



**MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN**  
ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2014  
PITTSFIELD CHTR TWP (8110)



Spring, 2015

Pittsfield Chtr Twp

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 Pittsfield Chtr Twp (8110) 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. Pittsfield Chtr Twp 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](http://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

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### 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
<b>Funded Ratio</b>	74%	73%

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
<b>Division</b>				
01 - AFSCME	6.72%	5.40%	\$ 4,087	\$ 3,292
02 - Pol Ptrl	-	12.58%	17,642	20,942
05 - Fire Fght	-	8.16%	11,804	12,191
10 - Elctd Ofc	21.80%	20.46%	4,270	4,152
11 - Dsptrchr	-	1.52%	281	483
14 - Adm/NonUnion	-	6.46%	11,872	10,912
15 - Utilities Dr	-	-	411	351
20 - Pol Cmnd	-	47.79%	30,807	27,505
HA - POLC/cler/Dispatch aft	5.99%		169	
<b>Municipality Total</b>			<b>\$ 81,343</b>	<b>\$ 79,828</b>

Employee contribution rates reflected in the valuations are shown below:

Valuation Date:	Employee Contribution Rate	
	12/31/2014	12/31/2013
<b>Division</b>		
01 - AFSCME	2.00%	3.00%
02 - Pol Ptrl	6.17%	6.17%
05 - Fire Fght	5.00%	5.00%
10 - Elctd Ofc	6.93%	6.93%
11 - Dsptrchr	5.00%	5.00%
14 - Adm/NonUnion	5.00%	5.00%
15 - Utilities Dr	0.00%	0.00%
20 - Pol Cmnd	9.06%	9.06%
HA - POLC/cler/Dispatch aft	0.00%	

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 \$ 118,501, instead of \$ 81,343.
- To accelerate to a 100% funding ratio in 20 years, estimated monthly employer contributions for the entire employer would be \$ 86,504, instead of \$ 81,343.

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 70% (instead of 74%); and ii) your total employer contribution requirement for the fiscal year starting January 1, 2016 would be \$ 1,059,468 (instead of \$ 976,116).

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.

12/31/2014 Valuation Results	Assumed Future Annual Smoothed Rate of Investment Return			
	Lower Future Annual Returns		Valuation Assumption	Higher Returns
	6%	7%	8%	9%
Accrued Liability	\$ 38,215,046	\$ 32,970,728	\$ 28,683,079	\$ 25,180,616
Valuation Assets	\$ 21,262,906	\$ 21,262,906	\$ 21,262,906	\$ 21,262,906
Unfunded Accrued Liability	\$ 16,952,140	\$ 11,707,822	\$ 7,420,173	\$ 3,917,710
<b>Funded Ratio</b>	56%	65%	74%	84%
Monthly Normal Cost	\$ 87,507	\$ 62,113	\$ 43,081	\$ 28,755
Monthly Amortization Payment	\$ 75,724	\$ 57,253	\$ 38,262	\$ 15,974
<b>Total Employer Contribution<sup>1</sup></b>	\$ 163,231	\$ 119,366	\$ 81,343	\$ 46,272

<sup>1</sup> 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 <sup>1</sup>
<b>8% Assumed Interest Discount Rate and Future Annual Market Rate of Return</b>					
2014	2016	\$ 28,683,079	\$ 21,262,906	74%	\$ 1,051,836
2015	2017	30,768,699	22,812,140	74%	1,149,100
2016	2018	33,112,190	24,551,721	74%	1,255,536
2017	2019	35,566,228	26,244,664	74%	1,377,324
2018	2020	38,106,918	28,816,642	76%	1,441,148
<b>7% Assumed Interest Discount Rate and Future Annual Market Rate of Return</b>					
2014	2016	\$ 32,970,728	\$ 21,262,906	65%	\$ 1,526,688
2015	2017	35,333,927	22,791,150	65%	1,629,116
2016	2018	37,956,136	25,023,448	66%	1,738,200
2017	2019	40,684,471	27,320,037	67%	1,854,112
2018	2020	43,520,052	30,300,609	70%	1,937,364
<b>6% Assumed Interest Discount Rate and Future Annual Market Rate of Return</b>					
2014	2016	\$ 38,215,046	\$ 21,262,906	56%	\$ 2,077,176
2015	2017	40,907,762	22,790,160	56%	2,194,416
2016	2018	43,818,236	25,601,654	58%	2,314,484
2017	2019	46,841,313	28,478,869	61%	2,441,928
2018	2020	49,978,316	32,139,726	64%	2,534,372

<sup>1</sup> 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. <sup>4,5</sup>	Employer Contributions <sup>1</sup>			Blended Employer Contribut. <sup>7</sup>	Employee Contribution Rate <sup>6</sup>	Employee Contribut. Conversion Factor <sup>2</sup>
		Normal Cost	Unfunded Accrued Liability	Total Required Employer Contribut.			
<b>Percentage of Payroll</b>							
01 - AFSCME	24	6.99%	-0.27%	6.72%		2.00%	0.87%
02 - Pol Ptrl	24	-	-	-		6.17%	
05 - Fire Fght	24	-	-	-		5.00%	
10 - Elctd Ofc	24	8.25%	13.55%	21.80%		6.93%	0.87%
11 - Dsptrchr	24	-	-	-	1.66%	5.00%	
14 - Adm/NonUnion	24	-	-	-		5.00%	
15 - Utilities Dr	18	-	-	-		0.00%	
20 - Pol Cmnd	24	-	-	-		9.06%	
HA - POLC/cler/Dispatch	24	6.19%	-0.20%	5.99%	1.66%	0.00%	0.88%
<b>Estimated Monthly Contribution<sup>3</sup></b>							
01 - AFSCME	24	\$ 4,251	\$ (164)	\$ 4,087			
02 - Pol Ptrl	24	10,601	7,041	17,642			
05 - Fire Fght	24	9,068	2,736	11,804			
10 - Elctd Ofc	24	1,616	2,654	4,270			
11 - Dsptrchr	24	1,243	(962)	281			
14 - Adm/NonUnion	24	10,429	1,443	11,872			
15 - Utilities Dr	18	0	411	411			
20 - Pol Cmnd	24	5,698	25,109	30,807			
HA - POLC/cler/Dispatch	24	175	(6)	169			
<b>Total Municipality</b>		<b>\$ 43,081</b>	<b>\$ 38,262</b>	<b>\$ 81,343</b>			
<b>Estimated Annual Contribution<sup>3</sup></b>		<b>\$ 516,972</b>	<b>\$ 459,144</b>	<b>\$ 976,116</b>			

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

<sup>2</sup> 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.

<sup>3</sup> 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](#).

<sup>4</sup> 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.

<sup>5</sup> 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.

<sup>6</sup> For employee contribution rates that are not flat percentages, the rate shown is a weighted average flat employee contribution rate.

<sup>7</sup> 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

<b>01 - AFSCME: Open Division</b>		
	<b>2014 Valuation</b>	<b>2013 Valuation</b>
<b>Benefit Multiplier:</b>	2.00% Multiplier (no max)	2.00% Multiplier (no max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	2%	3%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)
<b>02 - Pol Ptrl: Closed to new hires, linked to Division HD</b>		
	<b>2014 Valuation</b>	<b>2013 Valuation</b>
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>COLA for Future Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	6.17%	6.17%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)
<b>05 - Fire Fght: Closed to new hires, linked to Division HB</b>		
	<b>2014 Valuation</b>	<b>2013 Valuation</b>
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/15	55/15
<b>Early Retirement (Reduced):</b>	50/25	50/25
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	5%	5%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)

Table 2 (continued)

**10 - Elctd Ofc: Open Division**

	<b>2014 Valuation</b>	<b>2013 Valuation</b>
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	8 years	8 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>COLA for Future Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	6.93%	6.93%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)

**11 - Dsptrchr: Closed to new hires, linked to Division HA**

	<b>2014 Valuation</b>	<b>2013 Valuation</b>
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	5%	5%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)

**14 - Adm/NonUnion: Closed to new hires, linked to Division HE**

	<b>2014 Valuation</b>	<b>2013 Valuation</b>
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	5%	5%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)

Table 2 (continued)

<b>15 - Utilities Dr: Closed to new hires</b>		
	<b>2014 Valuation</b>	<b>2013 Valuation</b>
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	6%	6%
<b>Act 88:</b>	Yes (Adopted 10/1/2007)	Yes (Adopted 10/1/2007)
<b>20 - Pol Cmnd: Closed to new hires, linked to Division HC</b>		
	<b>2014 Valuation</b>	<b>2013 Valuation</b>
<b>Benefit Multiplier:</b>	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>COLA for Future Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	9.06%	9.06%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)
<b>HA - POLC/cler/Dispatch aft 7/1/14: Open Division, linked to Division 11</b>		
	<b>2014 Valuation</b>	<b>2013 Valuation</b>
<b>Benefit Multiplier:</b>	Hybrid Plan - 1.50% Multiplier	-
<b>Normal Retirement Age:</b>	60	-
<b>Vesting:</b>	6 years	-
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	-	-
<b>Final Average Compensation:</b>	3 years	-
<b>Employee Contributions:</b>	0%	-
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	-

## Participant Summary

**Table 3**

Division	2014 Valuation		2013 Valuation		2014 Valuation		
	Number	Annual Payroll <sup>1</sup>	Number	Annual Payroll <sup>1</sup>	Average Age	Average Benefit Service <sup>2</sup>	Average Eligibility Service <sup>2</sup>
01 - AFSCME							
Active Employees	20	\$ 729,745	20	\$ 731,576	42.6	6.0	7.4
Vested Former Employees	8	67,215	7	66,296	48.8	11.5	14.7
Retirees and Beneficiaries	5	24,206	5	24,206	69.1		
02 - Pol Ptrl							
Active Employees	25	\$ 1,686,802	29	\$ 1,997,648	38.2	12.5	12.5
Vested Former Employees	2	3,206	2	3,206	34.9	1.6	7.2
Retirees and Beneficiaries	5	96,785	5	94,917	56.3		
05 - Fire Fght							
Active Employees	25	\$ 1,734,496	26	\$ 1,792,762	38.4	10.0	10.6
Vested Former Employees	2	68,138	2	75,725	50.3	19.6	19.6
Retirees and Beneficiaries	3	57,566	1	25,042	54.8		
10 - Elctd Ofc							
Active Employees	3	\$ 235,013	3	\$ 243,533	60.4	6.1	13.3
Vested Former Employees	1	14,444	1	14,444	54.1	8.0	8.0
Retirees and Beneficiaries	4	68,533	4	67,660	78.7		
11 - Dsptrchr							
Active Employees	7	\$ 346,807	8	\$ 381,680	40.1	11.8	11.8
Vested Former Employees	4	32,910	5	34,118	39.4	8.5	13.9
Retirees and Beneficiaries	0	0	0	0	0.0		
14 - Adm/NonUnion							
Active Employees	35	\$ 2,111,436	34	\$ 2,026,959	46.7	9.0	11.4
Vested Former Employees	8	166,592	8	156,776	51.9	14.2	20.9
Retirees and Beneficiaries	9	147,132	7	115,306	65.6		
15 - Utilities Dr							
Active Employees	0	\$ 0	0	\$ 0	0.0	0.0	0.0
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	1	19,167	1	19,167	57.7		
20 - Pol Cmnd							
Active Employees	10	\$ 830,122	8	\$ 690,649	41.9	16.2	18.6
Vested Former Employees	1	23,169	1	23,169	58.3	16.8	16.8
Retirees and Beneficiaries	11	448,879	11	439,122	56.1		
HA - POLC/cler/Dispatch a							
Active Employees	1	\$ 33,995		\$	32.0	0.3	0.3
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	0	0			0.0		

**Table 3** (continued)

Division	2014 Valuation		2013 Valuation		2014 Valuation		
	Number	Annual Payroll <sup>1</sup>	Number	Annual Payroll <sup>1</sup>	Average Age	Average Benefit Service <sup>2</sup>	Average Eligibility Service <sup>2</sup>
<b>Total Municipality</b>							
Active Employees	126	\$ 7,708,416	128	\$ 7,864,807	42.2	10.0	11.4
Vested Former Employees	26	375,674	26	373,734	47.9	11.8	16.1
Retirees and Beneficiaries	38	862,268	34	785,420	62.4		
<b>Total Participants</b>	<b>190</b>		<b>188</b>				

<sup>1</sup> Annual payroll for active employees; annual deferred benefits payable for vested former employees; annual benefits being paid for retirees and beneficiaries.

<sup>2</sup> 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 <sup>1</sup>	Employee <sup>2</sup>	Employer and Retiree <sup>1</sup>	Employee <sup>2</sup>
01 - AFSCME	\$ 953,747	\$ 306,266	\$ 869,791	\$ 302,278
02 - Pol Ptrl	3,197,676	1,203,752	3,029,699	1,156,368
05 - Fire Fght	2,546,098	858,108	2,227,901	814,470
10 - Elctd Ofc	254,018	160,410	251,396	143,808
11 - Dsptrchr	414,464	279,496	369,217	275,145
14 - Adm/NonUnion	3,965,474	1,260,720	3,646,675	1,320,138
15 - Utilities Dr	155,915	0	161,980	0
20 - Pol Cmnd	3,744,964	758,878	3,391,886	605,836
HA - POLC/cler/Dispatch aft 7/1/14	552	0		
<b>Municipality Total</b>	<b>\$ 15,232,908</b>	<b>\$ 4,827,630</b>	<b>\$ 13,948,545</b>	<b>\$ 4,618,043</b>
<b>Combined Reserves</b>	<b>\$ 20,060,538</b>		<b>\$ 18,566,588</b>	

<sup>1</sup> Reserve for Employer Contributions and Benefit Payments

<sup>2</sup> 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	\$ 298,754		\$ 305,396	\$ 445,275	\$ (93,853)	\$ (31,493)	\$ 0	\$ 6,750,466
2005	357,073		336,650	473,095	(146,120)	(15,748)	0	7,755,416
2006	416,355		353,345	654,031	(169,433)	(29,878)	36,086	9,015,922
2007	472,566		359,907	733,266	(206,619)	(96,078)	(1)	10,278,963
2008	510,445		367,989	580,155	(199,071)	(88,761)	65,728	11,515,448
2009	503,828		365,468	803,796	(310,482)	(84,863)	34,825	12,828,020
2010	742,471		432,920	1,032,060	(448,528)	(69,956)	312,836	14,829,823
2011	784,130	\$ 0	413,860	972,208	(482,536)	(39,475)	5,514	16,483,524
2012	751,402	0	415,425	929,886	(580,364)	(51,588)	26,952	17,975,237
2013	815,893	0	444,508	1,210,749	(715,656)	(15,986)	0	19,714,745
2014	808,039	0	427,000	1,197,131	(817,351)	(66,658)	0	21,262,906

**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 <sup>1</sup>	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
01 - AFSCME				
Active Employees	\$ 603,418	\$ 631,040	104.6%	\$ (27,622)
Vested Former Employees	474,253	474,253	100.0%	0
Retirees And Beneficiaries	205,140	205,140	100.0%	0
Pending Refunds	<u>25,101</u>	<u>25,101</u>	100.0%	<u>0</u>
Total	<b>\$ 1,307,912</b>	<b>\$ 1,335,534</b>	<b>102.1%</b>	<b>\$ (27,622)</b>
02 - Pol Ptrl				
Active Employees	\$ 4,697,013	\$ 3,310,434	70.5%	\$ 1,386,579
Vested Former Employees	8,046	8,046	100.0%	0
Retirees And Beneficiaries	1,326,033	1,326,033	100.0%	0
Pending Refunds	<u>20,723</u>	<u>20,723</u>	100.0%	<u>0</u>
Total	<b>\$ 6,051,815</b>	<b>\$ 4,665,236</b>	<b>77.1%</b>	<b>\$ 1,386,579</b>
05 - Fire Fght				
Active Employees	\$ 3,013,325	\$ 2,485,206	82.5%	\$ 528,119
Vested Former Employees	475,162	475,162	100.0%	0
Retirees And Beneficiaries	645,740	645,740	100.0%	0
Pending Refunds	<u>2,136</u>	<u>2,136</u>	100.0%	<u>0</u>
Total	<b>\$ 4,136,363</b>	<b>\$ 3,608,244</b>	<b>87.2%</b>	<b>\$ 528,119</b>
10 - Elctd Ofc				
Active Employees	\$ 273,083	\$ 99,899	36.6%	\$ 173,184
Vested Former Employees	111,332	39,455	35.4%	71,877
Retirees And Beneficiaries	564,811	278,858	49.4%	285,953
Pending Refunds	<u>21,056</u>	<u>21,056</u>	100.0%	<u>0</u>
Total	<b>\$ 970,282</b>	<b>\$ 439,268</b>	<b>45.3%</b>	<b>\$ 531,014</b>
11 - Dsptchr				
Active Employees	\$ 531,844	\$ 629,849	118.4%	\$ (98,005)
Vested Former Employees	86,899	86,899	100.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	<u>18,806</u>	<u>18,806</u>	100.0%	<u>0</u>
Total	<b>\$ 637,549</b>	<b>\$ 735,554</b>	<b>115.4%</b>	<b>\$ (98,005)</b>
14 - Adm/NonUnion				
Active Employees	\$ 3,050,513	\$ 2,793,884	91.6%	\$ 256,629
Vested Former Employees	1,192,686	1,192,686	100.0%	0
Retirees And Beneficiaries	1,455,182	1,455,182	100.0%	0
Pending Refunds	<u>97,684</u>	<u>97,684</u>	100.0%	<u>0</u>
Total	<b>\$ 5,796,065</b>	<b>\$ 5,539,436</b>	<b>95.6%</b>	<b>\$ 256,629</b>

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets <sup>1</sup>	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
15 - Utilities Dr				
Active Employees	\$ 0	\$ 0	0.0%	\$ 0
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	229,922	165,260	71.9%	64,662
Pending Refunds	0	0	0.0%	0
Total	\$ 229,922	\$ 165,260	71.9%	\$ 64,662
20 - Pol Cmnd				
Active Employees	\$ 3,320,444	\$ 788,728	23.8%	\$ 2,531,716
Vested Former Employees	209,532	13,999	6.7%	195,533
Retirees And Beneficiaries	6,023,222	3,971,062	65.9%	2,052,160
Pending Refunds	0	0	0.0%	0
Total	\$ 9,553,198	\$ 4,773,789	50.0%	\$ 4,779,409
HA - POLC/cler/Dispatch aft 7/1/14				
Active Employees	\$ (27)	\$ 585	0.0%	\$ (612)
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ (27)	\$ 585	0.0%	\$ (612)
<b>Total Municipality</b>				
<b>Active Employees</b>	<b>\$ 15,489,613</b>	<b>\$ 10,739,625</b>	<b>69.3%</b>	<b>\$ 4,749,988</b>
<b>Vested Former Employees</b>	<b>2,557,910</b>	<b>2,290,500</b>	<b>89.5%</b>	<b>267,410</b>
<b>Retirees and Beneficiaries</b>	<b>10,450,050</b>	<b>8,047,275</b>	<b>77.0%</b>	<b>2,402,775</b>
<b>Pending Refunds</b>	<b>185,506</b>	<b>185,506</b>	<b>100.0%</b>	<b>0</b>
<b>Total Participants</b>	<b>\$ 28,683,079</b>	<b>\$ 21,262,906</b>	<b>74.1%</b>	<b>\$ 7,420,173</b>
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 HA, 11				
Active Employees	\$ 531,817	\$ 630,434	118.5%	\$ (98,617)
Vested Former Employees	86,899	86,899	100.0%	0
Retirees and Beneficiaries	0	0	0.0%	0
Pending Refunds	18,806	18,806	100.0%	0
Total	\$ 637,522	\$ 736,139	115.5%	\$ (98,617)

<sup>1</sup> 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](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	\$ 5,038,816	\$ 3,462,677	69%	\$ 1,576,139
2001	5,900,412	4,176,971	71%	1,723,441
2002	6,638,884	4,826,738	73%	1,812,146
2003	8,233,918	5,826,387	71%	2,407,531
2004	9,711,666	6,750,466	70%	2,961,200
2005	10,943,440	7,755,416	71%	3,188,024
2006	12,681,900	9,015,922	71%	3,665,978
2007	14,059,796	10,278,963	73%	3,780,833
2008	15,441,447	11,515,448	75%	3,925,999
2009	16,665,216	12,828,020	77%	3,837,196
2010	18,841,079	14,829,823	79%	4,011,256
2011	21,644,476	16,483,524	76%	5,160,952
2012	23,384,220	17,975,237	77%	5,408,983
2013	26,862,373	19,714,745	73%	7,147,628
2014	28,683,079	21,262,906	74%	7,420,173

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	\$ 624,438	\$ 598,775	96%	\$ 25,663
2005	739,316	674,173	91%	65,143
2006	805,063	754,142	94%	50,921
2007	834,644	805,964	97%	28,680
2008	904,962	874,672	97%	30,290
2009	959,704	967,623	101%	(7,919)
2010	1,000,313	1,082,521	108%	(82,208)
2011	1,072,912	1,139,443	106%	(66,531)
2012	1,061,861	1,165,917	110%	(104,056)
2013	1,192,711	1,244,550	104%	(51,839)
2014	1,307,912	1,335,534	102%	(27,622)

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 <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2004	23	\$ 587,232	3.12%	5.00%
2005	24	661,076	3.93%	5.00%
2006	21	611,697	4.10%	5.00%
2007	22	646,217	4.29%	5.00%
2008	20	635,140	4.59%	5.00%
2009	21	697,600	4.23%	5.00%
2010	18	633,150	2.86%	5.00%
2011	17	602,922	4.51%	4.00%
2012	15	528,807	4.17%	3.00%
2013	20	731,576	5.40%	3.00%
2014	20	729,745	6.72%	2.00%

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

<sup>2</sup> 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 - Pol Ptrl

Table 8-02: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2004	\$ 1,513,261	\$ 1,198,867	79%	\$ 314,394
2005	1,746,034	1,407,152	81%	338,882
2006	2,278,522	1,637,754	72%	640,768
2007	2,420,555	1,831,922	76%	588,633
2008	2,854,451	2,127,108	75%	727,343
2009	3,131,111	2,459,798	79%	671,313
2010	3,564,633	3,303,703	93%	260,930
2011	4,885,018	3,652,191	75%	1,232,827
2012	5,203,705	3,893,073	75%	1,310,632
2013	6,076,136	4,444,933	73%	1,631,203
2014	6,051,815	4,665,236	77%	1,386,579

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 <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2004	29	\$ 1,425,412	4.86%	5.00%
2005	28	1,501,642	4.82%	5.00%
2006	31	1,685,425	6.51%	5.00%
2007	28	1,635,804	6.29%	5.00%
2008	30	1,769,768	7.64%	5.00%
2009	31	1,827,777	7.28%	6.17%
2010	30	1,872,798	5.85%	6.17%
2011	30	1,860,017	11.47%	6.17%
2012	31	1,908,525	11.59%	6.17%
2013	29	1,997,648	12.58%	6.17%
2014	25	1,686,802	\$ 17,642	6.17%

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

<sup>2</sup> 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 05 - Fire Fight

**Table 8-05: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2004	\$ 1,113,512	\$ 866,860	78%	\$ 246,652
2005	1,266,466	1,029,722	81%	236,744
2006	1,500,773	1,221,594	81%	279,179
2007	1,713,134	1,419,202	83%	293,932
2008	1,867,228	1,577,772	84%	289,456
2009	2,149,803	1,849,791	86%	300,012
2010	2,522,564	2,164,526	86%	358,038
2011	2,949,361	2,489,043	84%	460,318
2012	3,288,692	2,821,512	86%	467,180
2013	3,787,941	3,230,511	85%	557,430
2014	4,136,363	3,608,244	87%	528,119

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

**Table 9-05: Required Employer Contributions - Comparative Schedule**

Valuation Date December 31	Active Employees		Required Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2004	20	\$ 908,953	5.46%	5.00%
2005	20	944,419	5.28%	5.00%
2006	20	985,429	6.34%	5.00%
2007	20	1,032,601	6.31%	5.00%
2008	21	1,097,550	7.04%	5.00%
2009	21	1,270,865	7.32%	5.00%
2010	23	1,517,003	7.42%	5.00%
2011	23	1,579,022	7.84%	5.00%
2012	23	1,614,967	7.96%	5.00%
2013	26	1,792,762	8.16%	5.00%
2014	25	1,734,496	\$ 11,804	5.00%

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

<sup>2</sup> 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 - Elctd Ofc

Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2004	\$ 611,513	\$ 280,552	46%	\$ 330,961
2005	665,049	299,880	45%	365,169
2006	698,520	328,649	47%	369,871
2007	745,206	356,731	48%	388,475
2008	714,664	376,269	53%	338,395
2009	755,823	382,227	51%	373,596
2010	791,255	387,897	49%	403,358
2011	825,575	394,931	48%	430,644
2012	867,718	401,319	46%	466,399
2013	924,647	419,643	45%	505,004
2014	970,282	439,268	45%	531,014

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 <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2004	3	\$ 178,120	16.95%	6.93%
2005	3	223,722	15.28%	6.93%
2006	3	220,310	15.76%	6.93%
2007	3	225,804	16.10%	6.93%
2008	3	211,712	15.00%	6.93%
2009	3	234,513	15.83%	6.93%
2010	3	234,513	16.45%	6.93%
2011	3	234,513	18.10%	6.93%
2012	3	234,513	19.87%	6.93%
2013	3	243,533	20.46%	6.93%
2014	3	235,013	21.80%	6.93%

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

<sup>2</sup> 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 - Dsptchr

Table 8-11: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2004	\$ 165,225	\$ 172,595	104%	\$ (7,370)
2005	200,764	209,935	105%	(9,171)
2006	212,728	249,975	118%	(37,247)
2007	256,874	293,504	114%	(36,630)
2008	318,643	332,202	104%	(13,559)
2009	341,413	383,701	112%	(42,288)
2010	400,978	452,270	113%	(51,292)
2011	480,487	541,624	113%	(61,137)
2012	527,855	611,780	116%	(83,925)
2013	591,020	684,209	116%	(93,189)
2014	637,549	735,554	115%	(98,005)

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 <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2004	6	\$ 238,919	2.70%	5.00%
2005	9	339,241	2.20%	5.00%
2006	8	295,996	0.96%	5.00%
2007	9	346,806	1.31%	5.00%
2008	9	369,217	2.82%	5.00%
2009	9	390,756	1.87%	5.00%
2010	8	355,745	2.50%	5.00%
2011	9	395,048	2.54%	5.00%
2012	9	398,795	1.73%	5.00%
2013	8	381,680	1.52%	5.00%
2014	7	346,807	\$ 281	5.00%

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

<sup>2</sup> 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 14 - Adm/NonUnion

**Table 8-14: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2004	\$ 2,295,517	\$ 1,823,983	79%	\$ 471,534
2005	2,632,398	2,114,701	80%	517,697
2006	2,991,979	2,477,560	83%	514,419
2007	3,366,297	2,844,249	84%	522,048
2008	3,463,118	3,188,758	92%	274,360
2009	3,794,301	3,593,171	95%	201,130
2010	4,010,400	4,094,239	102%	(83,839)
2011	4,240,151	4,384,685	103%	(144,534)
2012	4,778,491	4,815,785	101%	(37,294)
2013	5,298,463	5,273,961	100%	24,502
2014	5,796,065	5,539,436	96%	256,629

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

**Table 9-14: Required Employer Contributions - Comparative Schedule**

Valuation Date December 31	Active Employees		Required Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2004	30	\$ 1,385,696	6.73%	6.00%
2005	32	1,523,392	6.40%	6.00%
2006	33	1,628,149	6.37%	6.00%
2007	33	1,650,460	6.12%	6.00%
2008	29	1,515,248	6.62%	5.00%
2009	33	1,800,059	6.11%	5.00%
2010	34	1,981,088	5.45%	5.00%
2011	33	1,942,390	5.35%	5.00%
2012	34	1,908,244	5.52%	5.00%
2013	34	2,026,959	6.46%	5.00%
2014	35	2,111,436	\$ 11,872	5.00%

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

<sup>2</sup> 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 15 - Utilities Dr

**Table 8-15: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 62,405	\$ 43,137	69%	\$ 19,268
2008	172,413	133,983	78%	38,430
2009	183,689	160,991	88%	22,698
2010	148,318	186,488	126%	(38,170)
2011	233,539	192,594	83%	40,945
2012	232,326	179,491	77%	52,835
2013	231,296	171,997	74%	59,299
2014	229,922	165,260	72%	64,662

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

**Table 9-15: Required Employer Contributions - Comparative Schedule**

Valuation Date December 31	Active Employees		Required Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2007	1	\$ 82,054	10.46%	6.00%
2008	1	85,036	11.17%	6.00%
2009	1	88,664	10.94%	6.00%
2011	0	0	\$ 227	0.00%
2012	0	0	\$ 295	0.00%
2013	0	0	\$ 351	0.00%
2014	0	0	\$ 411	0.00%

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

<sup>2</sup> 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 20 - Pol Cmnd

Table 8-20: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2004	\$ 3,250,940	\$ 1,812,491	56%	\$ 1,438,449
2005	3,559,320	2,032,204	57%	1,527,116
2006	4,063,496	2,366,701	58%	1,696,795
2007	4,533,239	2,712,327	60%	1,820,912
2008	5,022,008	2,939,447	59%	2,082,561
2009	5,349,372	3,030,718	57%	2,318,654
2010	6,402,618	3,158,179	49%	3,244,439
2011	6,957,433	3,689,013	53%	3,268,420
2012	7,423,572	4,086,360	55%	3,337,212
2013	8,760,159	4,244,941	49%	4,515,218
2014	9,553,198	4,773,789	50%	4,779,409

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

Table 9-20: Required Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Required Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2004	9	\$ 620,586	14.43%	11.06%
2005	8	583,176	16.63%	10.06%
2006	8	581,301	18.51%	10.06%
2007	9	679,208	18.33%	9.06%
2008	8	590,492	24.39%	9.06%
2009	5	391,489	38.28%	9.06%
2010	7	559,006	37.18%	9.06%
2011	8	646,496	33.90%	9.06%
2012	9	714,115	34.63%	9.06%
2013	8	690,649	47.79%	9.06%
2014	10	830,122	\$ 30,807	9.06%

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

<sup>2</sup> 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 HA - POLC/cler/Dispatch aft 7/1/14

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**Table 8-HA: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2014	\$ (27)	\$ 585	0%	\$ (612)

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

**Table 9-HA: Required Employer Contributions - Comparative Schedule**

Valuation Date December 31	Active Employees		Required Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2014	1	\$ 33,995	5.99%	0.00%

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

<sup>2</sup> 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

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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](http://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:	26
Active employees:	<u>126</u>
	190

Covered employee payroll: (Needed for Required Supplementary Information)	\$	7,708,416
Total Pension Liability as of 12/31/2013 measurement date:	\$	25,606,097
Total Pension Liability as of 12/31/2014 measurement date:	\$	27,740,022
Service Cost for the year ending on the 12/31/2014 measurement date:	\$	904,583

Change in the Total Pension Liability due to:

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

Average expected remaining service lives of all employees (active and inactive): 7

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

<sup>2</sup> 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 12/31/2014:	\$ 4,076,023	-	\$ (3,332,868)

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

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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](http://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:	38
Inactive employees entitled to but not yet receiving benefits:	26
Active employees:	<u>126</u>
	190

Covered employee payroll: (Needed for Required Supplementary Information)	\$	7,708,416
Total Pension Liability as of 12/31/2014 measurement date:	\$	27,740,022
Total Pension Liability as of 12/31/2015 measurement date:	\$	29,939,615
Service Cost for the year ending on the 12/31/2015 measurement date:	\$	903,775

Change in the Total Pension Liability due to:

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

Average expected remaining service lives of all employees (active and inactive): 7

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

<sup>2</sup> 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:	\$ 4,320,768	-	\$ (3,537,224)

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

1/1/2014	Member Contribution Rate 2.00%
1/1/2012	Member Contribution Rate 3.00%
1/1/2011	Member Contribution Rate 4.00%
1/1/2004	Benefit B-2
11/10/2003	Covered by Act 88
7/11/1995	Blanket Resolution (All Service)
8/1/1991	Member Contribution Rate 5.00%
8/1/1991	Fiscal Month - January
8/1/1991	Benefit FAC-3 (3 Year Final Average Compensation)
8/1/1991	10 Year Vesting
8/1/1991	Benefit C-2/Base B-1

### 02 - Pol Ptrl

1/1/2010	E2 2.5% COLA for future retirees (12/01/2009)
12/1/2009	Benefit F50 (With 25 Years of Service)
12/1/2009	Member Contribution Rate 6.17%
12/1/2006	Benefit B-3 (80% max)
8/1/2006	Temporary Benefit B-3 (80% max) (08/01/2006 - 09/30/2006)
8/1/2006	E2 2.5% Window COLA for future retirees (08/01/2006) to (09/30/2006)
11/10/2003	Covered by Act 88
1/1/2001	Benefit B-2
7/11/1995	Blanket Resolution (All Service)
8/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
8/1/1992	10 Year Vesting
8/1/1992	Benefit C-2/Base B-1
8/1/1992	Benefit F55 (With 15 Years of Service)
8/1/1992	Member Contribution Rate 5.00%
8/1/1991	Fiscal Month - January

### 05 - Fire Fight

1/1/2007	Benefit B-3 (80% max)
11/10/2003	Covered by Act 88
3/1/2003	Benefit B-2
7/11/1995	Blanket Resolution (All Service)
8/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
8/1/1992	10 Year Vesting
8/1/1992	Day of work defined as 96 Hours a Month for All employees.
8/1/1992	Benefit C-2/Base B-1
8/1/1992	Member Contribution Rate 5.00%
8/1/1992	Benefit F55 (With 15 Years of Service)

**05 - Fire Fight**

8/1/1991 Fiscal Month - January

**10 - Elctd Ofc**

1/1/2005 E2 2.5% COLA for future retirees (11/01/2004)  
 11/10/2003 Covered by Act 88  
 5/1/1996 Benefit B-3 (80% max)  
 5/1/1996 Member Contribution Rate 6.93%  
 4/30/1996 Member Contribution Rate 0.00%  
 4/1/1996 2.0% multiplier (80% max)  
 7/11/1995 Blanket Resolution (All Service)  
 8/1/1991 Benefit FAC-3 (3 Year Final Average Compensation)  
 8/1/1991 8 Year Vesting  
 8/1/1991 Benefit B-2  
 8/1/1991 Member Contribution Rate 5.00%  
 8/1/1991 Fiscal Month - January

**11 - Dsptrchr**

12/1/2009 Benefit B-3 (80% max)  
 11/10/2003 Covered by Act 88  
 1/1/2003 Benefit B-2  
 7/11/1995 Blanket Resolution (All Service)  
 10/1/1992 Benefit FAC-3 (3 Year Final Average Compensation)  
 10/1/1992 10 Year Vesting  
 10/1/1992 Benefit C-2/Base B-1  
 10/1/1992 Member Contribution Rate 5.00%  
 8/1/1991 Fiscal Month - January

**14 - Adm/NonUnion**

8/1/2008 Member Contribution Rate 5.00%  
 8/1/2005 Temporary 25 Years & Out (08/01/2005 - 11/03/2005)  
 1/1/2005 Benefit B-3 (80% max)  
 1/1/2005 Member Contribution Rate 6.00%  
 11/10/2003 Covered by Act 88  
 1/1/2000 Benefit FAC-3 (3 Year Final Average Compensation)  
 1/1/2000 10 Year Vesting  
 1/1/2000 Benefit B-2  
 1/1/2000 Member Contribution Rate 5.00%  
 7/11/1995 Blanket Resolution (All Service)  
 8/1/1991 Fiscal Month - January

**15 - Utilities Dr**

10/1/2007 Benefit FAC-3 (3 Year Final Average Compensation)  
 10/1/2007 Covered by Act 88  
 10/1/2007 10 Year Vesting

**15 - Utilities Dr**

10/1/2007	Blanket Resolution (All Service)
10/1/2007	Benefit B-3 (80% max)
10/1/2007	Benefit F55 (With 25 Years of Service)
10/1/2007	Member Contribution Rate 6.00%
8/1/1991	Fiscal Month - January

**20 - Pol Cmnd**

10/1/2009	Temporary 20 Years & Out (10/01/2009 - 01/31/2010)
2/1/2007	Member Contribution Rate 9.06%
7/1/2005	Member Contribution Rate 10.06%
11/10/2003	Covered by Act 88
1/1/2001	E2 2.5% COLA for future retirees (01/01/2001)
1/1/1999	Benefit B-4 (80% max)
1/1/1999	Benefit F50 (With 25 Years of Service)
1/1/1999	Member Contribution Rate 11.06%
7/11/1995	Blanket Resolution (All Service)
6/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
6/1/1992	10 Year Vesting
6/1/1992	Benefit C-2/Base B-1
6/1/1992	Benefit F55 (With 15 Years of Service)
6/1/1992	Member Contribution Rate 5.00%
8/1/1991	Fiscal Month - January

**HA - POLC/cler/Dispatch aft 7/1/14**

7/1/2014	Pickup
7/1/2014	Loans
7/1/2014	Rollovers
7/1/2014	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/2014	6 Year Vesting
7/1/2014	Day of work defined as 8 Hours a Day for All employees.
7/1/2014	1.5% Multiplier
11/10/2003	Covered by ACT 88
8/1/1991	Fiscal Month - January

## Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method

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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	0.00%

### 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