



MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN
ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2014
SPRINGFIELD, CITY OF (1303)



Spring, 2015

Springfield, 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, 2014. The report includes the determination of liabilities and contribution rates resulting from the participation of Springfield, City of (1303) in the Municipal Employees' Retirement System of Michigan ("MERS"). MERS is a nonprofit organization, independent from the State, that has provided retirement plans for municipal employees for more than 65 years. Springfield, 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, 2014 annual actuarial valuation is to:

- Measure funding progress
- Establish contribution requirements for the fiscal year beginning July 1, 2016
- Provide actuarial information in connection with applicable Governmental Accounting Standards Board (GASB) 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, 2014 furnished by MERS. 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. CBIZ Retirement Plan Services 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 MERS Retirement Board, and are reviewed every five years in an Experience Study, which will be completed in 2015. 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-2014AnnualActuarialValuation-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).

This information 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 associated third parties such as the auditor for the municipality). CBIZ Retirement Plan Services 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 your Regional Manager at 1.800.767.MERS(6377).

Sincerely,

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

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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:

	12/31/2014	12/31/2013
Funded Ratio	78%	79%

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.

How quickly a plan attains the 100% funding goal depends on many factors such as:

- The current funded ratio
- The future experience of the plan
- 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 in the following table. Employee contributions, if any, are in addition to the required employer contributions.

Valuation Date:	Percentage of Payroll		Monthly \$ Based on Valuation Payroll	
	12/31/2014	12/31/2013	12/31/2014	12/31/2013
Fiscal Year Beginning:	July 1, 2016	July 1, 2015	July 1, 2016	July 1, 2015
Division				
01 - AFSCME	16.68%	16.44%	\$ 2,787	\$ 2,430
02 - PubSafety	-	-	5,413	4,428
10 - Non Union	9.63%	8.79%	2,520	2,062
11 - Dept Hds	-	40.77%	4,899	4,851
Municipality Total			\$ 15,619	\$ 13,771

Employee contribution rates reflected in the valuations are shown below:

Valuation Date:	Employee Contribution Rate	
	12/31/2014	12/31/2013
Division		
01 - AFSCME	2.00%	2.00%
02 - PubSafety	7.00%	7.00%
10 - Non Union	2.00%	2.00%
11 - Dept Hds	2.00%	2.00%

For employee contribution rates that are not flat percentages, the rate shown is a weighted average flat employee contribution rate.

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 employer contributions for the entire employer would be \$ 25,256, instead of \$ 15,619.
- To accelerate to a 100% funding ratio in 20 years, estimated monthly employer contributions for the entire employer would be \$ 16,383, instead of \$ 15,619.

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](#))
- 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 on investments in the belief that over the long-term this is achievable. For example, MERS' 30 year return was 9.17% on December 31, 2014. The MERS portfolio returned 6.49% in 2014; the two year (10.54%), three year (10.73%), four year (8.48%), and five year (9.59%) returns all exceed the 8% annual return assumption. When comparing these actual returns to the 8% net return assumption, deduct roughly .25% from these actual returns to reflect administrative expenses. It has now been seven 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 (seven-tenths, for 2008 through 2014) 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. The smoothed actuarial rate of return for 2014 was 5.90%.

As of December 31, 2014 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, 2014 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 73% (instead of

78%); and ii) your total employer contribution requirement for the fiscal year starting July 1, 2016 would be \$ 218,196 (instead of \$ 187,428).

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).**

Risk Characteristics of Defined Benefit Plans

It is important to understand that retirement plans, by their nature, are exposed to certain risks. While risks cannot be eliminated entirely, they can be mitigated through various strategies. Below are a few examples of risk (this is not an all-inclusive list):

- Economic - investment return, wage inflation, etc.
- Demographic - longevity, disability, retirement, etc.
- Plan Sponsor and Employees - contribution volatility, attract/retain employees, etc.

The MERS Retirement Board adopts certain assumptions and methods to mitigate the economic and demographic risks, and the contribution volatility risks. For example, the investment risk is the largest economic risk and is mitigated by having a balanced portfolio and a clearly defined investment strategy. Demographic risks vary based on the age of the workforce and are mitigated by preparing special studies called experience studies on a regular basis to determine if the assumptions used are reasonable compared to the experience. Risk may be mitigated through a plan design that provides benefits that are sustainable in the long run. An Experience Study is completed every five years to review the assumptions and methods. The next Experience Study will be completed in 2015.

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

The calculations in this report are based on assumptions about long-term economic and demographic behavior. These assumptions will never materialize in a given year, except by coincidence. Therefore the results will vary from one year to the next. The volatility of the results depends upon the characteristics of the plan. For example:

- Open divisions that have substantial assets compared to their active employee payroll will have more volatile employer contribution rates due to investment return fluctuations.
- Open divisions that have substantial accrued liability compared to their active employee payroll will have more volatile employer contribution rates due to demographic experience fluctuations.
- Small divisions will have more volatile contribution patterns than larger divisions because statistical fluctuations are relatively larger among small populations.
- Shorter amortization periods result in more volatile contribution patterns.

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.

Many assumptions are important in determining the required employer contributions.

For example:

- Lower investment returns would result in higher required employer contributions, and vice-versa.
- 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 (the now lower) 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.

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.

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, 2014 valuation, and are for the municipality in total, not by division.

	Assumed Future Annual Smoothed Rate of Investment Return			
	Lower Future Annual Returns		Valuation Assumption	Higher Returns
	6%	7%	8%	9%
12/31/2014 Valuation Results				
Accrued Liability	\$ 11,776,435	\$ 10,558,798	\$ 9,557,827	\$ 8,719,253
Valuation Assets	\$ 7,423,783	\$ 7,423,783	\$ 7,423,783	\$ 7,423,783
Unfunded Accrued Liability	\$ 4,352,652	\$ 3,135,015	\$ 2,134,044	\$ 1,295,470
Funded Ratio	63%	70%	78%	85%
Monthly Normal Cost	\$ 7,075	\$ 5,369	\$ 4,052	\$ 3,030
Monthly Amortization Payment	\$ 20,455	\$ 16,000	\$ 11,567	\$ 7,058
Total Employer Contribution¹	\$ 27,530	\$ 21,369	\$ 15,619	\$ 10,088

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.

Five Year Projection Scenarios

The following table illustrates the plan's projected liabilities and required employer contributions for the next five fiscal years, under three actuarial assumptions and future economic scenarios. All three scenarios take into account the 2008 financial losses that will continue to affect the smoothed rate of return for the next three years.

Valuation Year Ending 12/31	Fiscal Year Beginning 7/1	Actuarial Accrued Liability	Valuation Assets	Funded Percentage	Required Annual Employer Contribution ¹
8% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
2014	2016	\$ 9,557,827	\$ 7,423,783	78%	\$ 192,144
2015	2017	9,643,000	7,367,000	76%	212,776
2016	2018	9,730,000	7,247,000	75%	238,700
2017	2019	9,794,000	7,090,000	72%	271,620
2018	2020	9,852,000	7,146,000	73%	288,520
7% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
2014	2016	\$ 10,558,798	\$ 7,423,783	70%	\$ 262,800
2015	2017	10,650,000	7,356,000	69%	282,060
2016	2018	10,720,000	7,258,000	68%	307,316
2017	2019	10,790,000	7,180,000	67%	338,124
2018	2020	10,820,000	7,253,000	67%	361,232
6% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
2014	2016	\$ 11,776,435	\$ 7,423,783	63%	\$ 338,628
2015	2017	11,860,000	7,354,000	62%	357,580
2016	2018	11,930,000	7,272,000	61%	383,688
2017	2019	11,970,000	7,248,000	61%	416,400
2018	2020	12,020,000	7,387,000	62%	443,688

¹ For an employer with any open divisions, this column will include the impact of projected increases in total payroll from 2014 to the applicable fiscal year. This will cause the projected contribution for the fiscal year beginning in 2016 to be higher than the Estimated Annual Contribution shown in Table 1.

The first scenario provides an estimate of required employer contributions based on current actuarial assumptions, and a projected 8% market return. The other scenarios may be useful if the municipality chooses to budget more conservatively, and make contributions in addition to the minimum requirements. The 7% and 6% projections provide an indication of the potential required employer contribution if MERS were to realize investment returns of 7% and 6% over the long-term.

Employer Contribution Details For the Fiscal Year Beginning July 1, 2016

Table 1

Division	Amort. Period for Unfund. Liab. ^{4,5}	Employer Contributions ¹			Blended Employer Contribut. ⁷	Employee Contribution Rate ⁶	Employee Contribut. Conversion Factor ²
		Normal Cost	Unfunded Accrued Liability	Total Required Employer Contribut.			
Percentage of Payroll							
01 - AFSCME	24	7.83%	8.85%	16.68%		2.00%	0.86%
02 - PubSafety	21	-	-	-		7.00%	
10 - Non Union	24	6.21%	3.42%	9.63%		2.00%	0.88%
11 - Dept Hds	22	-	-	-		2.00%	
Estimated Monthly Contribution³							
01 - AFSCME	24	\$ 1,308	\$ 1,479	\$ 2,787			
02 - PubSafety	21	142	5,271	5,413			
10 - Non Union	24	1,625	895	2,520			
11 - Dept Hds	22	977	3,922	4,899			
Total Municipality		\$ 4,052	\$ 11,567	\$ 15,619			
Estimated Annual Contribution³		\$ 48,624	\$ 138,804	\$ 187,428			

¹ The above employer contribution requirements are in addition to the employee contributions, if any.

² If employee contributions are increased/decreased by 1.00% of pay, the employer contribution requirement will decrease/increase by the Employee Contribution Conversion Factor. The conversion factor is usually under 1%, because employee contributions may be refunded at termination of employment, and not used to fund retirement pensions. Employer contributions will all be used to fund pensions.

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, 2016 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 it reaches 6 or 5 years. Then it decreases by 1 year each valuation year until the UAL is paid off. Under Amortization Option B, the period will decrease by 2 years each valuation year, until it reaches 16 or 15 years. Thereafter, the period will reduce by 1 year each valuation year, until the UAL is paid off. 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 employee contribution rates that are not flat percentages, the rate shown is a weighted average flat employee contribution rate.

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 - AFSCME: Open Division		
	2014 Valuation	2013 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):	55/25	55/25
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	2%	2%
Act 88:	Yes (Adopted 12/21/1970)	Yes (Adopted 12/21/1970)
02 - PubSafety: Closed to new hires		
	2014 Valuation	2013 Valuation
Benefit Multiplier:	3.00% Multiplier (80% max)	3.00% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	25 and Out	25 and Out
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	7%	7%
Act 88:	Yes (Adopted 12/21/1970)	Yes (Adopted 12/21/1970)
10 - Non Union: Open Division		
	2014 Valuation	2013 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):	-	-
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	2%	2%
Act 88:	Yes (Adopted 12/21/1970)	Yes (Adopted 12/21/1970)

Table 2 (continued)

11 - Dept Hds: Closed to new hires

	2014 Valuation	2013 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):	55/25	55/25
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	3 years	3 years
Employee Contributions:	2%	2%
RS50% Percentage:	50%	50%
Act 88:	Yes (Adopted 12/21/1970)	Yes (Adopted 12/21/1970)

Participant Summary

Table 3

Division	2014 Valuation		2013 Valuation		2014 Valuation		
	Number	Annual Payroll ¹	Number	Annual Payroll ¹	Average Age	Average Benefit Service ²	Average Eligibility Service ²
01 - AFSCME							
Active Employees	5	\$ 200,499	5	\$ 177,337	38.7	6.6	6.6
Vested Former Employees	1	4,874	1	4,874	51.9	11.2	11.2
Retirees and Beneficiaries	7	68,934	6	54,199	71.1		
02 - PubSafety							
Active Employees	1	\$ 74,200	1	\$ 74,200	50.1	25.8	25.8
Vested Former Employees	12	263,652	11	249,088	40.8	9.7	13.8
Retirees and Beneficiaries	20	457,510	20	457,510	67.8		
10 - Non Union							
Active Employees	8	\$ 313,997	7	\$ 281,528	45.1	10.9	10.9
Vested Former Employees	4	21,113	5	21,634	45.4	8.2	11.9
Retirees and Beneficiaries	5	38,398	4	37,877	71.2		
11 - Dept Hds							
Active Employees	2	\$ 147,000	2	\$ 142,776	56.8	22.9	26.7
Vested Former Employees	1	16,496	2	18,664	43.4	15.3	15.3
Retirees and Beneficiaries	6	99,884	5	98,283	70.1		
Total Municipality							
Active Employees	16	\$ 735,696	15	\$ 675,841	44.9	12.0	12.5
Vested Former Employees	18	306,135	19	294,260	42.6	9.8	13.3
Retirees and Beneficiaries	38	664,726	35	647,869	69.2		
Total Participants	72		69				

¹ Annual payroll for active employees; annual deferred benefits payable for vested former employees; 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	2014 Valuation		2013 Valuation	
	Employer and Retiree ¹	Employee ²	Employer and Retiree ¹	Employee ²
01 - AFSCME	\$ 587,385	\$ 11,815	\$ 586,849	\$ 9,483
02 - PubSafety	4,126,472	663,638	4,163,243	656,999
10 - Non Union	672,547	19,280	672,148	13,192
11 - Dept Hds	913,028	9,820	907,945	6,865
Municipality Total	\$ 6,299,432	\$ 704,553	\$ 6,330,185	\$ 686,539
Combined Reserves	\$ 7,003,985		\$ 7,016,724	

¹ Reserve for Employer Contributions and Benefit Payments

² Reserve for Employee Contributions

The December 31, 2014 valuation assets are equal to 1.059937 times the reported market value of assets (compared to 1.061840 as of December 31, 2013). 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	Employer Contributions		Employee Contributions	Investment Income	Benefit Payments	Employee Contribution Refunds	Net Transfers	Valuation Asset Balance
	Required	Additional						
2004	\$ 156,739		\$ 81,391	\$ 427,132	\$ (430,908)	\$ 0	\$ 0	\$ 6,845,357
2005	164,291		76,873	432,265	(438,481)	(37)	0	7,080,268
2006	161,826		79,706	562,328	(493,390)	0	0	7,390,738
2007	162,665		74,892	598,968	(523,365)	0	0	7,703,898
2008	153,761		71,613	299,494	(554,808)	(86,993)	0	7,586,965
2009	155,708		65,072	255,025	(568,111)	(17,806)	0	7,476,853
2010	180,881		62,692	343,815	(597,569)	(1,761)	0	7,464,911
2011	187,977	\$ 0	68,746	349,607	(572,273)	0	0	7,498,968
2012	184,498	0	70,290	305,956	(608,275)	(9,211)	0	7,442,226
2013	184,945	0	56,928	410,517	(643,978)	0	0	7,450,638
2014	235,338	0	18,297	405,033	(685,523)	0	0	7,423,783

Notes:

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

Additional employer contributions, if any, are shown separately starting in 2011. Prior to 2011, additional contributions are combined with the required employer contributions.

In the actuarial valuation additional employer contributions are combined with required contributions and used to reduce computed future required employer contributions.

Actuarial Accrued Liabilities and Valuation Assets As of December 31, 2014

Table 6

Division	Actuarial Accrued Liability	Valuation Assets ¹	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
01 - AFSCME				
Active Employees	\$ 275,720	\$ 9,048	3.3%	\$ 266,672
Vested Former Employees	26,231	0	0.0%	26,231
Retirees And Beneficiaries	628,170	623,299	99.2%	4,871
Pending Refunds	<u>2,767</u>	<u>2,767</u>	100.0%	<u>0</u>
Total	\$ 932,888	\$ 635,114	68.1%	\$ 297,774
02 - PubSafety				
Active Employees	\$ 708,225	\$ 121,910	17.2%	\$ 586,315
Vested Former Employees	907,990	539,517	59.4%	368,473
Retirees And Beneficiaries	4,388,764	4,388,764	100.0%	0
Pending Refunds	<u>27,024</u>	<u>27,024</u>	100.0%	<u>0</u>
Total	\$ 6,032,003	\$ 5,077,215	84.2%	\$ 954,788
10 - Non Union				
Active Employees	\$ 531,275	\$ 354,119	66.7%	\$ 177,156
Vested Former Employees	87,621	87,621	100.0%	0
Retirees And Beneficiaries	291,553	291,553	100.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	\$ 910,449	\$ 733,293	80.5%	\$ 177,156
11 - Dept Hds				
Active Employees	\$ 788,806	\$ 84,480	10.7%	\$ 704,326
Vested Former Employees	47,916	47,916	100.0%	0
Retirees And Beneficiaries	845,765	845,765	100.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	\$ 1,682,487	\$ 978,161	58.1%	\$ 704,326
Total Municipality				
Active Employees	\$ 2,304,026	\$ 569,557	24.7%	\$ 1,734,469
Vested Former Employees	1,069,758	675,054	63.1%	394,704
Retirees and Beneficiaries	6,154,252	6,149,381	99.9%	4,871
Pending Refunds	<u>29,791</u>	<u>29,791</u>	100.0%	<u>0</u>
Total Participants	\$ 9,557,827	\$ 7,423,783	77.7%	\$ 2,134,044

¹ Includes both employer and employee 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
2000	\$ 1,925,319	\$ 2,041,646	106%	\$ (116,326)
2001	2,055,785	2,080,846	101%	(25,061)
2002	2,098,078	2,007,703	96%	90,375
2003	7,222,416	6,611,003	92%	611,413
2004	7,584,567	6,845,357	90%	739,210
2005	7,947,925	7,080,268	89%	867,657
2006	8,346,103	7,390,738	89%	955,365
2007	8,771,605	7,703,898	88%	1,067,707
2008	8,793,691	7,586,965	86%	1,206,726
2009	8,826,445	7,476,853	85%	1,349,592
2010	8,981,040	7,464,911	83%	1,516,129
2011	9,311,277	7,498,968	81%	1,812,309
2012	9,921,344	7,442,226	75%	2,479,118
2013	9,396,726	7,450,638	79%	1,946,088
2014	9,557,827	7,423,783	78%	2,134,044

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

Division 01 - AFSCME

Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2004	\$ 743,871	\$ 625,655	84%	\$ 118,216
2005	749,067	621,794	83%	127,273
2006	774,719	631,977	82%	142,742
2007	825,463	646,569	78%	178,894
2008	791,996	643,210	81%	148,786
2009	790,605	635,541	80%	155,064
2010	840,072	630,614	75%	209,458
2011	871,504	626,654	72%	244,850
2012	828,708	623,941	75%	204,767
2013	879,946	633,209	72%	246,737
2014	932,888	635,114	68%	297,774

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

Table 9-01: Required Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Required Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2004	5	\$ 161,979	12.49%	0.00%
2005	5	169,823	12.50%	0.00%
2006	5	178,060	12.82%	0.00%
2007	5	186,417	13.77%	0.00%
2008	5	200,526	12.11%	0.00%
2009	5	194,497	12.52%	0.00%
2010	5	197,787	15.35%	0.00%
2011	5	211,465	14.15%	2.00%
2012	5	206,347	13.68%	2.00%
2013	5	177,337	16.44%	2.00%
2014	5	200,499	16.68%	2.00%

¹ For open divisions, a percent of pay contribution is shown. For closed divisions, a monthly dollar contribution is shown.

² For employee contribution rates that are not flat percentages, the rate shown is a weighted average flat employee contribution rate. For each valuation year, the required employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the required employer contribution will be adjusted.

Division 02 - PubSafety

Table 8-02: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2004	\$ 5,339,207	\$ 4,771,041	89%	\$ 568,166
2005	5,604,106	4,952,975	88%	651,131
2006	5,890,138	5,161,594	88%	728,544
2007	5,990,839	5,380,376	90%	610,463
2008	5,957,157	5,295,400	89%	661,757
2009	5,960,420	5,221,677	88%	738,743
2010	5,965,898	5,203,026	87%	762,872
2011	6,178,270	5,227,788	85%	950,482
2012	6,704,352	5,157,594	77%	1,546,758
2013	6,035,753	5,118,326	85%	917,427
2014	6,032,003	5,077,215	84%	954,788

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

Table 9-02: Required Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Required Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2004	17	\$ 1,072,241	9.36%	7.00%
2005	17	1,071,205	9.49%	7.00%
2006	17	1,149,448	9.44%	7.00%
2007	16	1,050,436	9.03%	7.00%
2008	14	943,168	11.02%	7.00%
2009	13	875,539	11.20%	7.00%
2010	13	895,593	11.50%	7.00%
2011	13	900,562	12.83%	7.00%
2012	12	808,898	19.07%	7.00%
2013	1	74,200	\$ 4,428	7.00%
2014	1	74,200	\$ 5,413	7.00%

¹ For open divisions, a percent of pay contribution is shown. For closed divisions, a monthly dollar contribution is shown.

² For employee contribution rates that are not flat percentages, the rate shown is a weighted average flat employee contribution rate. For each valuation year, the required employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the required employer contribution will be adjusted.

Division 10 - Non Union

Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2004	\$ 386,812	\$ 443,295	115%	\$ (56,483)
2005	399,005	452,737	113%	(53,732)
2006	432,522	488,657	113%	(56,135)
2007	542,130	566,584	105%	(24,454)
2008	577,936	569,300	99%	8,636
2009	590,663	574,773	97%	15,890
2010	634,609	593,336	93%	41,273
2011	644,082	608,976	95%	35,106
2012	686,070	624,892	91%	61,178
2013	841,525	727,721	87%	113,804
2014	910,449	733,293	81%	177,156

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

Table 9-10: Required Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Required Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2004	7	\$ 184,139	4.61%	0.00%
2005	6	163,957	3.84%	0.00%
2006	7	192,004	4.74%	0.00%
2007	7	210,857	6.56%	0.00%
2008	7	218,142	8.42%	0.00%
2009	7	227,846	8.35%	0.00%
2010	7	243,041	9.01%	0.00%
2011	5	179,322	7.44%	2.00%
2012	6	218,150	7.98%	2.00%
2013	7	281,528	8.79%	2.00%
2014	8	313,997	9.63%	2.00%

¹ For open divisions, a percent of pay contribution is shown. For closed divisions, a monthly dollar contribution is shown.

² For employee contribution rates that are not flat percentages, the rate shown is a weighted average flat employee contribution rate. For each valuation year, the required employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the required employer contribution will be adjusted.

Division 11 - Dept Hds

Table 8-11: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2004	\$ 1,114,677	\$ 1,005,366	90%	\$ 109,311
2005	1,195,747	1,052,762	88%	142,985
2006	1,248,724	1,108,510	89%	140,214
2007	1,413,173	1,110,369	79%	302,804
2008	1,466,602	1,079,055	74%	387,547
2009	1,484,757	1,044,862	70%	439,895
2010	1,540,461	1,037,935	67%	502,526
2011	1,617,421	1,035,550	64%	581,871
2012	1,702,214	1,035,799	61%	666,415
2013	1,639,502	971,382	59%	668,120
2014	1,682,487	978,161	58%	704,326

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

Table 9-11: Required Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Required Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2004	4	\$ 183,127	13.94%	0.00%
2005	5	217,854	13.93%	0.00%
2006	5	228,926	13.79%	0.00%
2007	3	154,773	23.17%	0.00%
2008	3	161,900	25.31%	0.00%
2009	3	169,051	26.39%	0.00%
2010	3	174,508	28.60%	0.00%
2011	3	178,575	29.26%	2.00%
2012	3	191,160	32.57%	2.00%
2013	2	142,776	40.77%	2.00%
2014	2	147,000	\$ 4,899	2.00%

¹ For open divisions, a percent of pay contribution is shown. For closed divisions, a monthly dollar contribution is shown.

² For employee contribution rates that are not flat percentages, the rate shown is a weighted average flat employee contribution rate. For each valuation year, the required employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the required employer contribution will be adjusted.

GASB 68 Information

The following information has been prepared to provide some of the information necessary to complete GASB Statement No. 68 disclosures. Statement 68 is effective for fiscal years beginning after June 15, 2014. Additional resources, including an Implementation Guide, are available at www.mersofmich.com.

Actuarial Valuation Date:	12/31/2014
Measurement Date of Total Pension Liability (TPL):	12/31/2014

At 12/31/2014, the following employees were covered by the benefit terms:

Inactive employees or beneficiaries currently receiving benefits:	38
Inactive employees entitled to but not yet receiving benefits:	18
Active employees:	<u>16</u>
	72

Covered employee payroll: (Needed for Required Supplementary Information)	\$	735,696
Total Pension Liability as of 12/31/2013 measurement date:	\$	9,212,026
Total Pension Liability as of 12/31/2014 measurement date:	\$	9,334,545
Service Cost for the year ending on the 12/31/2014 measurement date:	\$	73,304

Change in the Total Pension Liability due to:

- Benefit changes ¹ :	\$	0
- Differences between expected and actual experience ² :	\$	0
- Changes in assumptions ² :	\$	0

Average expected remaining service lives of all employees (active and inactive): 2

¹ A change in liability due to benefit changes is immediately recognized when calculating pension expense for the year.

² Changes in liability due to differences between actual and expected experience, and changes in assumptions, are recognized in pension expense over the average remaining service lives of all employees.

Sensitivity of the Net Pension Liability to changes in the discount rate:

	1% Decrease <u>(7.25%)</u>	Current Discount Rate <u>(8.25%)</u>	1% Increase <u>(9.25%)</u>
Change in Net Pension Liability as of 12/31/2014:	\$ 954,946	-	\$ (801,019)

Note: The current discount rate shown for GASB 68 purposes is higher than the MERS assumed rate of return. This is because for GASB 68 purposes, the discount rate must be gross of administrative expenses, whereas for funding purposes it is net of administrative expenses.

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 - AFSCME

7/1/2011	Member Contribution Rate 2.00%
1/1/2010	Benefit B-3 (80% max)
8/1/2009	Temporary 20 Years & Out (08/01/2009 - 09/30/2009)
1/1/2000	Benefit B-2
1/1/2000	Flexible E \$10.00 Monthly COLA Adopted (01/01/2000)
1/1/1997	Flexible E 2% COLA Adopted (01/01/1997)
1/1/1994	Flexible E 2% COLA Adopted (01/01/1994)
1/1/1992	Flexible E 2% COLA Adopted (01/01/1992)
1/1/1991	Flexible E 2% COLA Adopted (01/01/1991)
1/1/1990	Benefit F55 (With 25 Years of Service)
1/1/1990	Flexible E 2% COLA Adopted (01/01/1990)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)
7/1/1980	Member Contribution Rate 0.00%
7/1/1979	Benefit B-1
7/1/1979	Member Contribution Rate 5.00%
3/1/1976	Exclude Temporary Employees
12/21/1970	Covered by Act 88
3/1/1963	Benefit FAC-5 (5 Year Final Average Compensation)
3/1/1963	10 Year Vesting
3/1/1963	Benefit C (Old)
3/1/1963	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
3/1/1963	Fiscal Month - July

02 - PubSafety

7/1/2009	Temporary 20 Years & Out (07/01/2009 - 08/31/2009)
7/1/2004	Member Contribution Rate 7.00%
7/1/2003	25 Years & Out
7/1/2003	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/2003	10 Year Vesting
7/1/2003	Day of work defined as 120 Hours a Month for All employees.
7/1/2003	3.0% Multiplier (80% max)
7/1/2003	Member Contribution Rate 8.00%
12/21/1970	Covered by Act 88
3/1/1963	Fiscal Month - July

10 - Non Union

7/1/2011	Member Contribution Rate 2.00%
1/1/1997	Flexible E 2% COLA Adopted (01/01/1997)
1/1/1994	Flexible E 2% COLA Adopted (01/01/1994)

10 - Non Union

1/1/1992	Flexible E 2% COLA Adopted (01/01/1992)
1/1/1991	Flexible E 2% COLA Adopted (01/01/1991)
1/1/1990	Flexible E 2% COLA Adopted (01/01/1990)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
7/1/1988	Benefit B-2
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)
7/1/1980	Member Contribution Rate 0.00%
7/1/1979	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1979	10 Year Vesting
7/1/1979	Benefit B-1
7/1/1979	Member Contribution Rate 5.00%
3/1/1976	Exclude Temporary Employees
12/21/1970	Covered by Act 88
3/1/1963	Fiscal Month - July

11 - Dept Hds

7/1/2011	Member Contribution Rate 2.00%
3/1/2007	Temporary 30 Years & Out (03/01/2007 - 08/31/2007)
1/1/1997	Flexible E 2% COLA Adopted (01/01/1997)
1/1/1994	Flexible E 2% COLA Adopted (01/01/1994)
1/1/1992	Flexible E 2% COLA Adopted (01/01/1992)
11/1/1991	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
1/1/1991	Flexible E 2% COLA Adopted (01/01/1991)
7/1/1990	Benefit B-4 (80% max)
7/1/1990	Benefit F55 (With 25 Years of Service)
5/1/1990	Benefit B-3 (80% max)
1/1/1990	Flexible E 2% COLA Adopted (01/01/1990)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
7/1/1988	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/1988	Benefit B-2
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)
7/1/1980	Member Contribution Rate 0.00%
7/1/1979	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1979	10 Year Vesting
7/1/1979	Benefit B-1
7/1/1979	Member Contribution Rate 5.00%
3/1/1976	Exclude Temporary Employees
12/21/1970	Covered by Act 88
3/1/1963	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	2.00%

Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
All Divisions	100%

Miscellaneous and Technical Assumptions

Loads – None.

Amortization Policy for Closed Divisions

Closed Division	Amortization Option
All Closed Divisions	Option A