceased member's final average compensation.

Adoption of optional Benefit Program D-2 will provide a retirement allowance for a duty-connected death that is the greater of:

(i) 25% of the member's final average compensation; or
(ii) A benefit based on 10 years of credited service in addition to the member's actual period of service, provided the total years of service do not exceed the greater of 30 years or the member's actual period of service.

Member Contributions (Plan Sections 32 and 35)

Each member contributes a percent of annual compensation, as selected by the municipality, on the member's annual compensation up to the compensation limit under Section 401(a)(17) of the Internal Revenue Code (see page 53). Any percentage from 0% to 10% (in 0.1% increments) may be selected. A 3%/5% contribution program was available prior to 1985 and may be continued (until any new benefit programs are adopted), but not adopted, after 1984. Under this program the member contributes 3% of the first $4,200 of annual compensation and 5% of portions of annual compensation over $4,200. Interest is credited to accumulated member contributions each December 31 (and reflected in the Annual Member Statement provided to each member) at a rate determined by MERS, currently the one-year U.S. Treasury Bill rate determined as of each December 31. The interest rate credited for the 12-month period ending on the valuation date was 0.43%.

If a member leaves the employ of the municipality, or dies, without a retirement allowance or other benefit payable on his/her account, the member's accumulated contributions plus interest (as described above) are refunded with spousal consent, to the member, if living, or to the member's surviving spouse, if any, or to a named beneficiary (after spousal consent, if applicable).

Note for MERS' Defined Contribution Program (Plan Section 19A): The Annual Actuarial Valuation addresses assets and liabilities for participation under MERS' Defined Benefit Programs. MERS' Defined Contribution Program (Benefit Program DC), which first became available for adoption in late 1997, is not addressed in the valuation results as it is not a defined benefit program.

Post-Retirement Adjustments (Plan Sections 20-22)

Benefit E – provides a one-time benefit increase to present retirants and beneficiaries. The amount of the increase is equal to a fixed percentage of the present benefit, or a fixed dollar amount times the number of years since the later of retirement or the date specified in the resolution. Benefit E may be readopted from time to time.

Benefit E-1 – provides automatic 2.5% annual non-compounded benefit increases to persons (and their beneficiaries) retired before the effective date of Benefit E-1. Such increases are further limited to increases in the Consumer Price Index (CPI) if Benefit E-1 was adopted before January 1, 1999. For all adoptions or readoptions after that date, the increase is an automatic 2.5% non-compounded increase without any CPI limitation.

Benefit E-2 – provides automatic 2.5% annual non-compounded benefit increases to persons (and their beneficiaries) retired on or after the effective date of Benefit E-2. Such increases are further limited to increases in the Consumer Price Index (CPI) if Benefit E-2 was adopted before January 1, 1999. For all adoptions or readoptions after that date, the increase is an automatic 2.5% non-compounded increase without any CPI limitation.

Death-After-Retirement Surviving Spouse Benefit (Plan Sections 23 and 23A)

A retiring member electing form of payment SL (straight life retirement allowance) is normally paid a lifetime retirement allowance, with payments terminating at death. The retiring member could provide benefits to a surviving spouse or another named beneficiary (see below) by electing Option II (100% continuation to beneficiary) or Option II-A (75% continuation to beneficiary) or Option III (50% continuation to beneficiary). A surviving spouse is automatically the beneficiary to an Option II, IIA or III allowance unless the spouse, in writing, relinquishes the benefit to the member electing a straight life allowance or to another named beneficiary. Electing these alternate forms of payment would lower the retiring member’s retirement allowance.

If Benefit Program RS50% is adopted, a member retiring on or after the effective date of Benefit RS50% may elect form of payment SL and still provide a 50% survivor benefit to the member’s spouse. To be eligible for a surviving spouse benefit, the retiring member and spouse must have been married to each other both at the time of death and during the full one-year period just before retirement.

DROP+   Delayed Retirement Option Partial Lump Sum (Plan Section 10(6))

Any member who is eligible to retire with full, immediate retirement benefits has the option to:

(i) Retire immediately and receive a monthly benefit payable immediately, or

(ii) Delay his or her retirement date and continue to work.

If the member is covered by Benefit Program DROP+ and the member retires at least 12 months after first becoming eligible for unreduced benefits, at actual retirement the member *has the option* to receive a partial lump sum and a reduced monthly benefit:

(i) The member can elect a lump sum equal to 12, 24, 36, 48, or 60 times the member's monthly accrued benefit (if the member has delayed retirement at least that many months).

(ii) For each 12 months included in the lump sum, the member's lifetime benefit is reduced by the DROP+ Percentage adopted by the employer. The employer can adopt any of the following DROP+ reduction percentages: 4%, 5%, 6%, 7%, or 8%.

SUMMARY OF PLAN PROVISIONS - HYBRID PLAN *

The benefits summarized in this section are intended only as general information regarding the Municipal Employees' Retirement System of Michigan. They are not a substitute for Act. No. 220 of the Public Acts of 1996, and the MERS Plan Document as revised. If any conflict occurs between the information in this summary and Act. No. 220 of the Public Acts of 1996, as amended, or the MERS Plan Document, as revised, the provisions of Act. No. 220 and the MERS Plan Document govern.

Part I - Defined Benefit Portion of Hybrid Plan

Eligibility for Retirement (Plan Section 19B)

Age 60 and 6 or more years of service.

Optional Retirement Programs (Unreduced Benefits) (Plan Section 10)

None

Mandatory Retirement

None

Deferred Retirement (Plan Sections 12 and 19B)

Termination of membership before age 60 other than death, after 6 years of credited service. Retirement allowances begin upon application filed with MERS, at age 60 or later. The deferred retirement allowance is computed in the same manner as a service retirement allowance, based on the final average compensation and years of service at termination.

Service Retirement Allowance (Plan Section 19B)

Credited service at time of termination is multiplied by:

Hybrid 1.0%	1.0% of a member's final average compensation (FAC)
Hybrid 1.25%	1.25% of FAC
Hybrid 1.5%	1.5% of FAC

** Please see page 43 for a description of the Defined Benefit Plan.*

Maximum Benefit Payable by MERS (Plan Section 55)

The maximum benefit that may be paid by MERS is governed by Section 415 of the Internal Revenue Code (see page 53). Benefits in excess of the maximum benefit will be paid by the MERS Excess Benefit Plan under Plan Section 55A.

Act 88 (Reciprocal Retirement Act, 1961 P.A. 88)

If the municipality has elected to come under the provision of Act 88 (see Table 1), service with former and future public employers in Michigan may be used to satisfy the service eligibility conditions of MERS.

Final Average Compensation (Plan Sections 2A(6), 2A(11) and 19(B))

Computed under defined benefit plan Benefit Program FAC-3.

Disability Retirement Allowance (Plan Section 24)

Benefits are the same as under the defined benefit plan, except that optional Benefit Program D-2 does not apply.

Non-Duty Death Allowance (Plan Sections 26 and 28)

Benefits are the same as under the defined benefit plan.

Duty-Connected Death Allowance (Plan Section 27)

Benefits are the same as under the defined benefit plan, except that optional Benefit Program D-2 does not apply.

Member Contributions (Plan Section 19B)

None

Post-Retirement Adjustments (Plan Sections 20-22)

None

Death-After-Retirement Surviving Spouse Benefit (Plan Sections 23 and 23A)

The same optional forms of payment are available as under the defined benefit plan, except that optional Benefit Program RS50% does not apply.

DROP+ Delayed Retirement Option Partial Lump Sum (Plan Section 10(6))

None

Part II - Defined Contribution Portion of Hybrid Plan

Employer Contributions (Plan Section 19B)

Contribution Amount - Any percentage of compensation allowed by federal law.

Vesting Schedule - One of the following vesting schedules for employer contributions can be adopted by the employer:

1. Immediate vesting upon participation, or
2. 100% vesting after stated years (participant is 100% vested after not to exceed maximum 5 years of service ("cliff" vesting)), or
3. Graded vesting percentages per year of service, not to exceed maximum 6 years of service for 100% vesting, nor be less than certain stated minimums

Member Contributions (Plan Section 19B)

Contribution Amount - Any amount allowed by federal law and subject to procedures established by the Retirement Board.

Vesting Schedule - 100% immediate vesting

Municipal Employees' Retirement System of Michigan
IRC Section 415(b)(1)(A) Benefit Dollar Limits - 2010

The limits are based on the retiree's age at retirement. The limit at ages 62-65 is indexed with inflation, in $5,000 increments. The limits at earlier ages are then increased proportionately. The limit applies to the retiree's or beneficiary's employer-financed straight life benefit, except in the case of an Option II, IIA, or III election with the retiree's spouse as named beneficiary, in which case the limit applies to the employer-financed portion of the reduced joint and survivor benefit.

Age at Retirement	General Employees	Police and Fire Members #
35	$ 35,432	$ 195,000
36	37,444	195,000
37	39,584	195,000
38	41,860	195,000
39	44,285	195,000
40	46,868	195,000
41	49,623	195,000
42	52,564	195,000
43	55,706	195,000
44	59,065	195,000
45	62,661	195,000
46	66,514	195,000
47	70,648	195,000
48	75,087	195,000
49	79,862	195,000
50	85,004	195,000
51	90,549	195,000
52	96,539	195,000
53	103,020	195,000
54	110,044	195,000
55	117,672	195,000
56	125,969	195,000
57	135,013	195,000
58	144,891	195,000
59	155,704	195,000
60	167,566	195,000
61	180,613	195,000
62	195,000	195,000
63	195,000	195,000
64	195,000	195,000
65 & older	195,000	195,000

\# *Requires that the member have at least 15 years of police, fire, and/or armed forces service as defined in the final regulations issues on April 5, 2007. Otherwise, use the limits for general members.*

IRC Section 401(a)(17) Compensation Limit - 2010

For 2010 the IRC Section 401(a)(17) limit is $245,000. This limit is indexed with inflation in $5,000 increments.

Actuarial Assumptions

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

- An assumed rate of investment return that is used to discount liabilities and project what plan assets will earn.
- A mortality table projecting the number of members who will die before retirement and the duration of benefit payments after retirement.
- Assumed retirement rates projecting when members will retire and commence receiving retirement benefits.
- A set of withdrawal and disability rates to estimate the number of members who will leave the work force before retirement.
- Assumed rates of pay increase to project member compensation in future years.

The actuarial assumptions used in connection with this December 31, 2009 actuarial valuation are unchanged from the December 31, 2008 valuation assumptions , with the exceptions noted on page 42. The actuarial assumptions currently utilized are summarized below and on the following pages.

Interest Rate

Funding plan benefits involves the accumulation of assets to pay benefits in the future. These assets are invested and the net rate of investment earnings is a significant factor in determining the contributions required to support the ultimate cost of benefits. For the 2009 actuarial valuation, the net long-term investment yield is assumed to be 8%. This assumption was first used for the December 31, 1981 actuarial valuations.

The reader should note that, given that the actuarial value of assets is currently 25% higher than the market value, meeting the actuarial assumption in the next few years will require average annual market returns that substantially exceed the 8% investment return assumption.

Please see the Comments on the the Investment Markets on page 3 .

Pay Increases

Because benefits are based on a member's final average compensation, it is necessary to make an assumption with respect to each member's estimated pay progression. The pay increase assumption used in the actuarial valuation projects annual pay increases of 4.5% (2% for calendar years 2010-2014) plus a percentage based on an age-related scale to reflect merit, longevity and promotional pay increases.

The pay increase assumption for selected ages is shown below. The 4.5% long-term wage inflation assumption was first used for the December 31, 1997 actuarial valuations. The merit and longevity pay increase assumption was first used for the December 31, 2004 actuarial valuations.

Age	Base (Wage Inflation)#	Merit and Longevity	Total Percentage Increase in Pay
20	4.50%	8.40%	12.90%
25	4.50	5.33	9.83
30	4.50	3.26	7.76
35	4.50	2.05	6.55
40	4.50	1.30	5.80
45	4.50	0.81	5.31
50	4.50	0.52	5.02
55	4.50	0.30	4.80
60	4.50	0.00	4.50

\# *For calendar years 2010, 2011, 2012, 2013 and 2014, the wage inflation assumption is 2%, instead of 4.5%. This assumption was first used for the December 31, 2009 actuarial valuations.*

Inflation

Although no specific price inflation assumption is needed for this valuation, the 4.5% long-term wage inflation assumption would be consistent with a price inflation of 3% to 4%.

Payroll Growth

For divisions that are not closed to new hires, the number of active members is projected to remain constant, and the total payroll is projected to increase 4.5% annually in the long term (2% annually for calendar years 2010 - 2014). This assumption was first used for the December 31, 1997 actuarial valuations.

Withdrawal Rates

The withdrawal rates are used to estimate the number of employees at each age that are expected 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 are based on years of service, and scaled up or down according to each division's experience.

Division	Withdrawal Rate Scaling Factor
All divisions	100%

The base withdrawal rates (see the table below) are multiplied by the scaling factor to obtain the assumed withdrawal rates.

Sample rates of withdrawal from active employment, before application of the scaling factor, are shown below. These rates were first used for the December 31, 2008 actuarial valuations.

Sample Years of Service	% of Active Members Withdrawing Within the Next Year
0	20.00%
1	17.00
2	14.00
3	11.00
4	9.00
5	6.50
10	5.00
15	3.70
20	3.00
25	2.70
30	2.60
34 and over	2.40

Retirement Rates

A schedule of retirement rates is used to measure the probability of eligible members retiring during the next year. The retirement rates for Normal Retirement are determined by each member's replacement index at the time of retirement. The replacement index is defined as the approximate percentage of the member's pay (after reducing for MERS member contributions) that will be replaced by the member's benefit at retirement. The index is calculated as:

Replacement Index = 100 x Accrued Benefit divided by [Pay less Member Contributions]

Retirement rates for Early (reduced) Retirement are determined by the member's age at early retirement.

The revised Normal Retirement rates below were first used for the December 31, 2009 actuarial valuations. The Early Retirement rates were first used for the December 31, 2004 actuarial valuations.

NORMAL RETIREMENT

Sample Replacement Index	Percent of Eligible Active Members Retiring Within Next Year
5	5%
10	11
15	16
20	19
25	20
30	20
35	20
40	20
45	20
50	20
55	21
60	22
65	24
70	24
75	28
80	32
85	38
90	45
95	48
100+	50

EARLY RETIREMENT - REDUCED BENEFIT

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year
50	2%
51	2
52	3
53	5
54	8
55	4
56	4
57	4
58	6
59	8

Disability Rates

Disability rates are used in the valuation to estimate the incidence of member disability in future years.

The assumed rates of disablement at various ages are shown below. These rates were first used for the December 31, 2004 actuarial valuations.

Sample Ages	Percent Becoming Disabled Within Next Year
20	0.02%
25	0.02
30	0.02
35	0.06
40	0.06
45	0.11
50	0.24
55	0.41
60	0.41
65	0.41

85% of the disabilities are assumed to be non-duty and 15% of the disabilities are assumed to be duty related. For those plans which have adopted disability provision D-2, 70% of the disabilities are assumed to be non-duty and 30% are assumed to be duty related.

Mortality Table

In estimating the amount of the reserves required at the time of retirement to pay a member's benefit for the remainder of his or her lifetime, it is necessary to make an assumption with respect to the probability of surviving to retirement and the life expectancy after retirement.

The mortality table used to project the mortality experience of plan members is a 50% Male - 50% Female blend of the 1994 Group Annuity Mortality Table. For disabled retirees, the regular mortality table is used with a 10-year set forward in ages to reflect the higher expected mortality rates of disabled members. These mortality tables were first used for the December 31, 2004 actuarial valuations.

90% of active member deaths are assumed to be non-duty deaths and 10% of the deaths are assumed to be duty related.

The life expectancies and mortality rates projected for **non-disabled** members are shown below for selected ages:

Age	Expected Years of Life Remaining	Mortality Rates
20	61.55	0.04%
25	56.68	0.05
30	51.82	0.06
35	46.97	0.07
40	42.13	0.09
45	37.34	0.13
50	32.60	0.20
55	27.98	0.34
60	23.53	0.62
65	19.40	1.16
70	15.66	1.87
75	12.24	2.99
80	9.25	5.07

The life expectancies and mortality rates projected for **disabled** members are shown below for selected ages:

Age	Expected Years of Life Remaining	Mortality Rates
20	51.82	0.06%
25	46.97	0.07
30	42.13	0.09
35	37.34	0.13
40	32.60	0.20
45	27.98	0.34
50	23.53	0.62
55	19.40	1.16
60	15.66	1.87
65	12.24	2.99
70	9.25	5.07
75	6.81	8.25
80	4.85	13.46

Miscellaneous and Technical Assumptions

Loads	-	None
Marriage Assumptions	-	70% of males and 70% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing	-	Beginning of valuation year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Pay Adjustment	-	None.
Decrement Timing	-	Decrements of all types are assumed to occur mid-year.
Future Service	-	Members are assumed to earn 1.0 years of service in each future year.
Eligibility Testing	-	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Benefit Service	-	Exact fractional service is used to determine the amount of benefit payable. Benefit service is the service used in the benefit formula.
Eligibility Service	-	The larger of reported Eligibility Service and reported Vesting Service was used as eligibility service in the valuation. Eligibility service is the service used to meet the conditions for retirement, and is generally equal to or larger than benefit service.
Decrement Relativity	-	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation	-	Disability and withdrawal do not operate during retirement eligibility.
Normal Form of Benefit	-	Future retiring members are assumed to elect:

Form of Payment	Percentage
SL	45%
II	25
IIA	10
III	15
IV	5

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.
Maximum Compensation	-	The dollar compensation limits under Section 401(a)(17) of the Internal Revenue Code are projected to increase 4.5% annually. No member or employer contributions are projected to be made on the portion of any member's annual compensation in excess of the IRC Section 401(a)(17) limit for the year.

Miscellaneous and Technical Assumptions (continued)

Maximum Benefit	-	The dollar benefit limitations under Section 415 of the Internal Revenue Code are projected to increase 4.5% annually. Employee divisions 02, 20-29 (Police), 05 and 50-59 (Fire) are presumed eligible for the public safety benefit limits. No benefits in excess of the IRC section 415 limits are projected to be paid, except as provided under the Qualified Excess Benefit Arrangement, Plan Section 55A.
Member Contribution Interest	-	The interest rate credited on member contributions is the one-year Treasury Bill rate as of December 31, determined annually. The long-term rate assumed in the valuation is 4%, which is consistent with the 3% to 4% price inflation assumption.
DROP+ Assumptions	-	Each eligible member is assumed to make the DROP+ election with the most valuable combination of lump sum and reduced monthly benefit. The retirement probabilities on page 57 are used for members who are *not* covered by Benefit Program DROP+. For members covered by Benefit Program DROP+, it is assumed that retirement will be delayed long enough to become eligible for at least 4 years worth of DROP+ lump sum.

ACTUARIAL FUNDING METHOD

The Retirement Board has adopted funding methodology for the Retirement System to achieve the following major objectives:

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

The basic funding objective is a level pattern of cost as a percentage of pay throughout each member's working lifetime. The funding method used in this actuarial valuation – the entry age normal cost method – is intended to i) meet this objective, and ii) result in a relatively level long-term contribution requirement as a percentage of pay. This actuarial method was first used for the December 31, 1993 actuarial valuations.

Under the entry age normal cost method, the total actuarially-determined contribution requirement is equal to the sum of the normal cost plus the payment required to fund the unfunded actuarial accrued liability over a period of years. Funding or amortizing the unfunded actuarial accrued liability includes a payment toward the liability (principal) plus a payment to reflect the time value of money (interest).

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-pay contribution required each year, with respect to each member, 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 Retirement System, if the unfunded liability is paid up and the actual experience of the System conforms to the assumptions.

Actuarial Accrued Liability

The total actuarial present value of future benefits is computed using the valuation's actuarial assumptions. 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 December 31, 2009, if contributions sufficient to meet the normal costs of the Retirement System had been made each year in the past, benefit provisions had always been the same as current benefit provisions, and actual past experience had always conformed to current actuarial assumptions. 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 Liability

The unfunded actuarial accrued liability is projected to the beginning of the fiscal year for which employer contributions are being calculated (see page 38 for a description of the projection). The projected unfunded accrued liability is then amortized by level percent of payroll contributions over a period of years. Active member payroll is assumed to increase 4.5% a year for the purpose of determining the level percent contributions.

The standard amortization period to fund the unfunded liability is 28 years for positive unfunded liabilities in the 2009 valuation. This period will be reduced by one year in each of the next eight annual valuations, reaching 20 years in the 2017 valuation. Beginning with the 2018 valuation the 20 year period will be reestablished with each annual valuation. Section 20m of Act No. 314 of the Public Acts of 1965 as amended (MCL 38.1140m) requires that the amortization period not exceed 30 years.

The standard amortization period for negative unfunded liabilities is 10 years, with the 10 year period reestablished with each annual actuarial valuation.

For divisions that are closed to new hires, and the new hires are not covered by MERS defined benefit or hybrid provisions (in a linked division), the otherwise applicable MERS-wide standard amortization period for positive unfunded liabilities in effect in the valuation year in which the division is closed is decreased annually by 2 years until the period reaches 5 years. At that point, the amortization period will remain at 5 years.

Shorter amortization periods may be elected by a municipality (but not shorter than 5 years for negative unfunded liabilities).

Table 16 in the results section of this report indicates the current length of the amortization period for each division. Note that when the 10 year amortization is used for negative unfunded liabilities, Table 16 reports the amortization in two parts: i) a long term credit based on the long term amortization period (usually the standard amortization period described above), plus ii) an overfunding credit resulting from using a 10 year amortization.

In calculating the annual required contribution (ARC) for reporting and disclosure purposes under Statement Nos. 25 and 27 of the Governmental Accounting Standards Board, the following amortization methods are used:

- A level percentage of payroll amortization is used, based on the amortization periods described in the previous paragraph and based on the assumption that payroll increases 4.5% per year.
- For divisions that are less than 100% funded and are closed to new hires (and new hires are not covered by MERS defined benefit or hybrid provisions in a linked division), a 30-year level dollar amortization is used if it results in a higher amortization payment.

Present Value of Accrued Benefits

The present value of accrued benefits represents the actuarial value of benefits that have been earned as of the valuation date for all members of the valuation division. This benefit reflects the final average compensation and plan benefit service of each member, and plan features of the member's valuation division as of the valuation date. Included in this value is the current value of vested benefits for members who have met plan vesting requirements and the current value of non-vested benefits for members who have not yet met plan vesting requirements. Regardless of plan vesting service, all member contributions are vested. Active members are assumed to continue in employment until retirement, death, disability or termination, but benefit amounts are frozen, for valuation purposes only, on the valuation date.

Termination Liability

The termination liability represents the value of the benefits that have been earned as of the valuation date based on final average compensation and benefit service as of the valuation date. All active members are assumed to terminate employment on the valuation date. Vested and non-vested active members are assumed to retire at the first age when the member would be eligible for unreduced deferred retirement benefits, assuming no continued employment after the valuation date (non-vested benefits are assumed to commence at age 60).

Projections of Employer Contributions and Funded Percentage

The 20-year projections of employer contributions and funded percentages displayed in Chart 17.5 are based on the following assumptions:

- All demographic assumptions will be met during the projection period, including the assumption that active members' pays increase in accordance with the pay increase assumption (see page 55). If the number of active members remains constant, projected total active member payroll will increase about 4.5% annually (2% annually for calendar years 2010-2014), the wage inflation assumption. For open divisions (an open division is open to newly hired employees), this projected payroll growth results in increasing employer contributions even when the employer contribution rate is stable or slowly declining.
- The actuarial value of assets will earn the assumed 8% return each year during the projection period **(see Comments on the Investment Markets on page 3)**.
- There will be no benefit changes during the projection period.
- The employer contributions through January 1, 2011 are not affected, and are based on previous annual actuarial valuations.
- For open divisions (new hires are added to the division), the number of active members is assumed to remain constant. However, if an open division is linked to a division that will have no new hires (whose new hires enter the open division), the total number of active members in the linked divisions (combined) is assumed to remain constant. For closed divisions (no new hires), the number of active members is assumed to gradually decline to zero, based on the assumptions for retirement, disability, termination, and death.

The projected contribution amounts should not be used for short term budgeting purposes because the assumptions are designed to be a long term expectation of future events. These projections illustrate the long term pattern of employer contributions under current funding policies. A projection of contribution rates for budgeting purposes would require additional short-term actuarial analysis, which is beyond the scope of this report.

Most open division projections (an open division is open to newly hired employees) will show a very gradual change, up or down, in the funded percentage toward 100% funding. For divisions that are currently less than 100% funded, the reader may be surprised at how long it takes to approach 100% funding. This happens because the standard amortization period for unfunded accrued liabilities, after declining to 20 years in the 2017 annual actuarial valuations, will be reset each year thereafter to a new 20 year period. This results in more stable employer contribution rates, but also a very gradual approach to 100% funding. Additional employer contributions would accelerate the funding progress.

A closed division (no new hires) that is not linked to an open division (see the next page for a discussion of linked divisions) and is less than 100% funded will have a projected employer contribution that increases each year for the first 11-12 years after closure. This results in a more rapid amortization of unfunded accrued liabilities and a more rapid increase in the division's funded percentage. This is necessary to ensure that the division has adequate assets to pay benefits. However, the closed division's funded percentage may start to decline several years after all the members have retired. Once the average age of the retiree-only division reaches the late 70's or older, the 5-year amortization period may result in insufficient assets to cover the pension payout. This issue was reviewed in the 2004-2008 study of MERS experience, and beginning with the December 31, 2011 valuation, a minimum contribution will become effective, based on cash flow needs. The projections in this report reflect the minimum contribution requirement, if applicable, in fiscal years starting in 2013 and later. This may cause the projection results to look quite different from the projection in last year's valuation.

A few open divisions will see a decline in the funded percentage. This is usually an open division with a very small number of active members (often only one) and a much larger number of retirees. Because the division is open to new hires, the standard amortization period is used. For many years this may result in a declining funded percentage, before the funded percentage begins to head up toward 100% funding. The minimum contribution requirement based on cash flow needs (see previous paragraph) will keep the funded percentage from going negative. However, such a division should be considered a candidate for either merging with a different division, or an accelerated funding schedule.

A division with no new hires that is linked to an open division within the same employee classification (with new hires – please refer to the next section on Linked Divisions) will typically show a projected funded percentage that declines and even becomes negative. This is an expected condition, because the standard open division amortization policy applies to a division with no new hires that is linked to an open division. The linked division with no new hires is allowed to share the assets of the linked open division. The division with no new hires alone will run out of assets; however, the combined linked divisions will not run out of assets and the combined funded percentage will head towards 100%. For a linked division the projections also show a dashed line that represents the combined projection of all the linked divisions.

A small number of divisions currently have negative assets, and a negative funded percentage. These are generally divisions for which many or most of the employees have been transferred to a different division, with the bulk of the assets also being transferred to the other division. Negative assets means the division is temporarily borrowing from better funded divisions within the same municipality. The minimum contribution requirement based on cash flow needs will result in a positive funded percentage by 2014 or 2015. However such a division should be considered a candidate for either merging with a different division, or an accelerated funding schedule.

Some divisions are so well funded that no future employer contributions will be needed; assuming that there are no major changes in the covered participants, benefit provisions are not changed, and the actuarial assumptions are met. Assets substantially exceed present liabilities. The funded percentage will continue to increase during the projection period. Such a division may be a candidate for a reallocation of assets among other divisions, if appropriate.

For divisions that are affected by employer contribution rate caps, the projections of employer contributions in Chart 17.5 do not reflect the impact of the employer cap provision. Member contribution rates are assumed to remain constant at the rates shown in Table 1. The projected employer contribution rate is allowed to move up or down, as need, to adequately fund the benefit obligations. In other words, projection of the future impact of the employer cap provision is beyond the scope of the Chart 17.5 projections. Future annual actuarial valuation reports will, of course, reflect (in the results) the application of the then-current employer cap provision.

Linked Divisions

The closed division funding policy described at the bottom of page 63 was adopted by the Retirement Board (Amortization Policy for Closed Divisions Within Open Municipalities, as revised by the Retirement Board on March 11, 2009). The purpose is to ensure that a defined benefit (DB) division that is closed to new hires does not run out of money. Funding the unfunded liabilities over the MERS standard amortization period will likely deplete a closed division's assets before the death of the last participant in the division. Assets cannot be shared between the closed DB division and a defined contribution (DC) plan covering the new hires, or a non-MERS DB plan covering the new hires, even if the employees are part of the same employee classification (bargaining unit).

However, if the new hires are covered by a new tier of benefits in the MERS DB Plan (including the DB portion of the MERS Hybrid Plan), there can be a sharing of employer assets between the DB division with no new hires (with the old benefit structure) and the DB/Hybrid division covering the new hires within the same employee classification. The employer can avoid the required more rapid amortization of the unfunded liabilities by putting new hires into a MERS DB or MERS Hybrid division, instead of a DC plan or non-MERS DB plan.

If a division with no new hires is “linked” to an open MERS DB division, this is indicated in Table 1, in the footnote to Table 16, and in the projections in Chart 17.5. Both the linked divisions will use the standard open division funding policy.

ASSET VALUATION METHOD

The actuarial value of assets is determined on the basis of a method that calculates expected investment income at the valuation rate of return and adds a portion of the difference between the expected investment income and actual investment income earned on a market value basis. The difference in investment income between expected return and market return is recognized over a 10-year period at the rate of 10% per year. This asset valuation method was first adopted for the December 31, 2005 valuation, and is applied as follows:

Actuarial Value equals:

(a) Actuarial value of assets from the previous actuarial valuation, plus
(b) Aggregate employer and member contributions since the last valuation, minus
(c) Benefit payments and refunds of member contributions since the last valuation, plus
(d) Estimated investment income at the 8% valuation interest rate, plus
(e) Portion of gain (loss) recognized in the current valuation.

For the above purpose, gain (loss) is defined as the excess during the period of the investment return on the market value of assets over the expected investment income. The portion recognized in the valuation is 10% of the current year's gain (loss) plus 10% of the gain (loss) from each of the 9 preceding years. The cumulative difference between the market value and valuation assets as of December 31, 2005 is recognized over 9 years.

During 2009, the approximate net investment return on average total assets at actuarial value (determined as the actuarial value of investment income divided by the average actuarial value of assets during the year) was 5.30%. The corresponding amounts for 2008, 2007, 2006, and 2005 were 4.73%, 8.12%, 8.14%, and 6.51%, respectively.

For the December 31, 2009 valuation, the actuarial value of assets is equal to 125.17% of market value (compared to 139.15%, 98.85%, 98.62%, and 102.71% in 2008, 2007, 2006, and 2005, respectively). This percentage is applied to each division's reported market value of assets to estimate the actuarial value of assets for the division. The chart on page 70 provides the details of the derivation of the actuarial value of assets for the retirement system in the aggregate.

The reader should note that, given that the actuarial value of assets is currently 25% higher than the market value, meeting the actuarial assumption in the next few years will require average annual market returns that substantially exceed the 8% investment return assumption.

Please see the Comments on the Investment Markets on page 3 .

Municipal Employees' Retirement System of Michigan
Derivation of Actuarial Value of Assets

Valuation Date December 31:	2001	2002	2003	2004	2005
1. Beginning of Year Assets					
a) Market Value	$ 3,788,886,471	$ 3,647,820,869	$ 3,285,304,333	$ 4,071,997,180	$ 4,619,201,287
b) Valuation Assets	3,791,423,339	4,034,377,419	4,134,404,645	4,459,492,020	4,732,208,229
2. End of Year Market Value Assets	3,647,820,869	3,285,304,333	4,071,997,180	4,619,201,287	4,906,288,690
3. Net Additions to Market Value					
a) Net Contributions	154,103,475	167,427,558	223,450,393	223,057,268	277,589,524
b) Net Investment Income = (3d) - (3a) - (3c)	(93,269,286)	(324,926,459)	792,139,959	577,562,751	288,223,418
c) Benefit Payments	(201,899,791)	(205,017,635)	(228,897,505)	(253,415,912)	(278,725,539)
d) Total Additions to Market Value = (2) - (1a)	(141,065,602)	(362,516,536)	786,692,847	547,204,107	287,087,403
4. Average Valuation Assets =					
(1b) + .5x[(3a) + (3c)]	3,767,525,181	4,015,582,381	4,131,681,089	4,444,312,698	4,731,640,222
5. Expected Income at Valuation Rate = 8% x (4)	301,402,014	321,246,590	330,534,487	355,545,016	378,531,218
6. Gain (Loss) = (3b) - (5)	(394,671,300)	(646,173,049)	461,605,472	222,017,735	(90,307,800)
7. Phased-In Recognition of Investment Return					
a) Current Year: 0.2 x (6)	(78,934,260)	(129,234,610)		44,403,547	(18,061,560)
b) First Prior Year	(79,670,266)	(78,934,260)			44,403,547
c) Second Prior Year	63,981,441	(79,670,266)			
d) Third Prior Year	40,228,410	63,981,441			
e) Fourth Prior Year	43,743,057	40,228,408			
f) 1999-2003 Years Combined	N/A	N/A	0	(96,873,710)	(96,873,710)
g) Total Recognized Investment Gain (Loss)	(10,651,618)	(183,629,287)	0	(52,470,163)	(70,531,723)
8. Change in Valuation Assets					
(3a) + (3c) + (5) + (7g)	242,954,080	100,027,226	325,087,375	272,716,209	306,863,480
9. End of Year Assets					
a) Market Value = (2)	3,647,820,869	3,285,304,333	4,071,997,180	4,619,201,287	4,906,288,690
b) Valuation Assets = (1b) + (8)	4,034,377,419	4,134,404,645	4,459,492,020	4,732,208,229	5,039,071,709
c) Difference Between Market & Valuation Assets	(386,556,550)	(849,100,312)	(387,494,840)	(113,006,942)	(132,783,019)
10. Recognized Rate of Return = [(5) + (7g)] / (4)	7.72%	3.43%	8.00%	6.82%	6.51%
11. Market Rate of Return	(2.48%)	(8.95%)	24.13%	14.24%	6.24%
12. Valuation Asset Adjustment Factor = (9b) / (9a)	1.105969	1.258454	1.095161	1.024465	1.027064

Municipal Employees' Retirement System of Michigan
Derivation of Actuarial Value of Assets (cont.)

Valuation Date December 31:	2006	2007	2008	2009	2010
1. Beginning of Year Assets					
a) Market Value	$ 4,906,288,690	$ 5,590,042,317	6,071,046,914	4,512,260,955	
b) Valuation Assets	5,039,071,709	5,512,924,466	6,001,040,078	6,278,731,673	
2. End of Year Market Value Assets	5,590,042,317	6,071,046,914	4,512,260,955	5,276,645,338	
3. Net Additions to Market Value					
a) Net Contributions	371,505,157	386,942,952	374,214,134	413,354,720	
b) Net Investment Income = (3d) - (3a) - (3c)	622,409,716	442,377,206	(1,553,001,917)	771,066,207	
c) Benefit Payments	(310,161,246)	(348,315,561)	(379,998,176)	(420,036,544)	
d) Total Additions to Market Value = (2) - (1a)	683,753,627	481,004,597	(1,558,785,959)	764,384,383	
4. Average Valuation Assets = (1b) + .5x[(3a) + (3c)]	5,069,743,665	5,532,238,162	5,998,148,057	6,275,390,761	
5. Expected Income at Valuation Rate = 8% x (4)	405,579,493	442,579,053	479,851,845	502,031,261	
6. Gain (Loss) = (3b) - (5)	216,830,223	(201,847)	(2,032,853,762)	269,034,946	
7. Phased-In Recognition of Investment Return					
a) Current Year: 0.1 x (6)	21,683,022	(20,185)	(203,285,376)	26,903,495	
b) First Prior Year	(14,753,669)	21,683,022	(20,185)	(203,285,376)	26,903,495
c) Second Prior Year		(14,753,669)	21,683,022	(20,185)	(203,285,376)
d) Third Prior Year			(14,753,669)	21,683,022	(20,185)
e) Fourth Prior Year				(14,753,669)	21,683,022
f) Fifth Prior Year					(14,753,669)
g) Sixth Prior Year					
h) Seventh Prior Year					
i) Eighth Prior Year					
j) Ninth Prior Year					
k) Total Recognized Investment Gain (Loss)	6,929,353	6,909,168	(196,376,208)	(169,472,713)	(169,472,713)
8. Change in Valuation Assets (3a) + (3c) + (5) + (7k)	473,852,757	488,115,612	277,691,595	325,876,724	
9. End of Year Assets					
a) Market Value = (2)	5,590,042,317	6,071,046,914	4,512,260,955	5,276,645,338	
b) Valuation Assets = (1b) + (8)	5,512,924,466	6,001,040,078	6,278,731,673	6,604,608,397	
c) Difference Between Market & Valuation Assets	77,117,851	70,006,836	(1,766,470,718)	(1,327,963,059)	
10. Recognized Rate of Return = [(5) + (7k)] / (4)	8.14%	8.12%	4.73%	5.30%	
11. Market Rate of Return	12.61%	7.89%	(25.59%)	17.10%	
12. Valuation Asset Adjustment Factor = (9b) / (9a)	0.986204	0.988469	1.391482	1.251668	

Municipal Employees' Retirement System of Michigan
Derivation of Actuarial Value of Assets (cont.)

Valuation Date December 31:	2011	2012	2013	2014	2015
1. Beginning of Year Assets					
a) Market Value					
b) Valuation Assets					
2. End of Year Market Value Assets					
3. Net Additions to Market Value					
a) Net Contributions					
b) Net Investment Income = (3d) - (3a) - (3c)					
c) Benefit Payments					
d) Total Additions to Market Value = (2) - (1a)					
4. Average Valuation Assets = (1b) + .5x[(3a) + (3c)]					
5. Expected Income at Valuation Rate = 8% x (4)					
6. Gain (Loss) = (3b) - (5)					
7. Phased-In Recognition of Investment Return					
a) Current Year: 0.1 x (6)					
b) First Prior Year					
c) Second Prior Year	26,903,495				
d) Third Prior Year	(203,285,376)	26,903,495			
e) Fourth Prior Year	(20,185)	(203,285,376)	26,903,495		
f) Fifth Prior Year	21,683,022	(20,185)	(203,285,376)	26,903,495	
g) Sixth Prior Year	(14,753,669)	21,683,022	(20,185)	(203,285,376)	26,903,495
h) Seventh Prior Year		(14,753,669)	21,683,022	(20,185)	(203,285,376)
i) Eighth Prior Year			(14,753,669)	21,683,022	(20,185)
j) Ninth Prior Year				(14,753,667)	21,683,025
k) Total Recognized Investment Gain (Loss)	(169,472,713)	(169,472,713)	(169,472,713)	(169,472,711)	(154,719,041)
8. Change in Valuation Assets (3a) + (3c) + (5) + (7k)					
9. End of Year Assets					
a) Market Value = (2)					
b) Valuation Assets = (1b) + (8)					
c) Difference Between Market & Valuation Assets					
10. Recognized Rate of Return = [(5) + (7k)] / (4)					
11. Market Rate of Return					
12. Valuation Asset Adjustment Factor = (9b) / (9a)					

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MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

ANNUAL ACTUARIAL VALUATION REPORT

ST JOSEPH COUNTY (7803)

DECEMBER 31, 2009