



MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN
ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2014
ALLEGAN CRC (0301)



Spring, 2015

Allegan CRC

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 Allegan CRC (0301) 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. Allegan CRC 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 January 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	65%	68%

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:	January 1, 2016	January 1, 2015	January 1, 2016	January 1, 2015
Division				
01 - General	-	-	\$ 35,105	\$ 31,156
10 - Slrd	-	-	10,536	9,949
11 - Non-Union	-	-	4,477	4,508
12 - All Employees Post 12/	5.41%	5.23%	1,056	578
Municipality Total			\$ 51,174	\$ 46,191

Employee contribution rates reflected in the valuations are shown below:

Valuation Date:	Employee Contribution Rate	
	12/31/2014	12/31/2013
Division		
01 - General	4.70%	4.70%
10 - Slrd	4.70%	4.70%
11 - Non-Union	4.70%	4.70%
12 - All Employees Post 12/	6.00%	6.00%

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 \$ 88,998, instead of \$ 51,174.
- To accelerate to a 100% funding ratio in 20 years, estimated monthly employer contributions for the entire employer would be \$ 56,461, instead of \$ 51,174.

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 62% (instead of

65%); and ii) your total employer contribution requirement for the fiscal year starting January 1, 2016 would be \$ 667,956 (instead of \$ 614,088).

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	\$ 26,487,236	\$ 24,007,753	\$ 21,887,525	\$ 20,062,932
Valuation Assets	\$ 14,290,011	\$ 14,290,011	\$ 14,290,011	\$ 14,290,011
Unfunded Accrued Liability	\$ 12,197,225	\$ 9,717,742	\$ 7,597,514	\$ 5,772,921
Funded Ratio	54%	60%	65%	71%
Monthly Normal Cost	\$ 22,107	\$ 15,959	\$ 11,245	\$ 7,588
Monthly Amortization Payment	\$ 53,021	\$ 46,675	\$ 39,929	\$ 32,743
Total Employer Contribution¹	\$ 75,128	\$ 62,634	\$ 51,174	\$ 40,331

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 1/1	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	\$ 21,887,525	\$ 14,290,011	65%	\$ 666,480
2015	2017	22,350,300	14,254,200	64%	709,300
2016	2018	22,708,200	14,153,000	62%	758,100
2017	2019	22,982,600	13,960,000	61%	814,600
2018	2020	23,274,900	14,176,100	61%	842,000
7% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
2014	2016	\$ 24,007,753	\$ 14,290,011	60%	\$ 836,136
2015	2017	24,411,500	14,234,600	58%	867,700
2016	2018	24,800,900	14,286,800	58%	911,600
2017	2019	25,102,800	14,280,300	57%	961,400
2018	2020	25,428,400	14,559,600	57%	993,600
6% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
2014	2016	\$ 26,487,236	\$ 14,290,011	54%	\$ 1,025,640
2015	2017	27,001,800	14,225,000	53%	1,047,900
2016	2018	27,321,400	14,451,600	53%	1,090,300
2017	2019	27,650,900	14,612,800	53%	1,138,100
2018	2020	28,021,200	15,044,200	54%	1,171,800

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 January 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 - General	24	-	-	-	24.69%	4.70%	
10 - Slrd	24	-	-	-	24.69%	4.70%	
11 - Non-Union	24	-	-	-	24.69%	4.70%	
12 - All Employees Post	24	5.49%	-0.08%	5.41%	24.69%	6.00%	0.76%
Estimated Monthly Contribution³							
01 - General	24	\$ 7,554	\$ 27,551	\$ 35,105			
10 - Slrd	24	1,667	8,869	10,536			
11 - Non-Union	24	952	3,525	4,477			
12 - All Employees Post	24	1,072	(16)	1,056			
Total Municipality		\$ 11,245	\$ 39,929	\$ 51,174			
Estimated Annual Contribution³							
		\$ 134,940	\$ 479,148	\$ 614,088			

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 January 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 - General: Closed to new hires, linked to Division 12

	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:	3 years	3 years
Employee Contributions:	4.70%	4.70%
Act 88:	Yes (Adopted 2/15/1971)	Yes (Adopted 2/15/1971)

10 - Slrd: Closed to new hires, linked to Division 12

	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:	3 years	3 years
Employee Contributions:	4.70%	4.70%
Act 88:	Yes (Adopted 2/15/1971)	Yes (Adopted 2/15/1971)

11 - Non-Union: Closed to new hires, linked to Division 12

	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:	3 years	3 years
Employee Contributions:	4.70%	4.70%
Act 88:	Yes (Adopted 2/15/1971)	Yes (Adopted 2/15/1971)

Table 2 (continued)**12 - All Employees Post 12/31/2012: Open Division, linked to Division 01, 10, 11**

	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:	3 years	3 years
Employee Contributions:	6%	6%
Act 88:	Yes (Adopted 2/15/1971)	Yes (Adopted 2/15/1971)

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 - General							
Active Employees	35	\$ 1,602,415	38	\$ 1,670,880	50.2	15.3	15.3
Vested Former Employees	3	29,341	3	29,341	57.4	13.0	13.0
Retirees and Beneficiaries	53	1,042,556	50	989,467	71.2		
10 - Slrd							
Active Employees	7	\$ 363,548	7	\$ 357,819	48.9	14.4	14.4
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	15	390,905	16	399,833	71.3		
11 - Non-Union							
Active Employees	3	\$ 261,343	3	\$ 257,925	51.9	23.0	23.0
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	2	93,340	2	93,340	69.2		
12 - All Employees Post 1							
Active Employees	6	\$ 234,258	3	\$ 132,521	37.1	0.8	0.8
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
Total Municipality							
Active Employees	51	\$ 2,461,564	51	\$ 2,419,145	48.6	13.9	13.9
Vested Former Employees	3	29,341	3	29,341	57.4	13.0	13.0
Retirees and Beneficiaries	70	1,526,801	68	1,482,640	71.2		
Total Participants	124		122				

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 - General	\$ 8,061,923	\$ 1,182,913	\$ 8,094,742	\$ 1,209,007
10 - Slrd	2,549,253	250,961	2,660,532	233,361
11 - Non-Union	1,173,754	236,769	1,130,759	223,993
12 - All Employees Post 12/31/2012	12,268	14,102	3,322	3,561
Municipality Total	\$ 11,797,198	\$ 1,684,745	\$ 11,889,355	\$ 1,669,922
Combined Reserves	\$ 13,481,943		\$ 13,559,277	

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	\$ 130,160		\$ 130,788	\$ 837,530	\$ (661,540)	\$ (3,423)	\$ 0	\$ 13,195,275
2005	164,878		136,548	833,272	(699,734)	0	18,814	13,649,053
2006	202,082		131,850	1,089,634	(782,599)	(6,479)	0	14,283,541
2007	232,312		135,324	1,155,982	(825,865)	(57,599)	39,159	14,962,854
2008	266,631		140,905	635,711	(905,049)	0	20,098	15,121,150
2009	275,858		126,787	559,642	(1,017,804)	0	0	15,065,633
2010	306,808		118,982	694,909	(1,151,050)	0	0	15,035,282
2011	323,762	\$ 0	107,108	652,470	(1,305,425)	(11,433)	0	14,801,764
2012	378,332	0	104,238	568,174	(1,393,713)	0	0	14,458,795
2013	446,578	0	109,774	785,426	(1,483,870)	0	81,080	14,397,783
2014	498,149	0	117,653	777,876	(1,501,450)	0	0	14,290,011

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 - General				
Active Employees	\$ 4,948,839	\$ 1,090,172	22.0%	\$ 3,858,667
Vested Former Employees	250,711	79,101	31.6%	171,610
Retirees And Beneficiaries	9,818,254	8,616,031	87.8%	1,202,223
Pending Refunds	<u>13,640</u>	<u>13,640</u>	100.0%	<u>0</u>
Total	\$ 15,031,444	\$ 9,798,944	65.2%	\$ 5,232,500
10 - Slrd				
Active Employees	\$ 997,293	\$ 250,961	25.2%	\$ 746,332
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	3,664,120	2,717,089	74.2%	947,031
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	\$ 4,661,413	\$ 2,968,050	63.7%	\$ 1,693,363
11 - Non-Union				
Active Employees	\$ 1,206,040	\$ 532,362	44.1%	\$ 673,678
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	962,704	962,704	100.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	\$ 2,168,744	\$ 1,495,066	68.9%	\$ 673,678
12 - All Employees Post 12/31/2012				
Active Employees	\$ 25,924	\$ 27,951	107.8%	\$ (2,027)
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	\$ 25,924	\$ 27,951	107.8%	\$ (2,027)
Total Municipality				
Active Employees	\$ 7,178,096	\$ 1,901,446	26.5%	\$ 5,276,650
Vested Former Employees	250,711	79,101	31.6%	171,610
Retirees and Beneficiaries	14,445,078	12,295,824	85.1%	2,149,254
Pending Refunds	<u>13,640</u>	<u>13,640</u>	100.0%	<u>0</u>
Total Participants	\$ 21,887,525	\$ 14,290,011	65.3%	\$ 7,597,514
The following results show the combined accrued liabilities and assets for each set of linked divisions. These results are already included in the table above.				
Linked Divisions 12, 01, 10, 11				
Active Employees	\$ 7,178,096	\$ 1,901,446	26.5%	\$ 5,276,650
Vested Former Employees	250,711	79,101	31.6%	171,610
Retirees and Beneficiaries	14,445,078	12,295,824	85.1%	2,149,254
Pending Refunds	<u>13,640</u>	<u>13,640</u>	100.0%	<u>0</u>
Total	\$ 21,887,525	\$ 14,290,011	65.3%	\$ 7,597,514

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	\$ 10,629,053	\$ 12,077,635	114%	\$ (1,448,581)
2001	11,221,940	12,483,042	111%	(1,261,102)
2002	12,370,024	12,355,498	100%	14,526
2003	12,914,970	12,761,760	99%	153,210
2004	14,453,113	13,195,275	91%	1,257,838
2005	15,269,350	13,649,053	89%	1,620,297
2006	15,911,593	14,283,541	90%	1,628,052
2007	17,515,567	14,962,854	85%	2,552,713
2008	18,652,044	15,121,150	81%	3,530,894
2009	19,117,084	15,065,633	79%	4,051,451
2010	19,850,984	15,035,282	76%	4,815,702
2011	20,463,223	14,801,764	72%	5,661,459
2012	20,508,865	14,458,795	71%	6,050,070
2013	21,261,541	14,397,783	68%	6,863,758
2014	21,887,525	14,290,011	65%	7,597,514

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

Division 01 - General

Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2004	\$ 10,152,395	\$ 9,441,091	93%	\$ 711,304
2005	10,766,433	9,816,724	91%	949,709
2006	11,249,986	10,273,639	91%	976,347
2007	12,555,133	10,752,259	86%	1,802,874
2008	13,265,800	10,681,457	81%	2,584,343
2009	12,955,621	10,403,717	80%	2,551,904
2010	13,462,933	10,355,127	77%	3,107,806
2011	13,946,469	10,138,093	73%	3,808,376
2012	13,808,276	9,907,258	72%	3,901,018
2013	14,425,090	9,879,093	69%	4,545,997
2014	15,031,444	9,798,944	65%	5,232,500

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	57	\$ 2,060,118	6.82%	4.70%
2005	55	2,099,488	7.19%	4.70%
2006	52	1,991,455	7.48%	4.70%
2007	50	2,063,128	10.05%	4.70%
2008	46	2,104,198	12.19%	4.70%
2009	42	1,788,730	13.40%	4.70%
2010	36	1,532,368	17.02%	4.70%
2011	37	1,517,838	19.99%	4.70%
2012	36	1,484,609	21.88%	4.70%
2013	38	1,670,880	\$ 31,156	4.70%
2014	35	1,602,415	\$ 35,105	4.70%

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 - Slrd

Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2004	\$ 2,972,497	\$ 2,819,443	95%	\$ 153,054
2005	3,061,439	2,863,076	94%	198,363
2006	3,145,343	2,962,810	94%	182,533
2007	3,378,438	3,090,402	91%	288,036
2008	3,707,629	3,258,418	88%	449,211
2009	4,450,410	3,399,694	76%	1,050,716
2010	4,574,149	3,331,561	73%	1,242,588
2011	4,503,788	3,287,473	73%	1,216,315
2012	4,640,934	3,163,030	68%	1,477,904
2013	4,703,210	3,072,851	65%	1,630,359
2014	4,661,413	2,968,050	64%	1,693,363

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	10	\$ 429,291	5.27%	4.70%
2005	10	427,949	5.91%	4.70%
2006	10	448,200	5.58%	4.70%
2007	10	480,485	7.44%	4.70%
2008	10	499,376	10.07%	4.70%
2009	10	500,635	17.11%	4.70%
2010	10	506,777	19.04%	4.70%
2011	8	405,219	22.41%	4.70%
2012	7	349,676	31.53%	4.70%
2013	7	357,819	\$ 9,949	4.70%
2014	7	363,548	\$ 10,536	4.70%

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 - Non-Union

Table 8-11: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2004	\$ 1,328,221	\$ 934,741	70%	\$ 393,480
2005	1,441,478	969,253	67%	472,225
2006	1,516,264	1,047,092	69%	469,172
2007	1,581,996	1,120,193	71%	461,803
2008	1,678,615	1,181,275	70%	497,340
2009	1,711,053	1,262,222	74%	448,831
2010	1,813,902	1,348,594	74%	465,308
2011	2,012,966	1,376,198	68%	636,768
2012	2,059,655	1,388,507	67%	671,148
2013	2,127,061	1,438,530	68%	688,531
2014	2,168,744	1,495,066	69%	673,678

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	\$ 264,743	13.06%	4.70%
2005	4	277,716	14.14%	4.70%
2006	4	285,919	13.94%	4.70%
2007	3	245,289	15.82%	4.70%
2008	4	315,643	14.07%	4.70%
2009	4	320,836	13.40%	4.70%
2010	4	325,053	14.00%	4.70%
2011	3	239,277	20.82%	4.70%
2012	3	245,800	22.25%	4.70%
2013	3	257,925	\$ 4,508	4.70%
2014	3	261,343	\$ 4,477	4.70%

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 12 - All Employees Post 12/31/2012

Table 8-12: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2013	\$ 6,180	\$ 7,309	118%	\$ (1,129)
2014	25,924	27,951	108%	(2,027)

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

Table 9-12: Required Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Required Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2013	3	\$ 132,521	5.23%	6.00%
2014	6	234,258	5.41%	6.00%

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:	70
Inactive employees entitled to but not yet receiving benefits:	3
Active employees:	<u>51</u>
	124

Covered employee payroll: (Needed for Required Supplementary Information)	\$	2,461,564
Total Pension Liability as of 12/31/2013 measurement date:	\$	20,968,725
Total Pension Liability as of 12/31/2014 measurement date:	\$	21,405,839
Service Cost for the year ending on the 12/31/2014 measurement date:	\$	259,860

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): 3

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:	\$ 2,040,911	-	\$ (1,759,041)

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.

GASB 68 Information

This page is for those municipalities who need to “roll-forward” their total pension liability due to the timing of completion of the actuarial valuation in relation to their fiscal year-end.

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):	12/31/2015

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

Inactive employees or beneficiaries currently receiving benefits:	70
Inactive employees entitled to but not yet receiving benefits:	3
Active employees:	<u>51</u>
	124

Covered employee payroll: (Needed for Required Supplementary Information)	\$	2,461,564
Total Pension Liability as of 12/31/2014 measurement date:	\$	21,405,839
Total Pension Liability as of 12/31/2015 measurement date:	\$	21,757,204
Service Cost for the year ending on the 12/31/2015 measurement date:	\$	249,606

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):	3
--	---

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 (7.25%)	Current Discount Rate (8.25%)	1% Increase (9.25%)
Change in Net Pension Liability as of 12/31/2015:	\$ 2,042,393	-	\$ (1,761,833)

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 - General

1/1/2010	Flexible E \$15.00 Monthly COLA Adopted (01/01/2010)
1/1/2009	Flexible E \$10.00 Monthly COLA Adopted (01/01/2009)
1/1/2008	Flexible E \$10.00 Monthly COLA Adopted (01/01/2008)
9/1/2007	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2007	Flexible E \$15.00 Monthly COLA Adopted (01/01/2007)
1/1/2006	Flexible E \$20.00 Monthly COLA Adopted (01/01/2006)
1/1/2005	Flexible E \$20.00 Monthly COLA Adopted (01/01/2005)
4/1/2004	Benefit B-3 (80% max)
4/1/2004	Member Contribution Rate 4.70%
1/1/2004	Flexible E \$20.00 Monthly COLA Adopted (01/01/2004)
1/1/2003	Flexible E \$30.00 Monthly COLA Adopted (01/01/2003)
1/1/2002	Flexible E \$30.00 Monthly COLA Adopted (01/01/2002)
1/1/2001	Flexible E \$20.00 Monthly COLA Adopted (01/01/2001)
1/1/2000	Flexible E \$15.00 Monthly COLA Adopted (01/01/2000)
1/1/1999	Flexible E \$10.00 Monthly COLA Adopted (01/01/1999)
1/1/1998	Flexible E \$20.00 Monthly COLA Adopted (01/01/1998)
1/1/1998	Benefit F55 (With 25 Years of Service)
1/1/1995	E 2% COLA Adopted (01/01/1995)
1/1/1993	E 2% COLA Adopted (01/01/1993)
1/1/1992	E 2% COLA Adopted (01/01/1992)
1/1/1992	Benefit B-2
1/1/1991	E 2% COLA Adopted (01/01/1991)
4/1/1977	Benefit C-1 (Old)
2/28/1975	Exclude Temporary Employees
2/15/1971	Covered by Act 88
7/1/1946	Fiscal Month - January
7/1/1946	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1946	10 Year Vesting
7/1/1946	Benefit C (Old)
7/1/1946	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%

10 - Slrd

1/1/2010	Flexible E \$15.00 Monthly COLA Adopted (01/01/2010)
1/1/2009	Flexible E \$10.00 Monthly COLA Adopted (01/01/2009)
1/1/2008	Flexible E \$10.00 Monthly COLA Adopted (01/01/2008)
3/1/2007	Benefit B-3 (80% max)
1/1/2007	Flexible E \$15.00 Monthly COLA Adopted (01/01/2007)
1/1/2006	Flexible E \$20.00 Monthly COLA Adopted (01/01/2006)
1/1/2005	Flexible E \$20.00 Monthly COLA Adopted (01/01/2005)
1/1/2004	Flexible E \$20.00 Monthly COLA Adopted (01/01/2004)

10 - Slrd

1/1/2003	Flexible E \$30.00 Monthly COLA Adopted (01/01/2003)
1/1/2002	Benefit F55 (With 25 Years of Service)
1/1/2002	Member Contribution Rate 4.70%
1/1/2002	Flexible E \$30.00 Monthly COLA Adopted (01/01/2002)
1/1/2001	Flexible E \$20.00 Monthly COLA Adopted (01/01/2001)
1/1/2000	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2000	Flexible E \$15.00 Monthly COLA Adopted (01/01/2000)
1/1/1999	Flexible E \$10.00 Monthly COLA Adopted (01/01/1999)
1/1/1998	Flexible E \$20.00 Monthly COLA Adopted (01/01/1998)
1/1/1995	E 2% COLA Adopted (01/01/1995)
1/1/1993	E 2% COLA Adopted (01/01/1993)
1/1/1992	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1992	10 Year Vesting
1/1/1992	Benefit B-2
1/1/1992	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
1/1/1992	E 2% COLA Adopted (01/01/1992)
1/1/1991	E 2% COLA Adopted (01/01/1991)
2/28/1975	Exclude Temporary Employees
2/15/1971	Covered by Act 88
7/1/1946	Fiscal Month - January

11 - Non-Union

1/1/2009	Flexible E \$10.00 Monthly COLA Adopted (01/01/2009)
1/1/2008	Flexible E \$10.00 Monthly COLA Adopted (01/01/2008)
1/1/2007	Flexible E \$15.00 Monthly COLA Adopted (01/01/2007)
1/1/2006	Flexible E \$20.00 Monthly COLA Adopted (01/01/2006)
6/1/2004	Benefit FAC-3 (3 Year Final Average Compensation)
6/1/2004	10 Year Vesting
6/1/2004	Benefit B-3 (80% max)
6/1/2004	Benefit F55 (With 25 Years of Service)
6/1/2004	Member Contribution Rate 4.70%
2/28/1975	Exclude Temporary Employees
2/15/1971	Covered by Act 88
7/1/1946	Fiscal Month - January

12 - All Employees Post 12/31/2012

1/1/2013	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2013	10 Year Vesting
1/1/2013	Exclude Temporary Employees requiring less than 12 months
1/1/2013	Day of work defined as 88 Hours a Month for All employees.
1/1/2013	Benefit B-3 (80% max)
1/1/2013	Benefit F55 (With 25 Years of Service)
1/1/2013	Member Contribution Rate 6.00%
2/15/1971	Covered by Act 88
7/1/1946	Fiscal Month - January

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	5.00%

Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
All Divisions	100%

Miscellaneous and Technical Assumptions

Loads – None.