



MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN
ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2013
MADISON HEIGHTS, CITY OF (6308)

Spring, 2014

Madison Heights, City of

In care of:

Municipal Employees' Retirement System of Michigan
1134 Municipal Way
Lansing, Michigan 48917

This report presents the results of the Annual Actuarial Valuation, prepared as of December 31, 2013. The report includes the determination of liabilities and contribution rates resulting from the participation of Madison Heights, City of (6308) in the Municipal Employees' Retirement System of Michigan ("MERS"). MERS is an independent public nonprofit organization that has partnered with Michigan municipalities for more than 65 years, helping them provide safe, secure retirement plans for their employees. Madison Heights, City of 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.

The purpose of the December 31, 2013 annual actuarial valuation is to:

- measure funding progress,
- establish contribution requirements for the fiscal year beginning July 1, 2015, and
- provide actuarial information in connection with applicable Governmental Accounting Standards Board statements.

This valuation report should not be relied upon for any other purpose. Reliance on information contained in this report by anyone for anything other than the intended purpose could be misleading.

The valuation uses financial data, plan provision data, and participant data as of December 31, 2013 furnished by MERS' administrative staff. In accordance with Actuarial Standards of Practice No. 23, the data was checked for internal and year to year consistency as well as general reasonableness, but was not otherwise audited. Tegrit Group does not assume responsibility for the accuracy or completeness of the data used in this valuation.

The actuarial assumptions and methods are adopted by the Retirement Board. Please refer to the division-specific assumptions described in table(s) in this report, and to the Appendix on the MERS website at:

www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2013AnnualActuarialValuation-Appendix.pdf.

The actuarial assumptions used for this valuation produce results that we believe are reasonable.

To the best of our knowledge, this report is complete and accurate, was prepared in conformity with generally recognized actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board, and is 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 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).

Our advice is purely actuarial in nature. It is not intended to serve as a substitute for legal, accounting or investment advice.

This report was prepared at the request of the Retirement Board and may be provided only in its entirety by the municipality to other interested parties (MERS customarily provides the full report on request to related third parties such as the auditor for the municipality). Tegrit Group is not responsible for the consequences of any unauthorized use.

You should notify MERS if you disagree with anything contained in the report or are aware of any information that would affect the results of the report that have not been communicated to us. If you have reason to believe that the plan provisions are incorrectly described, that important plan provisions relevant to this valuation are not described, that conditions have changed since the calculations were made, that the information provided in this report is inaccurate or is in anyway incomplete, or if you need further information in order to make an informed decision on the subject matter in this report, please contact MERS at: <http://www.mersofmich.com/MERS/About-MERS/Contact-Us>

Sincerely,

Alan Sonnanstine, MAAA, ASA
Cathy Nagy, MAAA, FSA
Jim Koss, MAAA, ASA
Rebecca Stouffer, MAAA, ASA

TABLE OF CONTENTS

	Page
Executive Summary	5
Employer Contribution Details	9
Table 1	
Benefit Provisions	10
Table 2	
Membership Summary	12
Table 3	
Reported Assets (Market Value)	13
Table 4	
Flow of Valuation Assets	14
Table 5	
Actuarial Accrued Liabilities and Valuation Assets	15
Table 6	
Actuarial Accrued Liabilities - Comparative Schedule	17
Table 7	
GASB 25 and GASB 27 Information	18
Benefit Provision History	20
Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method	23

Executive Summary

Funded Ratio and Required Employer Contributions

The MERS Defined Benefit Plan is an agent multiple-employer plan, meaning that assets are pooled for investment purposes but separate trusts are maintained for each individual employer. Each municipality is responsible for their own plan liabilities; MERS does not borrow from one municipality's account to pay for another.

The funded ratio of a plan is the percentage of the dollar value of the accrued benefits that is covered by the actuarial value of assets.

Your Funded Ratio:

	12/31/2013	12/31/2012
Funded Ratio	70%	72%

Michigan Law requires that pension plans be pre-funded, meaning money is set aside now to pay for future benefits. Pension plans are usually funded by employer and employee contributions, and investment income.

As a result of the plan's funding policy, the funded ratio is expected to approach 100% over time. How quickly a plan attains the 100% goal depends on many factors such as:

- The current funded ratio,
- The future experience of the plan, and
- The amortization period.

It is more important to look at the trend in the funded ratio over a period of time than at a particular point in time.

Your Required Employer Contributions:

Your minimum required employer contributions are shown on the following page. Employee contributions, if any, are shown in Table 2, and are in addition to the required employer contribution on the next page.

Valuation Date:	Percentage of Payroll		Monthly \$ Based on Valuation Payroll	
	12/31/2013	12/31/2012	12/31/2013	12/31/2012
Fiscal Year Beginning:	July 1, 2015	July 1, 2014	July 1, 2015	July 1, 2014
Division				
01 - Non-Union and Departme	-	-	\$ 34,367	\$ 28,727
10 - Gnrl Crth	-	-	4,803	4,094
11 - Dept of Public Svcs TP	-	-	28,778	24,466
12 - AFSCME	-	-	15,302	13,283
13 - Cler Tmst	-	-	11,222	12,910
14 - Dispchrss	-	-	642	978
Municipality Total			\$ 95,114	\$ 84,458

You may contribute more than the minimum required contributions, as these additional contributions will earn investment income, and later you may have to contribute less than otherwise. MERS strongly encourages employers to contribute more than the minimum contribution shown above.

Assuming that experience of the plan meets actuarial assumptions:

- To accelerate to a 100% funding ratio in 10 years, estimated monthly contributions for the entire employer would be \$ 137,241, instead of \$ 95,114.

If you are interested in making additional contributions, please contact MERS and they can assist you with evaluating your options.

How and Why Do These Numbers Change?

In a defined benefit plan contributions vary from one annual actuarial valuation to the next as a result of the following:

- Changes in benefit provisions (see Table 2),
- Changes in actuarial assumptions and methods (see the [Appendix](#)), and
- Experience of the plan (investment experience and demographic experience); this is the difference between actual experience of the plan and the actuarial assumptions.

Actuarial valuations do not affect the ultimate cost of the plan; the benefit payments (current and future) determine the cost of the plan. Actuarial valuations only affect the timing of the contributions into the plan. Because assumptions are for the long term, plan experience will not match the actuarial assumptions in any given year (except by coincidence). Each annual actuarial valuation will adjust the required employer contributions up or down based on the prior year's actual experience.

Comments on the Investment Markets

At this time, MERS maintains the 8% annual return assumption in the belief that over the long-term this is achievable. For example, MERS' 30 year return was 9.3% on December 31, 2013. The MERS portfolio returned 14.8% in 2013; the two year (12.9%), three year (9.2%), four year (10.4%), and five year (11.7%) returns all exceed the 8% annual return assumption. It has now been five years since the peak of the financial crisis and the stock market decline still weighs down MERS' medium term returns. This was a one in fifty year event comparable only to the Stock Market Crash of 1929 during the Great Depression. The stock market and economy have stabilized since 2008 and are on the long road to recovery. MERS regularly monitors the investment return assumption to make sure it is reasonable compared to long term expectations.

The actuarial value of assets, used to determine both your funded ratio and your required employer contribution, is based on a 10-year smoothed value of assets. Only a portion (six-tenths, for 2008 - 2013) of the 2008 investment market losses was recognized in this actuarial valuation report. This reduces the volatility of the valuation results, which affects your required employer contribution and funded ratio.

As of December 31, 2013 the actuarial value of assets is 106% of market value. This means that meeting the actuarial assumption in the next few years will require average annual market returns that exceed the 8% investment return assumption.

If the December 31, 2013 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 66% (instead of 70%); and ii) your total employer contribution requirement for the fiscal year starting July 1, 2015 would be \$ 1,276,776 (instead of \$ 1,141,368).

The asset smoothing method is a powerful tool for reducing the volatility of your required employer contributions. **However, if the current 6% difference between the smoothed value and the market value of assets is not made up, the result would be gradual increases in your employer contribution requirement over the next few years (to around the levels described above).**

Alternate Scenarios to Estimate the Potential Volatility of Results ("What If Scenarios")

The analysis in this section is intended to review the potential volatility of the actuarial valuation results. It is important to note that calculations in this report are mathematical estimates based upon assumptions regarding future events, which may or may not materialize. Actuarial calculations can and do vary from one valuation to the next, sometimes significantly depending on the group's size.

In the table below, we show the impact of varying one actuarial assumption: the future annual rate of investment return. Lower investment returns would result in higher required employer contributions, and vice-versa.

Other assumptions are also important in determining the required employer contributions.

For example:

- Smaller than projected pay increases would lower required employer contributions.
- Reductions in the number of active employees would lower required contribution dollars, but would usually increase the contribution rate expressed as a percentage of payroll.
- Retirements at earlier ages than projected would usually increase required employer contributions.
- More non-vested terminations of employment than projected would decrease required contributions.
- More disabilities or survivor (death) benefits than projected would increase required contributions.
- Longer lifetimes after retirement than projected would increase required employer contributions.

The relative impact of each investment return scenario below will vary from year to year, as the participant demographics change. The impact of each scenario should be analyzed for a given year, not from year to year. The results in the table are based on the December 31, 2013 valuation, and are for the municipality in total, not by division.

12/31/2013 Valuation Results	Assumed Future Annual Smoothed Rate of Investment Return			
	Lower Future Annual Returns		Valuation Assumption	Higher Returns
	6%	7%		
Accrued Liability	\$ 45,670,315	\$ 41,123,598	\$ 37,260,900	\$ 33,959,317
Valuation Assets	\$ 26,029,761	\$ 26,029,761	\$ 26,029,761	\$ 26,029,761
Unfunded Accrued Liability	\$ 19,640,554	\$ 15,093,837	\$ 11,231,139	\$ 7,929,556
Funded Ratio	57%	63%	70%	77%
Monthly Normal Cost	\$ 40,712	\$ 30,311	\$ 22,269	\$ 16,039
Monthly Amortization Payment	\$ 113,916	\$ 93,559	\$ 72,845	\$ 52,012
Total Employer Contribution¹	\$ 154,628	\$ 123,870	\$ 95,114	\$ 69,420

¹ If assets exceed accrued liabilities for a division, the division's amortization payment is negative and is used to reduce the division's employer contribution requirement. If the overfunding credit is larger than the normal cost, the division's full credit is included in the municipality's amortization payment above but the division's total contribution requirement is zero. This can cause the displayed normal cost and amortization payment to not add up to the displayed total employer contribution.

Employer Contribution Details

For the Fiscal Year Beginning July 1, 2015

Table 1

Division	Amort. Period for Unfund. Liab. ^{4,5}	Employer Contributions ¹			Blended Employer Contribut. ⁷	GASB ARC ⁶	Member Contribut. Conversion Factor ²
		Normal Cost	Unfunded Accrued Liability	Total Required Employer Contribut.			
Percentage of Payroll							
01 - Non-Union and Depa	20	-	-	-			
10 - Gnrl Crth	14	-	-	-			
11 - Dept of Public Svc	14	-	-	-			
12 - AFSCME	20	-	-	-			
13 - Cler Tmst	20	-	-	-			
14 - Disptchrs	21	-	-	-			
Estimated Monthly Contribution³							
01 - Non-Union and Depa	20	\$ 7,484	\$ 26,883	\$ 34,367		\$ 484,896	
10 - Gnrl Crth	14	1,296	3,507	4,803			
11 - Dept of Public Svc	14	4,840	23,938	28,778			
12 - AFSCME	20	2,321	12,981	15,302		218,628	
13 - Cler Tmst	20	4,593	6,629	11,222			152,544
14 - Disptchrs	21	1,735	(1,093)	642			
Total Municipality		\$ 22,269	\$ 72,845	\$ 95,114			
Estimated Annual Contribution³		\$ 267,228	\$ 874,140	\$ 1,141,368			

¹ The above Employer contribution requirements are in addition to the Member contributions, if any, shown in Table 2.

² If Member contributions are increased/decreased by 1.00% of pay, the Employer contribution requirement will decrease/increase by the Member Contribution Conversion Factor.

³ For divisions that are open to new hires, estimated contributions are 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 divisions that will have no new hires, invoices will be based on the above dollar amounts which are based on projected fiscal year payroll. See description of Open Divisions and Closed Divisions in the [Appendix](#).

⁴ If projected assets exceed projected liabilities as of the beginning of the July 1, 2015 fiscal year, the negative unfunded accrued liability is amortized (spread) over 10 years. This amortization is used to reduce the employer contribution rate. Note that if the overfunding credit is larger than the normal cost, the full credit is shown above but the total contribution requirement is zero. This will cause the displayed normal cost and unfunded accrued liability contributions to not add across.

⁵ If the division is closed to new hires, with new hires not covered by MERS Defined Benefit Plan or Hybrid Plan provisions, the amortization period will decrease as follows: Under Amortization Option A, the period will decrease by 2 years each valuation year, until a minimum 5-year amortization is attained. Under Amortization Option B, the period will decrease by 2 years each valuation year, until reaching 15 years. Thereafter, the period will reduce by 1 year each valuation year, until a minimum 5-year amortization is attained. This will result in amortization payments that increase faster than the usual 4.5% each year. If the division is closed to new hires, with new hires (and transfers) covered by MERS Defined Benefit Plan or Hybrid Plan provisions, the standard open division amortization period will apply.

⁶ For reporting and disclosure purposes under Statement Nos. 25 and 27 of the Governmental Accounting Standards Board, the annual required contribution (ARC) for this division is based on a 30 year level dollar amortization.

⁷ For linked divisions, the employer will be invoiced the Total Required Employer Contribution rate shown above for each linked division (a contribution rate for the open division; a contribution dollar for the closed-but-linked division), unless the employer elects to contribute the Blended Employer Contribution rate shown above, by contacting MERS at 800-767-2308.

Please see the Comments on the Investment Markets.

Benefit Provisions

Table 2

01 - Non-Union and Department Heads: Closed to new hires

	2013 Valuation	2012 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/15	55/15
Early Retirement (Reduced):	50/25	50/25
Final Average Compensation:	3 years	3 years
Member Contributions:	2.50%	2.50%
DC Plan for New Hires:	7/1/2010	7/1/2010
Act 88:	Yes (Adopted 2/9/1970)	Yes (Adopted 2/9/1970)

10 - Gnrl Crth: Closed to new hires

	2013 Valuation	2012 Valuation
Benefit Multiplier:	2.00% Multiplier (no max)	2.00% Multiplier (no max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	50/25	50/25
	55/15	55/15
Early Retirement (Reduced):	-	-
Final Average Compensation:	5 years	5 years
Member Contributions:	5.54%	5.54%
DC Plan for New Hires:	10/1/2006	10/1/2006
Act 88:	Yes (Adopted 2/9/1970)	Yes (Adopted 2/9/1970)

11 - Dept of Public Svcs TPOAM: Closed to new hires

	2013 Valuation	2012 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/15	55/15
Early Retirement (Reduced):	50/25	50/25
Final Average Compensation:	5 years	5 years
Member Contributions:	4.84%	4.84%
DC Plan for New Hires:	8/1/2006	8/1/2006
Act 88:	Yes (Adopted 2/9/1970)	Yes (Adopted 2/9/1970)

Table 2 (continued)**12 - AFSCME: Closed to new hires**

	2013 Valuation	2012 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/15	55/15
Early Retirement (Reduced):	50/25	50/25
Final Average Compensation:	5 years	5 years
Member Contributions:	4.94%	4.94%
DC Plan for New Hires:	7/1/2010	7/1/2010
Act 88:	Yes (Adopted 2/9/1970)	Yes (Adopted 2/9/1970)

13 - Cler Tmst: Closed to new hires

	2013 Valuation	2012 Valuation
Benefit Multiplier:	2.00% Multiplier (no max)	2.00% Multiplier (no max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/15	55/15
Early Retirement (Reduced):	50/25	50/25
Final Average Compensation:	5 years	5 years
Member Contributions:	2.50%	2.50%
DC Plan for New Hires:	7/1/2010	7/1/2010
Act 88:	Yes (Adopted 2/9/1970)	Yes (Adopted 2/9/1970)

14 - Disptchrs: Closed to new hires

	2013 Valuation	2012 Valuation
Benefit Multiplier:	2.00% Multiplier (no max)	2.00% Multiplier (no max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/15	55/15
Early Retirement (Reduced):	50/25	50/25
Final Average Compensation:	5 years	5 years
Member Contributions:	2.50%	2.50%
DC Plan for New Hires:	9/1/2010	9/1/2010
Act 88:	Yes (Adopted 2/9/1970)	Yes (Adopted 2/9/1970)

Membership Summary

Table 3

Division	2013 Valuation		2012 Valuation		2013 Valuation		
	Number	Annual Payroll ¹	Number	Annual Payroll ¹	Average Age	Average Benefit Service ²	Average Eligibility Service ²
01 - Non-Union and Depart							
Active Members	10	\$ 834,038	11	\$ 989,346	50.7	15.2	18.3
Vested Former Members	3	76,571	3	49,505	48.4	9.8	14.1
Retirees and Beneficiaries	22	685,873	20	552,888	72.1		
10 - Gnrl Crth							
Active Members	6	\$ 309,969	6	\$ 307,811	49.1	18.2	20.8
Vested Former Members	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	8	146,361	8	146,362	69.6		
11 - Dept of Public Svcs							
Active Members	18	\$ 941,118	18	\$ 904,241	47.5	18.6	18.6
Vested Former Members	4	62,748	4	62,746	53.9	18.8	20.1
Retirees and Beneficiaries	39	753,177	39	752,281	67.3		
12 - AFSCME							
Active Members	6	\$ 414,844	6	\$ 394,205	48.5	15.0	16.1
Vested Former Members	6	77,113	6	77,111	48.6	10.9	16.3
Retirees and Beneficiaries	19	469,635	19	469,636	68.7		
13 - Cler Tmst							
Active Members	18	\$ 819,952	20	\$ 913,203	48.8	17.5	17.5
Vested Former Members	8	57,292	9	74,642	49.9	9.0	13.7
Retirees and Beneficiaries	33	459,919	33	476,032	71.5		
14 - Disptchrs							
Active Members	6	\$ 275,605	6	\$ 296,804	39.3	12.2	12.2
Vested Former Members	4	37,073	4	37,073	44.3	11.4	16.8
Retirees and Beneficiaries	1	13,799	1	13,799	61.6		
Total Municipality							
Active Members	64	\$ 3,595,526	67	\$ 3,805,610	47.8	16.8	17.6
Vested Former Members	25	310,797	26	301,077	49.2	11.5	15.9
Retirees and Beneficiaries	122	2,528,764	120	2,410,998	69.6		
Total Participants	211		213				

¹ Annual payroll for active members; annual deferred benefits payable for vested former members; annual benefits being paid for retirees and beneficiaries.

² Description can be found under Miscellaneous and Technical Assumptions in the [Appendix](#).

Reported Assets (Market Value)

Table 4

Division	2013 Valuation		2012 Valuation	
	Employer and Retiree ¹	Employee ²	Employer and Retiree ¹	Employee ²
01 - Non-Union and Department Heads	\$ 5,269,705	\$ 64,993	\$ 4,839,414	\$ 37,875
10 - Gnrl Crth	1,494,923	160,437	1,383,493	143,107
11 - Dept of Public Svcs TPOAM	7,205,684	419,639	6,668,713	392,762
12 - AFSCME	3,719,124	186,431	3,526,812	165,761
13 - Cler Tmst	5,006,336	169,164	4,680,881	166,226
14 - Disptchrs	802,623	14,767	704,330	7,868
Municipality Total	\$ 23,498,395	\$ 1,015,431	\$ 21,803,643	\$ 913,599
Combined Reserves	\$ 24,513,826		\$ 22,717,242	

1 Reserve for Employer Contributions and Benefit Payments

2 Reserve for Employee Contributions

The December 31, 2013 valuation assets are equal to 1.061840 times the reported market value of assets (compared to 1.143563 as of December 31, 2012). The derivation of valuation assets is described, and detailed calculations of valuation assets are shown, in the [Appendix](#).

Flow of Valuation Assets

Table 5

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Net Transfers	Valuation Asset Balance
	Employer	Member					
2003	\$ 408,187	\$ 72,924	\$ 1,608,211	\$ (1,213,089)	\$ 0	\$ 0	\$ 23,179,652
2004	482,846	76,364	1,511,128	(1,346,317)	(6,436)	0	23,897,237
2005	537,515	62,351	1,489,401	(1,520,666)	(7,281)	0	24,458,557
2006	577,333	61,632	1,937,949	(1,641,503)	(2,139)	0	25,391,829
2007	668,249	65,339	2,054,668	(1,638,877)	0	0	26,541,208
2008	671,925	60,985	1,102,980	(1,734,081)	(4,983)	(3,514)	26,634,520
2009	682,056	59,268	990,212	(1,791,304)	(5,649)	0	26,569,103
2010	729,975	56,090	1,238,090	(2,045,599)	0	0	26,547,659
2011	769,629	92,448	1,177,872	(2,287,911)	0	0	26,299,697
2012	832,946	148,561	1,058,049	(2,360,656)	0	0	25,978,597
2013	980,178	136,395	1,431,930	(2,493,847)	(3,492)	0	26,029,761

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

Actuarial Accrued Liabilities and Valuation Assets
As of December 31, 2013

Table 6

Division	Actuarial Accrued Liability	Valuation Assets ¹	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
01 - Non-Union and Department Heads				
Active Members	\$ 3,004,607	\$ 56,446	1.9%	\$ 2,948,161
Vested Former Members	541,560	8,547	1.6%	533,013
Retirees And Beneficiaries	6,575,365	5,599,603	85.2%	975,762
Pending Refunds	0	0	0.0%	0
Total	\$ 10,121,532	\$ 5,664,596	56.0%	\$ 4,456,936
10 - Gnrl Crth				
Active Members	\$ 999,330	\$ 547,089	54.7%	\$ 452,241
Vested Former Members	0	0	0.0%	0
Retirees And Beneficiaries	1,206,582	1,206,582	100.0%	0
Pending Refunds	4,056	4,056	100.0%	0
Total	\$ 2,209,968	\$ 1,757,727	79.5%	\$ 452,241
11 - Dept of Public Svcs TPOAM				
Active Members	\$ 3,197,958	\$ 351,179	11.0%	\$ 2,846,779
Vested Former Members	478,939	204,475	42.7%	274,464
Retirees And Beneficiaries	7,541,090	7,541,090	100.0%	0
Pending Refunds	129	129	100.0%	0
Total	\$ 11,218,116	\$ 8,096,873	72.2%	\$ 3,121,243
12 - AFSCME				
Active Members	\$ 1,071,847	\$ 126,408	11.8%	\$ 945,439
Vested Former Members	420,362	44,912	10.7%	375,450
Retirees And Beneficiaries	4,806,386	3,960,644	82.4%	845,742
Pending Refunds	15,111	15,111	100.0%	0
Total	\$ 6,313,706	\$ 4,147,075	65.7%	\$ 2,166,631
13 - Cler Tmst				
Active Members	\$ 2,309,187	\$ 1,162,958	50.4%	\$ 1,146,229
Vested Former Members	331,689	331,689	100.0%	0
Retirees And Beneficiaries	3,999,243	3,999,243	100.0%	0
Pending Refunds	1,663	1,663	100.0%	0
Total	\$ 6,641,782	\$ 5,495,553	82.7%	\$ 1,146,229
14 - Disptchrs				
Active Members	\$ 468,117	\$ 580,258	124.0%	\$ (112,141)
Vested Former Members	140,406	140,406	100.0%	0
Retirees And Beneficiaries	147,273	147,273	100.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 755,796	\$ 867,937	114.8%	\$ (112,141)

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets ¹	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
Total Municipality				
Active Members	\$ 11,051,046	\$ 2,824,338	25.6%	\$ 8,226,708
Vested Former Members	1,912,956	730,029	38.2%	1,182,927
Retirees and Beneficiaries	24,275,939	22,454,435	92.5%	1,821,504
Pending Refunds	<u>20,959</u>	<u>20,959</u>	100.0%	<u>0</u>
Total Participants	\$ 37,260,900	\$ 26,029,761	69.9%	\$ 11,231,139

¹ Includes both employer and member assets.

Please see the Comments on the Investment Markets.

See the MERS Fiscal Responsibility Policy on the MERS website at:

http://www.mersofmich.com/Portals/0/Assets/PageResources/MERS/PlanDocument/Pension/sec_43c.pdf.

Actuarial Accrued Liabilities - Comparative Schedule

Table 7

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities	UAL as Percent of Annual Payroll
1999	\$ 19,451,724	\$ 19,792,233	102%	\$ (340,508)	
2000	21,598,476	21,383,316	99%	215,160	4%
2001	22,938,928	22,391,959	98%	546,969	10%
2002	23,826,929	22,303,419	94%	1,523,510	29%
2003	25,520,723	23,179,652	91%	2,341,071	43%
2004	27,642,742	23,897,237	86%	3,745,505	66%
2005	28,414,461	24,458,557	86%	3,955,904	76%
2006	29,681,342	25,391,829	86%	4,289,513	83%
2007	31,205,728	26,541,208	85%	4,664,520	87%
2008	32,402,367	26,634,520	82%	5,767,847	107%
2009	32,752,091	26,569,103	81%	6,182,988	117%
2010	34,126,156	26,547,659	78%	7,578,497	175%
2011	35,497,987	26,299,697	74%	9,198,290	220%
2012	36,066,667	25,978,597	72%	10,088,070	265%
2013	37,260,900	26,029,761	70%	11,231,139	312%

Notes: Actuarial assumptions were revised for the 2000, 2004, 2008, 2009, 2010, 2011, and 2012 actuarial valuations.

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, 2013 actuarial valuation. The entry age normal actuarial method was used to determine the disclosure entries.

GASB 25 Information (as of 12/31/2013)

Actuarial Accrued Liability

Retirees and beneficiaries currently receiving benefits	\$ 24,275,939
Terminated employees (vested former members) not yet receiving benefits	1,912,956
Non-Vested terminated employees (pending refunds of accumulated member contributions)	20,959
Current employees -	
Accumulated employee contributions including allocated investment income	850,427
Employer financed	<u>10,200,619</u>
Total Actuarial Accrued Liability	\$ 37,260,900
Net Assets Available for Benefits at Actuarial Value (Market Value is 24,513,826)	\$ <u>26,029,761</u>
Unfunded (Overfunded) Actuarial Accrued Liability	\$ 11,231,139

GASB 27 Information (as of 12/31/2013)

Fiscal Year Beginning	July 1, 2015
Annual Required Contribution (ARC)	\$ 1,266,744 ¹

¹ Based on valuation payroll (based on projected fiscal year payroll for divisions that will have no new hires). For divisions that are open to new hires the actual required contribution will be based on current monthly payroll (during the fiscal year beginning July 1, 2015) times the computed employer contribution rate(s) shown in Table 1. The ARC shown here is the sum of the ARC's calculated separately for each division.

GASB 27 Information (Used in the 12/31/2013 Annual Actuarial Valuation)

**Amortization Factors Used to Compute Employer Contribution Requirements
Used for Funding Calculations and Most ARC Calculations (see below)
(Payments Increase 4.5% per Year)**

Amortization Factor Used - Underfunded or Overfunded Liabilities (5 years)	0.221706
Amortization Factor Used - Underfunded or Overfunded Liabilities (6 years)	0.187731
Amortization Factor Used - Underfunded or Overfunded Liabilities (7 years)	0.163488
Amortization Factor Used - Underfunded or Overfunded Liabilities (8 years)	0.145330
Amortization Factor Used - Underfunded or Overfunded Liabilities (9 years)	0.131227
Amortization Factor Used - Underfunded or Overfunded Liabilities (10 years)	0.119963
Amortization Factor Used - Underfunded or Overfunded Liabilities (11 years)	0.110763
Amortization Factor Used - Underfunded or Overfunded Liabilities (12 years)	0.103112
Amortization Factor Used - Underfunded or Overfunded Liabilities (13 years)	0.096652
Amortization Factor Used - Underfunded or Overfunded Liabilities (14 years)	0.091128
Amortization Factor Used - Underfunded or Overfunded Liabilities (15 years)	0.086353
Amortization Factor Used - Underfunded or Overfunded Liabilities (16 years)	0.082185
Amortization Factor Used - Underfunded or Overfunded Liabilities (17 years)	0.078519
Amortization Factor Used - Underfunded or Overfunded Liabilities (18 years)	0.075270
Amortization Factor Used - Underfunded or Overfunded Liabilities (19 years)	0.072372
Amortization Factor Used - Underfunded or Overfunded Liabilities (20 years)	0.069773
Amortization Factor Used - Underfunded or Overfunded Liabilities (21 years)	0.067430
Amortization Factor Used - Underfunded or Overfunded Liabilities (22 years)	0.065308
Amortization Factor Used - Underfunded or Overfunded Liabilities (23 years)	0.063378
Amortization Factor Used - Underfunded or Overfunded Liabilities (24 years)	0.061616
Amortization Factor Used - Underfunded or Overfunded Liabilities (25 years)	0.060002

**Amortization Factor Used to Compute the GASB Annual Required Contribution (ARC)
For Divisions that are Closed to New Hires**

**(and new hires are not covered by MERS DB or Hybrid provisions in a linked division)
If Division is Less than 100% Funded, and Uses a Funding Period over 15 Years**

Amortization Factor Used - Underfunded Liabilities (30 year level \$)	0.085453
---	----------

Assumptions: Continuous Payments; Interest at 8% Per Year

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 MERS. All provisions are listed by date of adoption.

01 - Non-Union and Department Heads

8/1/2011	Member Contribution Rate 2.50%
7/1/2010	DC Adoption Date 07-01-2010
7/1/1995	Benefit B-4 (80% max)
1/1/1987	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1987	Benefit B-3
1/1/1987	Benefit F55 (With 15 Years of Service)
1/1/1985	Benefit C-2/Base B-1
7/1/1984	Member Contribution Rate 0.00%
7/1/1975	Benefit C-1 (Old)
2/9/1970	Covered by Act 88
7/1/1956	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1956	10 Year Vesting
7/1/1956	Benefit C (Old)
7/1/1956	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
	Fiscal Month - July

10 - Gnrl Crth

8/1/2011	Member Contribution Rate 5.54%
10/1/2006	DC Adoption Date 10-01-2006
7/1/1998	Benefit B-2
7/1/1998	Member Contribution Rate 3.04%
7/1/1998	Benefit F50 (With 25 Years of Service)
7/1/1990	Benefit F55 (With 15 Years of Service)
7/1/1990	Benefit C-2/Base B-1
7/1/1984	Member Contribution Rate 0.00%
7/1/1975	Benefit C-1 (Old)
7/1/1975	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1975	10 Year Vesting
2/9/1970	Covered by Act 88
	Fiscal Month - July

11 - Dept of Public Svcs TPOAM

8/1/2011	Member Contribution Rate 4.84%
4/1/2010	Temporary 30 Years & Out (04/01/2010 - 06/30/2010)
8/1/2006	DC Adoption Date 08-01-2006
1/1/2005	Member Contribution Rate 2.34%
7/1/2004	Benefit B-3 (80% max)
7/1/2004	Member Contribution Rate 3.09%
1/1/1994	Benefit B-2
1/1/1994	Member Contribution Rate 1.50%

11 - Dept of Public Svcs TPOAM

1/1/1994	Benefit F55 (With 15 Years of Service)
1/1/1987	10 Year Vesting
1/1/1987	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1987	Benefit C-2/Base B-1
7/1/1984	Member Contribution Rate 0.00%
2/9/1970	Covered by Act 88
	Fiscal Month - July

12 - AFSCME

8/1/2011	Member Contribution Rate 4.94%
7/1/2010	DC Adoption Date 07-01-2010
7/1/2004	Member Contribution Rate 2.44%
8/1/2003	Benefit B-3 (80% max)
8/1/2003	Member Contribution Rate 3.26%
7/1/2003	Member Contribution Rate 0.82%
6/1/1998	Benefit B-2
6/1/1998	Member Contribution Rate 1.63%
7/1/1987	Benefit C-2/Base B-1
7/1/1987	Benefit F55 (With 15 Years of Service)
7/1/1984	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1984	10 Year Vesting
7/1/1984	Member Contribution Rate 0.00%
2/9/1970	Covered by Act 88
	Fiscal Month - July

13 - Cler Tmst

8/1/2011	Member Contribution Rate 2.50%
7/1/2010	DC Adoption Date 07-01-2010
7/1/2004	Member Contribution Rate 0.00%
7/1/2003	Member Contribution Rate 0.90%
1/1/1994	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1994	10 Year Vesting
1/1/1994	Benefit B-2
1/1/1994	Member Contribution Rate 1.80%
1/1/1994	Benefit F55 (With 15 Years of Service)
2/9/1970	Covered by Act 88
	Fiscal Month - July

14 - Disptchrs

12/1/2011	Member Contribution Rate 2.50%
9/1/2010	DC Adoption Date 09-01-2010
12/1/2003	Benefit B-2
7/1/1990	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1990	10 Year Vesting
7/1/1990	Benefit C-2/Base B-1

14 - Disptchrs

7/1/1990	Member Contribution Rate 0.00%
7/1/1990	Benefit F55 (With 15 Years of Service)
2/9/1970	Covered by Act 88
	Fiscal Month - July

Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method

Details on MERS plan provisions, actuarial assumptions, and actuarial methodology can be found in the [Appendix](#). Some actuarial assumptions are specific to this municipality and its divisions. These are listed below.

Increase in Final Average Compensation

Division	FAC Increase Assumption
All Divisions	3.00%

Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
All Divisions	80%

Miscellaneous and Technical Assumptions

Loads – None.

Amortization Policy for Closed Divisions

Closed Division	Amortization Option
All Closed Divisions	Option A