



MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN
ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2014
MUSKEGON, CITY OF (6116)



Spring, 2015

Muskegon, City of

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

This report presents the results of the Annual Actuarial Valuation, prepared as of December 31, 2014. The report includes the determination of liabilities and contribution rates resulting from the participation of Muskegon, City of (6116) 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. Muskegon, City of is responsible for the employer contributions needed to provide MERS benefits for its employees and former employees under the Michigan Constitution and the MERS Plan Document.

The purpose of the December 31, 2014 annual actuarial valuation is to:

- Measure funding progress
- Establish contribution requirements for the fiscal year beginning July 1, 2016
- Provide actuarial information in connection with applicable Governmental Accounting Standards Board (GASB) statements

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

The valuation uses financial data, plan provision data, and participant data as of December 31, 2014 furnished by MERS. In accordance with Actuarial Standards of Practice No. 23, the data was checked for internal and year to year consistency as well as general reasonableness, but was not otherwise audited. CBIZ Retirement Plan Services does not assume responsibility for the accuracy or completeness of the data used in this valuation.

The actuarial assumptions and methods are adopted by the MERS Retirement Board, and are reviewed every five years in an Experience Study, which will be completed in 2015. Please refer to the division-specific assumptions described in table(s) in this report, and to the Appendix on the MERS website at:

www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2014AnnualActuarialValuation-Appendix.pdf.



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

To the best of our knowledge, this report is complete and accurate, was prepared in conformity with generally recognized actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board, and is in compliance with Act No. 220 of the Public Acts of 1996, as amended, and the MERS Plan Document as revised. All of the undersigned are members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The Retirement Board of the Municipal Employees' Retirement System of Michigan confirms that the System provides for payment of the required employer contribution as described in Section 20m of Act No. 314 of 1965 (MCL 38.1140m).

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

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

You should notify MERS if you disagree with anything contained in the report or are aware of any information that would affect the results of the report that have not been communicated to us. If you have reason to believe that the plan provisions are incorrectly described, that important plan provisions relevant to this valuation are not described, that conditions have changed since the calculations were made, that the information provided in this report is inaccurate or is in anyway incomplete, or if you need further information in order to make an informed decision on the subject matter in this report, please contact your Regional Manager at 1.800.767.MERS(6377).

Sincerely,

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

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Executive Summary

Funded Ratio and Required Employer Contributions

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

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

Your Funded Ratio:

	12/31/2014	12/31/2013
Funded Ratio	88%	91%

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

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

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

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

Your Required Employer Contributions:

Your minimum required employer contributions are shown in the following table. Employee contributions, if any, are in addition to the required employer contributions.

Valuation Date:	Percentage of Payroll		Monthly \$ Based on Valuation Payroll	
	12/31/2014	12/31/2013	12/31/2014	12/31/2013
Fiscal Year Beginning:	July 1, 2016	July 1, 2015	July 1, 2016	July 1, 2015
Division				
01 - NonUnion Gen	-	-	\$ 23,544	\$ 18,211
02 - NonUn Police	-	-	976	794
10 - General Ret	-	-	15,546	10,118
11 - Clerical	-	-	3,515	2,412
12 - DPW 517M	-	-	17,512	13,365
20 - PLC/Fire Ret	-	-	47,828	40,422
21 - PolicePatrol	-	-	15,948	18,058
22 - Police Comm	-	-	14,770	9,825
50 - FF Local 370	-	-	29,804	16,884
Municipality Total			\$ 169,443	\$ 130,089

Employee contribution rates reflected in the valuations are shown below:

Valuation Date:	Employee Contribution Rate	
	12/31/2014	12/31/2013
Division		
01 - NonUnion Gen	5.00%	5.00%
02 - NonUn Police	0.00%	0.00%
10 - General Ret	0.00%	0.00%
11 - Clerical	5.00%	5.00%
12 - DPW 517M	5.00%	5.00%
20 - PLC/Fire Ret	0.00%	0.00%
21 - PolicePatrol	6.50%	6.00%
22 - Police Comm	6.00%	6.00%
50 - FF Local 370	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 \$ 181,312, instead of \$ 169,443.

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 83% (instead of 88%); and ii) your total employer contribution requirement for the fiscal year starting July 1, 2016 would be \$ 2,657,820 (instead of \$ 2,033,316).

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	\$ 127,116,744	\$ 113,769,002	\$ 102,505,577	\$ 92,933,783
Valuation Assets	\$ 90,474,761	\$ 90,474,761	\$ 90,474,761	\$ 90,474,761
Unfunded Accrued Liability	\$ 36,641,983	\$ 23,294,241	\$ 12,030,816	\$ 2,459,022
Funded Ratio	71%	80%	88%	97%
Monthly Normal Cost	\$ 120,380	\$ 84,788	\$ 57,998	\$ 37,810
Monthly Amortization Payment	\$ 325,631	\$ 215,663	\$ 111,445	\$ 8,879
Total Employer Contribution¹	\$ 446,011	\$ 300,451	\$ 169,443	\$ 61,304

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

Five Year Projection Scenarios

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

Valuation Year Ending 12/31	Fiscal Year Beginning 7/1	Actuarial Accrued Liability	Valuation Assets	Funded Percentage	Required Annual Employer Contribution ¹
8% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
2014	2016	\$ 102,505,577	\$ 90,474,761	88%	\$ 2,033,316
2015	2017	105,112,000	91,149,000	87%	2,451,796
2016	2018	107,906,000	92,039,000	85%	3,070,380
2017	2019	110,601,000	92,651,000	84%	4,138,438
2018	2020	113,065,000	96,404,000	85%	4,102,256
7% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
2014	2016	\$ 113,769,002	\$ 90,474,761	80%	\$ 3,605,412
2015	2017	116,540,000	90,316,000	78%	4,180,690
2016	2018	119,384,000	90,776,000	76%	5,022,602
2017	2019	122,127,000	92,429,000	76%	6,431,064
2018	2020	124,770,000	97,264,000	78%	6,505,946
6% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
2014	2016	\$ 127,116,744	\$ 90,474,761	71%	\$ 5,352,132
2015	2017	130,045,000	89,383,000	69%	6,109,594
2016	2018	132,937,000	90,032,000	68%	7,201,852
2017	2019	135,839,000	92,687,000	68%	9,000,142
2018	2020	138,420,000	98,054,000	71%	9,320,516

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

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

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

Table 1

Division	Amort. Period for Unfund. Liab. ^{4,5}	Employer Contributions ¹			Blended Employer Contribut. ⁷	Employee Contribution Rate ⁶	Employee Contribut. Conversion Factor ²
		Normal Cost	Unfunded Accrued Liability	Total Required Employer Contribut.			
Percentage of Payroll							
01 - NonUnion Gen	11	-	-	-		5.00%	
02 - NonUn Police	11	-	-	-		0.00%	
10 - General Ret	11	-	-	-		0.00%	
11 - Clerical	11	-	-	-		5.00%	
12 - DPW 517M	11	-	-	-		5.00%	
20 - PLC/Fire Ret	11	-	-	-		0.00%	
21 - PolicePatrol	11	-	-	-		6.50%	
22 - Police Comm	16	-	-	-		6.00%	
50 - FF Local 370	11	-	-	-		6.00%	
Estimated Monthly Contribution³							
01 - NonUnion Gen	11	\$ 6,805	\$ 16,739	\$ 23,544			
02 - NonUn Police	11	0	976	976			
10 - General Ret	11	0	15,546	15,546			
11 - Clerical	11	2,635	880	3,515			
12 - DPW 517M	11	6,214	11,298	17,512			
20 - PLC/Fire Ret	11	0	47,828	47,828			
21 - PolicePatrol	11	19,245	(3,297)	15,948			
22 - Police Comm	16	8,563	6,207	14,770			
50 - FF Local 370	11	14,536	15,268	29,804			
Total Municipality		\$ 57,998	\$ 111,445	\$ 169,443			
Estimated Annual Contribution³		\$ 695,976	\$ 1,337,340	\$ 2,033,316			

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

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

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

⁴ If projected assets exceed projected liabilities as of the beginning of the July 1, 2016 fiscal year, the negative unfunded accrued liability is amortized (spread) over 10 years. This amortization is used to reduce the employer contribution rate. Note that if the overfunding credit is larger than the normal cost, the full credit is shown above but the total contribution requirement is zero. This will cause the displayed normal cost and unfunded accrued liability contributions to not add across.

⁵ If the division is closed to new hires, with new hires not covered by MERS Defined Benefit Plan or Hybrid Plan provisions, the amortization period will decrease as follows: Under Amortization Option A, the period will decrease by 2 years each valuation year, until it reaches 6 or 5 years. Then it decreases by 1 year each valuation year until the UAL is paid off. Under Amortization Option B, the period will decrease by 2 years each valuation year, until it reaches 16 or 15 years. Thereafter, the period will reduce by 1 year each valuation year, until the UAL is paid off. This will result in amortization payments that increase faster than the usual 4.5% each year. If the division is closed to new hires, with new hires (and transfers) covered by MERS Defined Benefit Plan or Hybrid Plan provisions, the standard open division amortization period will apply.

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

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

Please see the Comments on the Investment Markets.

Benefit Provisions

Table 2

01 - NonUnion Gen: Closed to new hires

	2014 Valuation	2013 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	5 years	5 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:	5%	5%
RS50% Percentage:	50%	50%
D-2:	D-2 (25%)	D-2 (25%)
DC Plan for New Hires:	2/1/2006	2/1/2006
	Annuity Withdrawal (Valuation Interest Rate)	Annuity Withdrawal (Valuation Interest Rate)
Act 88:	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

02 - NonUn Police: Closed to new hires

	2014 Valuation	2013 Valuation
Benefit Multiplier:	3.00% Multiplier (80% max)	3.00% Multiplier (80% max)
Normal Retirement Age:	55	55
Vesting:	10 years	10 years
Early Retirement (Unreduced):	53/25	53/25
Early Retirement (Reduced):	50/25	50/25
Final Average Compensation:	3 years	3 years
Employee Contributions:	6%	6%
RS50% Percentage:	50%	50%
D-2:	D-2 (25%)	D-2 (25%)
DC Plan for New Hires:	2/1/2006	2/1/2006
	Annuity Withdrawal (Valuation Interest Rate)	Annuity Withdrawal (Valuation Interest Rate)
Act 88:	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

10 - General Ret: Closed to new hires

	2014 Valuation	2013 Valuation
Benefit Multiplier:	Old Plan Benefits	Old Plan Benefits
Normal Retirement Age:	-	-
Vesting:	-	-
Early Retirement (Unreduced):	-	-
Early Retirement (Reduced):	-	-
Final Average Compensation:	-	-
Employee Contributions:	-	-
Act 88:	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

Table 2 (continued)

11 - Clerical: Closed to new hires

	2014 Valuation	2013 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	5 years	5 years
Early Retirement (Unreduced):	55/30	55/30
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	3 years	3 years
Employee Contributions:	5%	5%
RS50% Percentage:	50%	50%
D-2:	D-2 (25%)	D-2 (25%)
DC Plan for New Hires:	11/1/2006	11/1/2006
Act 88:	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

12 - DPW 517M: Closed to new hires

	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):	55/30	55/30
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	3 years	3 years
Employee Contributions:	5%	5%
RS50% Percentage:	50%	50%
D-2:	D-2 (25%)	D-2 (25%)
DC Plan for New Hires:	5/1/2007	5/1/2007
Act 88:	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

20 - PLC/Fire Ret: Closed to new hires

	2014 Valuation	2013 Valuation
Benefit Multiplier:	Old Plan Benefits	Old Plan Benefits
Normal Retirement Age:	-	-
Vesting:	-	-
Early Retirement (Unreduced):	-	-
Early Retirement (Reduced):	-	-
Final Average Compensation:	-	-
Employee Contributions:	-	-
Act 88:	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

Table 2 (continued)

21 - PolicePatrol: Closed to new hires

	2014 Valuation	2013 Valuation
Benefit Multiplier:	3.00% Multiplier (75% max)	3.00% Multiplier (75% max)
Normal Retirement Age:	55	55
Vesting:	10 years	10 years
Early Retirement (Unreduced):	50/25	50/25
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	3 years
Employee Contributions:	6.50%	6%
RS50% Percentage:	50%	50%
D-2:	D-2 (25%)	D-2 (25%)
DC Plan for New Hires:	8/1/2006	8/1/2006
	Annuity Withdrawal (Valuation Interest Rate)	Annuity Withdrawal (Valuation Interest Rate)
Act 88:	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

22 - Police Comm: Closed to new hires

	2014 Valuation	2013 Valuation
Benefit Multiplier:	3.00% Multiplier (75% max)	3.00% Multiplier (75% max)
Normal Retirement Age:	55	55
Vesting:	10 years	10 years
Early Retirement (Unreduced):	50/25	50/25
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	3 years
Employee Contributions:	6%	6%
RS50% Percentage:	50%	50%
D-2:	D-2 (25%)	D-2 (25%)
DC Plan for New Hires:	4/1/2013	4/1/2013
	Annuity Withdrawal (Valuation Interest Rate)	Annuity Withdrawal (Valuation Interest Rate)
Act 88:	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

50 - FF Local 370: Closed to new hires

	2014 Valuation	2013 Valuation
Benefit Multiplier:	2.75% Multiplier (85% max)	2.75% Multiplier (85% max)
Normal Retirement Age:	55	55
Vesting:	10 years	10 years
Early Retirement (Unreduced):	53/25	53/25
Early Retirement (Reduced):	50/25	50/25
Final Average Compensation:	3 years	3 years
Employee Contributions:	6%	6%
RS50% Percentage:	50%	50%
D-2:	D-2 (25%)	D-2 (25%)
DC Plan for New Hires:	5/1/2007	5/1/2007
	Annuity Withdrawal (Valuation Interest Rate)	Annuity Withdrawal (Valuation Interest Rate)
Act 88:	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

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 - NonUnion Gen							
Active Employees	21	\$ 1,475,712	21	\$ 1,431,491	50.3	22.4	22.9
Vested Former Employees	4	38,787	4	40,307	48.2	8.4	10.4
Retirees and Beneficiaries	22	776,669	22	776,669	63.4		
02 - NonUn Police							
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	2	36,018	2	36,018	60.2		
10 - General Ret							
Active Employees	0	\$ 0	0	\$ 0	0.0	0.0	0.0
Vested Former Employees	8	93,452	8	93,452	54.4	3.0	12.0
Retirees and Beneficiaries	111	1,269,282	113	1,282,534	77.1		
11 - Clerical							
Active Employees	16	\$ 587,290	16	\$ 569,642	49.7	19.0	19.0
Vested Former Employees	2	11,384	2	11,384	32.9	7.8	7.8
Retirees and Beneficiaries	5	69,462	5	69,462	60.4		
12 - DPW 517M							
Active Employees	33	\$ 1,462,519	37	\$ 1,582,863	50.1	19.6	19.6
Vested Former Employees	4	65,348	5	73,038	48.2	16.4	17.4
Retirees and Beneficiaries	27	669,612	22	570,962	62.2		
20 - PLC/Fire Ret							
Active Employees	0	\$ 0	0	\$ 0	0.0	0.0	0.0
Vested Former Employees	3	46,182	3	46,182	49.0	0.0	11.3
Retirees and Beneficiaries	123	2,562,051	128	2,668,880	75.5		
21 - PolicePatrol							
Active Employees	39	\$ 2,543,835	46	\$ 2,925,453	43.1	16.8	16.8
Vested Former Employees	6	151,236	5	108,695	43.4	13.8	13.8
Retirees and Beneficiaries	6	226,807	5	187,089	54.4		
22 - Police Comm							
Active Employees	15	\$ 1,087,192	12	\$ 859,926	43.3	18.7	18.8
Vested Former Employees	1	41,150	1	41,150	52.4	20.8	20.8
Retirees and Beneficiaries	6	304,961	6	304,961	58.6		
50 - FF Local 370							
Active Employees	26	\$ 2,014,963	26	\$ 1,829,563	47.8	20.2	20.3
Vested Former Employees	2	68,491	2	68,491	49.8	17.4	20.8
Retirees and Beneficiaries	9	440,862	9	440,862	58.3		

Table 3 (continued)

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
Total Municipality							
Active Employees	150	\$ 9,171,511	158	\$ 9,198,938	47.2	19.2	19.3
Vested Former Employees	30	516,030	30	482,699	48.2	9.2	13.4
Retirees and Beneficiaries	<u>311</u>	6,355,724	<u>312</u>	6,337,437	72.5		
Total Participants	491		500				

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 - NonUnion Gen	\$ 11,024,253	\$ 1,491,584	\$ 10,908,091	\$ 1,414,686
02 - NonUn Police	282,654	0	293,706	0
10 - General Ret	8,177,686	259,975	8,885,145	259,404
11 - Clerical	2,120,705	500,347	1,984,104	496,376
12 - DPW 517M	9,677,936	1,493,164	9,297,917	1,627,027
20 - PLC/Fire Ret	14,932,360	116,421	16,256,578	116,165
21 - PolicePatrol	10,992,122	2,718,572	10,384,122	2,767,868
22 - Police Comm	6,655,436	1,154,592	6,153,970	990,260
50 - FF Local 370	11,614,920	2,145,894	11,090,629	2,020,551
Municipality Total	\$ 75,478,072	\$ 9,880,549	\$ 75,254,262	\$ 9,692,337
Combined Reserves	\$ 85,358,621		\$ 84,946,599	

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						
2006	\$ 55,956,699		\$ 4,695,235	\$ 4,324,738	\$ (1,896,331)	\$ (9,077)	\$ 580,900	\$ 63,652,164
2007	16,582,297		4,334,437	5,963,112	(4,694,268)	(72,528)	392,610	86,157,824
2008	1,166,958		731,864	3,642,050	(4,879,568)	(16,639)	125,743	86,928,232
2009	860,608		732,249	3,215,403	(5,024,244)	(105,036)	74,389	86,681,601
2010	2,215,151		662,958	4,468,557	(5,066,044)	(209,631)	57,762	88,810,354
2011	1,183,329	\$ 0	642,901	4,207,086	(5,311,426)	(140,832)	109,227	89,500,639
2012	1,091,561	0	587,649	3,728,234	(5,734,235)	(45,520)	70,910	89,199,238
2013	1,045,925	500,000	552,706	5,013,341	(6,007,642)	(256,400)	152,529	90,199,697
2014	1,166,652	0	539,016	4,951,932	(6,347,201)	(60,729)	25,394	90,474,761

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 - NonUnion Gen				
Active Employees	\$ 6,552,707	\$ 4,778,842	72.9%	\$ 1,773,865
Vested Former Employees	236,585	236,585	100.0%	0
Retirees And Beneficiaries	8,250,572	8,250,572	100.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 15,039,864	\$ 13,265,999	88.2%	\$ 1,773,865
02 - NonUn Police				
Active Employees	\$ 0	\$ 0	0.0%	\$ 0
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	406,510	299,595	73.7%	106,915
Pending Refunds	0	0	0.0%	0
Total	\$ 406,510	\$ 299,595	73.7%	\$ 106,915
10 - General Ret				
Active Employees	\$ 0	\$ 0	0.0%	\$ 0
Vested Former Employees	669,810	227,226	33.9%	442,584
Retirees And Beneficiaries	9,891,870	8,683,414	87.8%	1,208,456
Pending Refunds	32,749	32,749	100.0%	0
Total	\$ 10,594,429	\$ 8,943,389	84.4%	\$ 1,651,040
11 - Clerical				
Active Employees	\$ 2,174,938	\$ 2,097,080	96.4%	\$ 77,858
Vested Former Employees	22,810	22,810	100.0%	0
Retirees And Beneficiaries	658,260	658,260	100.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 2,856,008	\$ 2,778,150	97.3%	\$ 77,858
12 - DPW 517M				
Active Employees	\$ 5,497,332	\$ 4,323,796	78.7%	\$ 1,173,536
Vested Former Employees	341,526	341,526	100.0%	0
Retirees And Beneficiaries	7,155,705	7,155,705	100.0%	0
Pending Refunds	19,635	19,635	100.0%	0
Total	\$ 13,014,198	\$ 11,840,662	91.0%	\$ 1,173,536
20 - PLC/Fire Ret				
Active Employees	\$ 0	\$ 0	0.0%	\$ 0
Vested Former Employees	215,305	116,421	54.1%	98,884
Retirees And Beneficiaries	20,987,459	15,834,339	75.4%	5,153,120
Pending Refunds	0	0	0.0%	0
Total	\$ 21,202,764	\$ 15,950,760	75.2%	\$ 5,252,004

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets¹	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
21 - PolicePatrol				
Active Employees	\$ 10,766,306	\$ 11,103,136	103.1%	\$ (336,830)
Vested Former Employees	806,876	806,876	100.0%	0
Retirees And Beneficiaries	2,565,874	2,565,874	100.0%	0
Pending Refunds	<u>56,586</u>	<u>56,586</u>	100.0%	<u>0</u>
Total	\$ 14,195,642	\$ 14,532,472	102.4%	\$ (336,830)
22 - Police Comm				
Active Employees	\$ 5,191,833	\$ 4,368,603	84.1%	\$ 823,230
Vested Former Employees	385,244	385,244	100.0%	0
Retirees And Beneficiaries	3,524,291	3,524,291	100.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	\$ 9,101,368	\$ 8,278,138	91.0%	\$ 823,230
50 - FF Local 370				
Active Employees	\$ 10,420,348	\$ 8,911,150	85.5%	\$ 1,509,198
Vested Former Employees	672,865	672,865	100.0%	0
Retirees And Beneficiaries	5,001,581	5,001,581	100.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	\$ 16,094,794	\$ 14,585,596	90.6%	\$ 1,509,198
Total Municipality				
Active Employees	\$ 40,603,464	\$ 35,582,607	87.6%	\$ 5,020,857
Vested Former Employees	3,351,021	2,809,553	83.8%	541,468
Retirees and Beneficiaries	58,442,122	51,973,631	88.9%	6,468,491
Pending Refunds	<u>108,970</u>	<u>108,970</u>	100.0%	<u>0</u>
Total Participants	\$ 102,505,577	\$ 90,474,761	88.3%	\$ 12,030,816

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
2006	\$ 63,537,463	\$ 63,652,164	100%	\$ (114,701)
2007	83,118,204	86,157,824	104%	(3,039,620)
2008	86,794,286	86,928,232	100%	(133,946)
2009	87,394,951	86,681,601	99%	713,350
2010	88,391,392	88,810,354	100%	(418,962)
2011	92,614,337	89,500,639	97%	3,113,698
2012	95,219,730	89,199,238	94%	6,020,492
2013	98,938,366	90,199,697	91%	8,738,669
2014	102,505,577	90,474,761	88%	12,030,816

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

Division 01 - NonUnion Gen

Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 7,965,831	\$ 7,980,211	100%	\$ (14,380)
2007	9,165,782	9,500,972	104%	(335,190)
2008	10,098,491	10,354,144	103%	(255,653)
2009	10,968,166	11,135,830	102%	(167,664)
2010	11,800,432	11,969,022	101%	(168,590)
2011	12,885,628	12,419,996	96%	465,632
2012	13,415,381	12,725,281	95%	690,100
2013	14,473,668	13,084,818	90%	1,388,850
2014	15,039,864	13,265,999	88%	1,773,865

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		
2006	43	\$ 2,494,165	\$ 10,962	5.00%
2007	44	2,618,639	\$ 7,322	5.00%
2008	44	2,719,508	\$ 11,371	5.00%
2009	39	2,694,218	\$ 11,259	5.00%
2010	34	2,264,338	\$ 8,311	5.00%
2011	29	1,945,514	\$ 12,476	5.00%
2012	27	1,876,350	\$ 13,619	5.00%
2013	21	1,431,491	\$ 18,211	5.00%
2014	21	1,475,712	\$ 23,544	5.00%

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

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

Division 02 - NonUn Police

Table 8-02: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 162,347	\$ 162,641	100%	\$ (294)
2007	201,918	209,301	104%	(7,383)
2008	226,650	239,083	105%	(12,433)
2009	238,523	274,218	115%	(35,695)
2010	253,483	308,792	122%	(55,309)
2011	417,698	338,944	81%	78,754
2012	414,246	323,309	78%	90,937
2013	410,352	311,869	76%	98,483
2014	406,510	299,595	74%	106,915

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

Table 9-02: Required Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Required Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2006	1	\$ 96,337	\$ 832	6.00%
2007	1	103,120	\$ 832	6.00%
2008	1	102,182	\$ 691	6.00%
2009	1	109,635	\$ 375	6.00%
2010	1	106,153	\$ 157	6.00%
2011	0	0	\$ 550	0.00%
2012	0	0	\$ 678	0.00%
2013	0	0	\$ 794	0.00%
2014	0	0	\$ 976	0.00%

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

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

Division 10 - General Ret

Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 14,669,054	\$ 14,695,535	100%	\$ (26,481)
2007	15,032,451	15,582,186	104%	(549,735)
2008	14,041,769	14,417,235	103%	(375,466)
2009	13,666,958	12,986,830	95%	680,128
2010	12,746,826	12,252,589	96%	494,237
2011	11,653,883	11,323,119	97%	330,764
2012	11,340,591	10,457,494	92%	883,097
2013	10,910,229	9,710,048	89%	1,200,181
2014	10,594,429	8,943,389	84%	1,651,040

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		
2006	0	\$ 0	\$ 0	0.00%
2007	0	0	\$ 0	0.00%
2008	0	0	\$ 0	0.00%
2009	0	0	\$ 10,408	0.00%
2010	0	0	\$ 7,856	0.00%
2011	0	0	\$ 1,339	0.00%
2012	0	0	\$ 6,644	0.00%
2013	0	0	\$ 10,118	0.00%
2014	0	0	\$ 15,546	0.00%

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

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

Division 11 - Clerical

Table 8-11: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 1,552,705	\$ 1,555,508	100%	\$ (2,803)
2007	1,676,406	1,737,712	104%	(61,306)
2008	1,881,363	1,933,178	103%	(51,815)
2009	2,046,887	2,121,624	104%	(74,737)
2010	2,055,487	2,206,315	107%	(150,828)
2011	2,286,487	2,366,323	104%	(79,836)
2012	2,437,122	2,497,738	103%	(60,616)
2013	2,612,840	2,633,873	101%	(21,033)
2014	2,856,008	2,778,150	97%	77,858

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		
2006	25	\$ 804,225	\$ 3,491	5.00%
2007	24	762,786	\$ 2,373	5.00%
2008	23	763,135	\$ 3,142	5.00%
2009	21	740,806	\$ 2,734	5.00%
2010	20	681,454	\$ 1,459	5.00%
2011	20	696,626	\$ 2,624	5.00%
2012	18	636,515	\$ 2,414	5.00%
2013	16	569,642	\$ 2,412	5.00%
2014	16	587,290	\$ 3,515	5.00%

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

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

Division 12 - DPW 517M

Table 8-12: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 8,169,843	\$ 8,468,613	104%	\$ (298,770)
2008	9,030,444	9,096,545	101%	(66,101)
2009	9,453,787	9,692,167	103%	(238,380)
2010	9,802,616	10,298,596	105%	(495,980)
2011	10,764,406	10,809,127	100%	(44,721)
2012	11,293,450	11,145,163	99%	148,287
2013	12,373,662	11,600,543	94%	773,119
2014	13,014,198	11,840,662	91%	1,173,536

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		
2007	61	\$ 2,617,331	\$ 8,397	5.00%
2008	59	2,621,589	\$ 12,297	5.00%
2009	54	2,498,414	\$ 8,376	5.00%
2010	51	2,245,332	\$ 4,059	5.00%
2011	47	2,131,366	\$ 9,321	5.00%
2012	42	1,742,781	\$ 8,208	5.00%
2013	37	1,582,863	\$ 13,365	5.00%
2014	33	1,462,519	\$ 17,512	5.00%

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

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

Division 20 - PLC/Fire Ret

Table 8-20: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 27,548,411	\$ 27,598,142	100%	\$ (49,731)
2007	27,454,720	28,458,736	104%	(1,004,016)
2008	26,831,147	26,433,023	99%	398,124
2009	25,625,218	23,714,481	93%	1,910,737
2010	24,993,790	22,494,971	90%	2,498,819
2011	24,176,713	20,611,640	85%	3,565,073
2012	23,374,479	18,889,394	81%	4,485,085
2013	22,336,742	17,385,233	78%	4,951,509
2014	21,202,764	15,950,760	75%	5,252,004

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 ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2006	0	\$ 0	\$ 0	0.00%
2007	0	0	\$ 0	0.00%
2008	0	0	\$ 4,702	0.00%
2009	0	0	\$ 28,440	0.00%
2010	0	0	\$ 44,723	0.00%
2011	0	0	\$ 21,319	0.00%
2012	0	0	\$ 32,209	0.00%
2013	0	0	\$ 40,422	0.00%
2014	0	0	\$ 47,828	0.00%

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

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

Division 21 - PolicePatrol

Table 8-21: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 7,401,658	\$ 7,415,019	100%	\$ (13,361)
2007	7,990,992	8,283,222	104%	(292,230)
2008	9,433,746	9,244,106	98%	189,640
2009	9,296,368	9,749,949	105%	(453,581)
2010	10,058,335	11,093,681	110%	(1,035,346)
2011	11,346,649	12,184,667	107%	(838,018)
2012	12,161,071	13,004,686	107%	(843,615)
2013	13,398,328	13,965,309	104%	(566,981)
2014	14,195,642	14,532,472	102%	(336,830)

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

Table 9-21: Required Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Required Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2006	63	\$ 3,453,192	\$ 22,502	6.00%
2007	61	3,368,335	\$ 17,686	6.00%
2008	58	3,529,305	\$ 31,080	6.00%
2009	52	3,180,787	\$ 19,213	6.00%
2010	51	3,044,625	\$ 11,585	6.00%
2011	49	2,985,318	\$ 15,663	6.00%
2012	48	2,955,348	\$ 15,309	6.00%
2013	46	2,925,453	\$ 18,058	6.00%
2014	39	2,543,835	\$ 15,948	6.50%

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 22 - Police Comm

Table 8-22: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 4,193,267	\$ 4,200,838	100%	\$ (7,571)
2007	4,502,720	4,667,385	104%	(164,665)
2008	5,314,148	5,059,436	95%	254,712
2009	5,944,576	5,969,715	100%	(25,139)
2010	6,156,897	6,374,154	104%	(217,257)
2011	6,815,385	6,751,393	99%	63,992
2012	7,255,083	7,080,385	98%	174,698
2013	8,067,001	7,586,029	94%	480,972
2014	9,101,368	8,278,138	91%	823,230

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

Table 9-22: Required Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Required Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2006	16	\$ 1,060,710	\$ 6,737	6.00%
2007	15	990,453	5.58%	6.00%
2008	15	1,062,927	12.33%	6.00%
2009	15	1,083,736	8.58%	6.00%
2010	15	1,055,318	6.37%	6.00%
2011	15	1,071,507	9.86%	6.00%
2012	14	1,027,127	10.65%	6.00%
2013	12	859,926	\$ 9,825	6.00%
2014	15	1,087,192	\$ 14,770	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.

Division 50 - FF Local 370

Table 8-50: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 8,859,804	\$ 9,183,805	104%	\$ (324,001)
2008	9,858,527	10,068,200	102%	(209,673)
2009	10,133,562	10,936,701	108%	(803,139)
2010	10,523,526	11,812,234	112%	(1,288,708)
2011	12,267,488	12,695,430	104%	(427,942)
2012	13,528,307	13,075,788	97%	452,519
2013	14,355,544	13,921,975	97%	433,569
2014	16,094,794	14,585,596	91%	1,509,198

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

Table 9-50: Required Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Required Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2007	36	\$ 2,152,427	\$ 11,076	6.00%
2008	36	2,235,768	\$ 15,685	6.00%
2009	35	2,306,058	\$ 7,467	6.00%
2010	33	2,135,966	\$ 618	6.00%
2011	27	1,820,659	\$ 10,235	6.00%
2012	27	1,947,304	\$ 18,349	6.00%
2013	26	1,829,563	\$ 16,884	6.00%
2014	26	2,014,963	\$ 29,804	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:	311
Inactive employees entitled to but not yet receiving benefits:	30
Active employees:	<u>150</u>
	491

Covered employee payroll: (Needed for Required Supplementary Information)	\$	9,171,511
Total Pension Liability as of 12/31/2013 measurement date:	\$	97,366,329
Total Pension Liability as of 12/31/2014 measurement date:	\$	99,966,409
Service Cost for the year ending on the 12/31/2014 measurement date:	\$	1,190,507

Change in the Total Pension Liability due to:

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

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

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

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

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

	1% Decrease <u>(7.25%)</u>	Current Discount Rate <u>(8.25%)</u>	1% Increase <u>(9.25%)</u>
Change in Net Pension Liability as of 12/31/2014:	\$ 10,807,457	-	\$ (9,198,757)

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 - NonUnion Gen

1/1/2012	Non Standard Compensation Definition
3/1/2006	Blanket Resolution (All Service)
2/1/2006	DC Adoption Date 02-01-2006
1/1/2006	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
1/1/2006	Benefit D2 Plan
1/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2006	5 Year Vesting
1/1/2006	Exclude Temporary Employees
1/1/2006	Annuity Withdrawal - MERS Rate
1/1/2006	Day of work defined as 150 Hours a Month for All employees.
1/1/2006	Benefit B-3 (80% max)
1/1/2006	Benefit F55 (With 25 Years of Service)
1/1/2006	Member Contribution Rate 5.00%
11/10/1964	Covered by Act 88
	Fiscal Month - January

02 - NonUn Police

8/1/2011	Benefit F55 (With 10 Years of Service)
8/1/2011	3.0% Multiplier (80% max)
3/1/2006	Blanket Resolution (All Service)
2/1/2006	DC Adoption Date 02-01-2006
1/1/2006	Member Contribution Rate 6.00%
1/1/2006	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
1/1/2006	Benefit D2 Plan
1/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2006	10 Year Vesting
1/1/2006	Exclude Temporary Employees
1/1/2006	Annuity Withdrawal - MERS Rate
1/1/2006	DB Exempt from Social Security
1/1/2006	Day of work defined as 150 Hours a Month for All employees.
1/1/2006	2.75% Multiplier (80% max)
1/1/2006	Eligible at Age 53 (With 25 Years of Service)
11/10/1964	Covered by Act 88
	Fiscal Month - January

10 - General Ret

1/1/2009	Flexible E .5% COLA Adopted (01/01/2009)
1/1/2008	Flexible E .9% COLA Adopted (01/01/2008)
8/1/2007	Flexible E .9% COLA Adopted (08/01/2007)
8/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)

10 - General Ret

8/1/2006	5 Year Vesting
8/1/2006	Exclude Temporary Employees
8/1/2006	Benefit B-3 (80% max)
3/1/2006	Blanket Resolution (Generic Service)
11/10/1964	Covered by Act 88
	Fiscal Month - January

11 - Clerical

1/1/2012	Non Standard Compensation Definition
11/1/2006	DC Adoption Date 11-01-2006
10/1/2006	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
10/1/2006	Benefit D2 Plan
10/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
10/1/2006	5 Year Vesting
10/1/2006	Blanket Resolution (All Service)
10/1/2006	Exclude Temporary Employees
10/1/2006	Day of work defined as 150 Hours a Month for All employees.
10/1/2006	Benefit B-3 (80% max)
10/1/2006	Benefit F55 (With 30 Years of Service)
10/1/2006	Member Contribution Rate 5.00%
11/10/1964	Covered by Act 88
	Fiscal Month - January

12 - DPW 517M

1/1/2012	Non Standard Compensation Definition
5/1/2007	Exclude Temporary Employees
5/1/2007	DC Adoption Date 05-01-2007
4/1/2007	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
4/1/2007	Benefit D2 Plan
4/1/2007	Benefit FAC-3 (3 Year Final Average Compensation)
4/1/2007	10 Year Vesting
4/1/2007	Day of work defined as 150 Hours a Month for All employees.
4/1/2007	Benefit B-3 (80% max)
4/1/2007	Benefit F55 (With 30 Years of Service)
4/1/2007	Member Contribution Rate 5.00%
3/1/2006	Blanket Resolution (Generic Service)
11/10/1964	Covered by Act 88
	Fiscal Month - January

20 - PLC/Fire Ret

1/1/2009	Flexible E .5% COLA Adopted (01/01/2009)
1/1/2008	Flexible E .9% COLA Adopted (01/01/2008)
8/1/2007	Flexible E .9% COLA Adopted (08/01/2007)
8/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
8/1/2006	10 Year Vesting

20 - PLC/Fire Ret

8/1/2006	Exclude Temporary Employees
8/1/2006	Annuity Withdrawal - MERS Rate
8/1/2006	2.75% Multiplier (80% max)
8/1/2006	Benefit F55 (With 10 Years of Service)
3/1/2006	Blanket Resolution (Generic Service)
11/10/1964	Covered by Act 88
	Fiscal Month - January

21 - PolicePatrol

4/1/2014	Member Contribution Rate 6.50%
1/1/2009	3.0% Multiplier (75% max)
1/1/2009	Benefit F50 (With 25 Years of Service)
1/1/2007	2.75% Multiplier (75% max)
8/1/2006	DC Adoption Date 08-01-2006
7/1/2006	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
7/1/2006	Benefit D2 Plan
7/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/2006	10 Year Vesting
7/1/2006	Exclude Temporary Employees
7/1/2006	Annuity Withdrawal - MERS Rate
7/1/2006	DB Exempt from Social Security
7/1/2006	Day of work defined as 150 Hours a Month for All employees.
7/1/2006	Benefit B-4 (75% max)
7/1/2006	Eligible at Age 51 (With 25 Years of Service)
7/1/2006	Benefit F55 (With 10 Years of Service)
7/1/2006	Member Contribution Rate 6.00%
3/1/2006	Blanket Resolution (Generic Service)
11/10/1964	Covered by Act 88
	Fiscal Month - January

22 - Police Comm

4/1/2013	DC Adoption Date 04-01-2013
1/1/2013	Non Standard Compensation Definition
1/1/2013	3.0% Multiplier (75% max)
1/1/2013	Benefit F50 (With 25 Years of Service)
1/1/2007	3.0% Multiplier (80% max)
7/1/2006	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
7/1/2006	Benefit D2 Plan
7/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/2006	10 Year Vesting
7/1/2006	Exclude Temporary Employees
7/1/2006	Annuity Withdrawal - MERS Rate
7/1/2006	DB Exempt from Social Security
7/1/2006	Day of work defined as 150 Hours a Month for All employees.
7/1/2006	Benefit B-4 (80% max)

22 - Police Comm

7/1/2006 Eligible at Age 53 (With 25 Years of Service)
 7/1/2006 Benefit F55 (With 10 Years of Service)
 7/1/2006 Member Contribution Rate 6.00%
 3/1/2006 Blanket Resolution (Generic Service)
 11/10/1964 Covered by Act 88
 Fiscal Month - January

50 - FF Local 370

5/1/2007 Exclude Temporary Employees
 5/1/2007 DC Adoption Date 05-01-2007
 4/1/2007 Benefit RS 50 (50% Post-Ret. Spouse Benefits)
 4/1/2007 Benefit D2 Plan
 4/1/2007 Benefit FAC-3 (3 Year Final Average Compensation)
 4/1/2007 10 Year Vesting
 4/1/2007 Annuity Withdrawal - MERS Rate
 4/1/2007 Day of work defined as 150 Hours a Month for All employees.
 4/1/2007 2.75% Multiplier (85% max)
 4/1/2007 Eligible at Age 53 (With 25 Years of Service)
 4/1/2007 Benefit F55 (With 10 Years of Service)
 4/1/2007 Member Contribution Rate 6.00%
 3/1/2006 Blanket Resolution (Generic Service)
 11/10/1964 Covered by Act 88
 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	1.00%

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