



**MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN**  
ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2012  
MUSKEGON, CITY OF (6116)

Spring, 2013

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, 2012. 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 an independent public nonprofit organization that has partnered with Michigan municipalities for more than 65 years, helping them provide safe, secure retirement plans for their employees. 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, 2012 annual actuarial valuation is to (i) measure funding progress, (ii) establish contribution requirements for the fiscal year beginning July 1, 2014, and (iii) provide actuarial information in connection with applicable Governmental Accounting Standards Board statements. This valuation report should not be relied upon for any other purpose.

The valuation uses financial data, plan provision data, and participant data as of December 31, 2012 furnished by MERS' administrative staff. The data was checked for internal and year to year consistency as well as general reasonableness, but was not otherwise audited. The MERS of Michigan Actuarial Services Department does not assume responsibility for the accuracy or completeness of the data used in this valuation.

The actuarial assumptions and methods are adopted by the Retirement Board. For this annual valuation, the Retirement Board adopted some revised actuarial assumptions. 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-2012AnnualActuarialValuation-Appendix.pdf](http://www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2012AnnualActuarialValuation-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 employees of MERS, 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).

**Please review the Comments on the Investment Markets.**

**This report was prepared at the request of the Retirement Board and may be provided only in its entirety by the municipality to other interested parties (MERS customarily provides the full report on request to related third parties such as the auditor for the municipality).**

Please contact MERS at <http://www.mersofmich.com/MERS/About-MERS/Contact-Us> if you have any questions.

Sincerely,

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

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## Executive Summary

### Required Employer Contributions

The computed minimum required employer contributions to the retirement system for the fiscal years beginning July 1, 2014 (2012 Valuation) and July 1, 2013 (2011 Valuation) are as follows:

Division	Percentage of Payroll		Monthly \$ Based on Valuation Payroll	
	2012 Valuation	2011 Valuation	2012 Valuation	2011 Valuation
01 - NonUnion Gen	-	-	\$ 13,619	\$ 12,476
02 - NonUn Police	-	-	678	550
10 - General Ret	-	-	6,644	1,339
11 - Clerical	-	-	2,414	2,624
12 - DPW 517M	-	-	8,208	9,321
20 - PLC/Fire Ret	-	-	32,209	21,319
21 - PolicePatrol	-	-	15,309	15,663
22 - Police Comm	10.65%	9.86%	9,116	8,804
50 - FF Local 370	-	-	18,349	10,235
<b>Municipality Total</b>			<b>\$ 106,546</b>	<b>\$ 82,331</b>

The above employer contribution requirements are in addition to the member contributions, if any, shown in Table 2.

It is important to note that the contribution rates shown above are not expected to remain at present levels indefinitely. If future experience were to match the valuation assumptions exactly, the computed employer rates for divisions that are open to new hires would trend over time toward the long-term cost of system benefits, known as the Normal Cost (see Table 1). For underfunded divisions that are closed to new hires and are not linked to an open division, the computed employer dollar contribution would increase 5%-9% annually for 15 years under the Option B amortization policy (for divisions first reflected as closed in the 2012 valuation). Under the Option A amortization policy, the annual increases would be larger but would only continue for 10 years.

Contribution rates will change from one year to the next as a result of changes in benefit provisions, changes in the actuarial assumptions, and experience of the plan (investment experience and demographic experience).

The 2012 valuation reflects changes in actuarial assumptions and/or methods (see the [Appendix](#)). For benefit provision changes see Table 2.

### 2012 System Experience

Based on the smoothed Actuarial Value of Assets (Valuation Assets), the recognized rate of investment return for MERS overall was 5.4% (less than the 8% actuarial assumption). On average this will result in increases in computed employer contributions.

Demographic experience varied by division. This reflects what actually happened to participants (active members, retirees, and vested former members) compared to what was projected by the actuarial assumptions.

## **2012 Funded Position**

The ratio of the Valuation Assets to the Actuarial Accrued Liability for Muskegon, City of in aggregate is 94%; last year's ratio was 97%.

## Comments on the Investment Markets

The dramatic price declines across the world financial markets in 2008 led to increased volatility unlike any experienced in decades. From 2009 to 2012, financial markets experienced price appreciation driven largely by government monetary policy and a rebound in economic activities; although at a slower pace than historic past recession recoveries. MERS' portfolio recovered with average annual investment returns of over 10%. While investors world-wide continue to focus on economic concerns and market volatility, equity markets have rebounded, particularly in the United States. The S&P has rebounded 109% from the March 9, 2009 bottom to December 31, 2012.

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 9.3% on December 31, 2012. MERS regularly monitors the investment return assumption to make sure it is reasonable compared to long term expectations.

The actuarial value of assets (funding value), used to determine both your funded status and your required employer contribution, is based on a 10-year smoothed value of assets. Only a portion (five-tenths, for 2008 - 2012) 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 actuarial funded percentage.

As of December 31, 2012 the actuarial value of assets is 114% of market value (down from 121% in 2011). 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, 2012 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 82% (instead of 94%); and ii) your total employer contribution requirement for the fiscal year starting July 1, 2014 would be \$ 2,373,732 (instead of \$ 1,278,552). If the investment markets do not fully make up for the 2008 losses, employer contribution requirements may rise. MERS' investment strategy employs diversification using various asset categories (stocks, bonds, and to a smaller extent real estate, commodities and private equity) to capture as much of the upside return as possible while managing acceptable risk. If contribution increases do become necessary, MERS would attempt to implement them incrementally.

Remember that only five-tenths of the 2008 market losses are reflected in this actuarial valuation report. As was true for past market downturns, MERS expects the markets to continue to rebound. By the time the 2008 market losses would be fully recognized (over the following 5 years), future market gains are expected to partly or fully offset 2008 market losses. This smoothing method is a powerful tool for reducing the volatility of your required employer contributions. However, if the financial markets do not rebound, the result would be gradual increases in your employer contribution requirement over the next 5 years (as described above).

## Employer Contribution Details For the Fiscal Year Beginning July 1, 2014

Table 1

Division	Amort. Period for Unfund. Liab. <sup>4,5</sup>	Employer Contributions <sup>1</sup>			Blended Employer Contribut. <sup>7</sup>	GASB ARC <sup>6</sup>	Member Contribut. Conversion Factor <sup>2</sup>
		Normal Cost	Unfunded Accrued Liability	Total Required Employer Contribut.			
<b>Percentage of Payroll</b>							
01 - NonUnion Gen	15	-	-	-			
02 - NonUn Police	15	-	-	-			
10 - General Ret	15	-	-	-			
11 - Clerical	15	-	-	-			
12 - DPW 517M	15	-	-	-			
20 - PLC/Fire Ret	15	-	-	-			
21 - PolicePatrol	15	-	-	-			
22 - Police Comm	20	9.29%	1.36%	10.65%			
50 - FF Local 370	15	-	-	-			
<b>Estimated Monthly Contribution<sup>3</sup></b>							
01 - NonUnion Gen	15	\$ 8,305	\$ 5,314	\$ 13,619			
02 - NonUn Police	15	0	678	678			
10 - General Ret	15	0	6,644	6,644			
11 - Clerical	15	2,930	(516)	2,414			
12 - DPW 517M	15	6,977	1,231	8,208			
20 - PLC/Fire Ret	15	0	32,209	32,209			
21 - PolicePatrol	15	22,997	(7,688)	15,309			
22 - Police Comm	20	7,952	1,164	9,116			0.67%
50 - FF Local 370	15	13,662	4,687	18,349			
<b>Total Municipality</b>		<b>\$ 62,823</b>	<b>\$ 43,723</b>	<b>\$ 106,546</b>			
<b>Estimated Annual Contribution<sup>3</sup></b>		<b>\$ 753,876</b>	<b>\$ 524,676</b>	<b>\$ 1,278,552</b>			

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

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

<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 July 1, 2014 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 a minimum 5-year amortization is attained. Under Amortization Option B, the period will decrease by 2 years each valuation year, until reaching 15 years. Thereafter, the period will reduce by 1 year each valuation year, until a minimum 5-year amortization is attained. This will result in amortization payments that increase faster than the usual 4.5% each year. If the division is closed to new hires, with new hires (and transfers) covered by MERS Defined Benefit Plan or Hybrid Plan provisions, the standard open division amortization period will apply.



## MUSKEGON, CITY OF (6116)

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

#### 01 - NonUnion Gen: Closed to new hires

	2012 Valuation	2011 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	Benefit B-3 (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	5 years	5 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>Member Contributions:</b>	5%	5%
<b>RS50% Percentage:</b>	50%	50%
<b>D-2:</b>	D-2 (25%)	D-2 (25%)
<b>DC Plan for New Hires:</b>	2/1/2006	2/1/2006
	Annuity Withdrawal (Valuation Interest Rate)	Annuity Withdrawal (Valuation Interest Rate)
<b>Act 88:</b>	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

#### 02 - NonUn Police: Closed to new hires

	2012 Valuation	2011 Valuation
<b>Benefit Multiplier:</b>	3.00% Multiplier (80% max)	3.0% Multiplier (80% max)
<b>Normal Retirement Age:</b>	55	55
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	53/25	53/25
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Member Contributions:</b>	6%	6%
<b>RS50% Percentage:</b>	50%	50%
<b>D-2:</b>	D-2 (25%)	D-2 (25%)
<b>DC Plan for New Hires:</b>	2/1/2006	2/1/2006
	Annuity Withdrawal (Valuation Interest Rate)	Annuity Withdrawal (Valuation Interest Rate)
<b>Act 88:</b>	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

#### 10 - General Ret: Closed to new hires

	2012 Valuation	2011 Valuation
<b>Benefit Multiplier:</b>	Old Plan Benefits	Old Plan Benefits
<b>Normal Retirement Age:</b>	-	-
<b>Vesting:</b>	-	-
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	-	-
<b>Final Average Compensation:</b>	-	-
<b>Member Contributions:</b>	-	-
<b>Act 88:</b>	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

**Table 2 (continued)****11 - Clerical: Closed to new hires**

	<b>2012 Valuation</b>	<b>2011 Valuation</b>
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	Benefit B-3 (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	5 years	5 years
<b>Early Retirement (Unreduced):</b>	55/30	55/30
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Member Contributions:</b>	5%	5%
<b>RS50% Percentage:</b>	50%	50%
<b>D-2:</b>	D-2 (25%)	D-2 (25%)
<b>DC Plan for New Hires:</b>	11/1/2006	11/1/2006
<b>Act 88:</b>	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

**12 - DPW 517M: Closed to new hires**

	<b>2012 Valuation</b>	<b>2011 Valuation</b>
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	Benefit B-3 (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/30	55/30
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Member Contributions:</b>	5%	5%
<b>RS50% Percentage:</b>	50%	50%
<b>D-2:</b>	D-2 (25%)	D-2 (25%)
<b>DC Plan for New Hires:</b>	5/1/2007	5/1/2007
<b>Act 88:</b>	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

**20 - PLC/Fire Ret: Closed to new hires**

	<b>2012 Valuation</b>	<b>2011 Valuation</b>
<b>Benefit Multiplier:</b>	Old Plan Benefits	Old Plan Benefits
<b>Normal Retirement Age:</b>	-	-
<b>Vesting:</b>	-	-
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	-	-
<b>Final Average Compensation:</b>	-	-
<b>Member Contributions:</b>	-	-
<b>Act 88:</b>	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

**Table 2 (continued)****21 - PolicePatrol: Closed to new hires**

	<b>2012 Valuation</b>	<b>2011 Valuation</b>
<b>Benefit Multiplier:</b>	3.00% Multiplier (75% max)	3.0% Multiplier (75% max)
<b>Normal Retirement Age:</b>	55	55
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	-	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Member Contributions:</b>	6%	6%
<b>RS50% Percentage:</b>	50%	50%
<b>D-2:</b>	D-2 (25%)	D-2 (25%)
<b>DC Plan for New Hires:</b>	8/1/2006	8/1/2006
	Annuity Withdrawal (Valuation Interest Rate)	Annuity Withdrawal (Valuation Interest Rate)
<b>Act 88:</b>	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

**22 - Police Comm: Open Division**

	<b>2012 Valuation</b>	<b>2011 Valuation</b>
<b>Benefit Multiplier:</b>	3.00% Multiplier (80% max)	3.0% Multiplier (80% max)
<b>Normal Retirement Age:</b>	55	55
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	53/25	53/25
<b>Early Retirement (Reduced):</b>	50/25	50/25
		55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Member Contributions:</b>	6%	6%
<b>RS50% Percentage:</b>	50%	50%
<b>D-2:</b>	D-2 (25%)	D-2 (25%)
	Annuity Withdrawal (Valuation Interest Rate)	Annuity Withdrawal (Valuation Interest Rate)
<b>Act 88:</b>	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

**Table 2** (continued)**50 - FF Local 370: Closed to new hires**

	<b>2012 Valuation</b>	<b>2011 Valuation</b>
<b>Benefit Multiplier:</b>	2.75% Multiplier (85% max)	2.75% Multiplier (85% max)
<b>Normal Retirement Age:</b>	55	55
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	53/25	53/25
<b>Early Retirement (Reduced):</b>	50/25	50/25
		55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Member Contributions:</b>	6%	6%
<b>RS50% Percentage:</b>	50%	50%
<b>D-2:</b>	D-2 (25%)	D-2 (25%)
<b>DC Plan for New Hires:</b>	5/1/2007	5/1/2007
	Annuity Withdrawal (Valuation Interest Rate)	Annuity Withdrawal (Valuation Interest Rate)
<b>Act 88:</b>	Yes (Adopted 11/10/1964)	Yes (Adopted 11/10/1964)

## Membership Summary

**Table 3**

Division	2012 Valuation		2011 Valuation		2012 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 - NonUnion Gen							
Active Members	27	\$ 1,876,350	29	\$ 1,945,514	50.1	21.6	22.2
Vested Former Members	5	59,536	6	85,181	49.0	8.8	10.0
Retirees and Beneficiaries	14	496,993	12	458,236	63.1		
02 - NonUn Police							
Active Members	0	\$ 0	0	\$ 0	0.0	0.0	0.0
Vested Former Members	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	2	36,018	2	36,018	58.0		
10 - General Ret							
Active Members	0	\$ 0	0	\$ 0	0.0	0.0	0.0
Vested Former Members	10	126,146	13	139,192	53.7	2.4	14.4
Retirees and Beneficiaries	120	1,302,531	121	1,324,640	76.7		
11 - Clerical							
Active Members	18	\$ 636,515	20	\$ 696,626	47.2	16.6	16.6
Vested Former Members	2	12,312	1	3,794	36.5	8.8	8.8
Retirees and Beneficiaries	4	55,574	3	39,026	58.8		
12 - DPW 517M							
Active Members	42	\$ 1,742,781	47	\$ 2,131,366	49.6	18.6	18.6
Vested Former Members	5	73,038	5	73,038	52.6	14.4	15.6
Retirees and Beneficiaries	16	412,435	13	341,937	61.7		
20 - PLC/Fire Ret							
Active Members	0	\$ 0	0	\$ 0	0.0	0.0	0.0
Vested Former Members	4	64,491	4	64,491	49.0	0.0	12.7
Retirees and Beneficiaries	132	2,731,256	135	2,779,814	75.0		
21 - PolicePatrol							
Active Members	48	\$ 2,955,348	49	\$ 2,985,318	40.8	14.0	14.0
Vested Former Members	5	108,695	5	108,695	40.8	12.2	12.6
Retirees and Beneficiaries	5	187,089	5	187,089	51.8		
22 - Police Comm							
Active Members	14	\$ 1,027,127	15	\$ 1,071,507	45.0	18.6	18.7
Vested Former Members	1	41,150	1	41,150	50.0	20.8	20.8
Retirees and Beneficiaries	4	212,139	3	155,375	57.3		
50 - FF Local 370							
Active Members	27	\$ 1,947,304	27	\$ 1,820,659	46.0	18.7	18.8
Vested Former Members	2	68,491	2	68,491	47.5	17.4	20.8
Retirees and Beneficiaries	8	369,649	7	357,441	56.6		

**Table 3 (continued)**

Division	2012 Valuation		2011 Valuation		2012 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>							
<b>Active Members</b>	176	\$ 10,185,425	187	\$ 10,650,990	46.1	17.6	17.7
<b>Vested Former Members</b>	34	553,859	37	584,032	48.9	8.1	13.7
<b>Retirees and Beneficiaries</b>	<u>305</u>	5,803,684	<u>301</u>	5,679,576	73.0		
<b>Total Participants</b>	<b>515</b>		<b>525</b>				

<sup>1</sup> Annual payroll for active members; annual deferred benefits payable for vested former members; 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	2012 Valuation		2011 Valuation	
	Employer and Retiree <sup>1</sup>	Employee <sup>2</sup>	Employer and Retiree <sup>1</sup>	Employee <sup>2</sup>
01 - NonUnion Gen	\$ 9,213,579	\$ 1,914,169	\$ 8,409,871	\$ 1,890,213
02 - NonUn Police	282,721	0	281,091	0
10 - General Ret	8,822,056	322,603	9,001,685	388,743
11 - Clerical	1,701,585	482,587	1,484,041	478,385
12 - DPW 517M	7,839,907	1,906,091	6,969,899	1,994,268
20 - PLC/Fire Ret	16,344,621	173,397	16,920,380	173,154
21 - PolicePatrol	8,754,986	2,617,091	7,670,808	2,434,114
22 - Police Comm	5,056,019	1,135,494	4,531,152	1,067,877
50 - FF Local 370	9,378,209	2,056,043	8,344,149	2,184,357
<b>Municipality Total</b>	<b>\$ 67,393,683</b>	<b>\$ 10,607,475</b>	<b>\$ 63,613,076</b>	<b>\$ 10,611,111</b>
<b>Combined Reserves</b>	<b>\$ 78,001,158</b>		<b>\$ 74,224,187</b>	

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

<sup>2</sup> Reserve for Employee Contributions

The December 31, 2012 valuation assets are equal to 1.143563 times the reported market value of assets (compared to 1.205815 as of December 31, 2011). The derivation of valuation assets is described, and detailed calculations of valuation assets are shown, in the [Appendix](#).



## Flow of Valuation Assets

**Table 5**

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Net Transfers	Valuation Asset Balance
	Employer	Member					
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	642,901	4,207,086	(5,311,426)	(140,832)	109,227	89,500,639
2012	1,091,561	587,649	3,728,234	(5,734,235)	(45,520)	70,910	89,199,238

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

## Actuarial Accrued Liabilities and Valuation Assets As of December 31, 2012

**Table 6**

Division	Actuarial Accrued Liability	Valuation Assets <sup>1</sup>	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
<b>01 - NonUnion Gen</b>				
Active Members	\$ 7,693,581	\$ 7,003,481	91.0%	\$ 690,100
Vested Former Members	447,868	447,868	100.0%	0
Retirees And Beneficiaries	5,273,932	5,273,932	100.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 13,415,381</b>	<b>\$ 12,725,281</b>	<b>94.9%</b>	<b>\$ 690,100</b>
<b>02 - NonUn Police</b>				
Active Members	\$ 0	\$ 0	0.0%	\$ 0
Vested Former Members	0	0	0.0%	0
Retirees And Beneficiaries	414,246	323,309	78.0%	90,937
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 414,246</b>	<b>\$ 323,309</b>	<b>78.0%</b>	<b>\$ 90,937</b>
<b>10 - General Ret</b>				
Active Members	\$ 0	\$ 0	0.0%	\$ 0
Vested Former Members	911,047	270,971	29.7%	640,076
Retirees And Beneficiaries	10,396,903	10,153,882	97.7%	243,021
Pending Refunds	<u>32,641</u>	<u>32,641</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 11,340,591</b>	<b>\$ 10,457,494</b>	<b>92.2%</b>	<b>\$ 883,097</b>
<b>11 - Clerical</b>				
Active Members	\$ 1,864,481	\$ 1,925,097	103.3%	\$ (60,616)
Vested Former Members	28,425	28,425	100.0%	0
Retirees And Beneficiaries	544,216	544,216	100.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 2,437,122</b>	<b>\$ 2,497,738</b>	<b>102.5%</b>	<b>\$ (60,616)</b>
<b>12 - DPW 517M</b>				
Active Members	\$ 6,336,072	\$ 6,187,785	97.7%	\$ 148,287
Vested Former Members	455,202	455,202	100.0%	0
Retirees And Beneficiaries	4,463,636	4,463,636	100.0%	0
Pending Refunds	<u>38,540</u>	<u>38,540</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 11,293,450</b>	<b>\$ 11,145,163</b>	<b>98.7%</b>	<b>\$ 148,287</b>
<b>20 - PLC/Fire Ret</b>				
Active Members	\$ 0	\$ 0	0.0%	\$ 0
Vested Former Members	309,915	173,397	55.9%	136,518
Retirees And Beneficiaries	23,064,564	18,715,997	81.1%	4,348,567
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 23,374,479</b>	<b>\$ 18,889,394</b>	<b>80.8%</b>	<b>\$ 4,485,085</b>

**Table 6 (continued)**

Division	Actuarial Accrued Liability	Valuation Assets <sup>1</sup>	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
<b>21 - PolicePatrol</b>				
Active Members	\$ 9,378,841	\$ 10,222,456	109.0%	\$ (843,615)
Vested Former Members	560,203	560,203	100.0%	0
Retirees And Beneficiaries	2,147,540	2,147,540	100.0%	0
Pending Refunds	<u>74,487</u>	<u>74,487</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 12,161,071</b>	<b>\$ 13,004,686</b>	<b>106.9%</b>	<b>\$ (843,615)</b>
<b>22 - Police Comm</b>				
Active Members	\$ 4,464,140	\$ 4,289,442	96.1%	\$ 174,698
Vested Former Members	318,962	318,962	100.0%	0
Retirees And Beneficiaries	2,471,981	2,471,981	100.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 7,255,083</b>	<b>\$ 7,080,385</b>	<b>97.6%</b>	<b>\$ 174,698</b>
<b>50 - FF Local 370</b>				
Active Members	\$ 8,710,421	\$ 8,257,902	94.8%	\$ 452,519
Vested Former Members	566,183	566,183	100.0%	0
Retirees And Beneficiaries	4,251,703	4,251,703	100.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 13,528,307</b>	<b>\$ 13,075,788</b>	<b>96.7%</b>	<b>\$ 452,519</b>
<b>Total Municipality</b>				
<b>Active Members</b>	<b>\$ 38,447,536</b>	<b>\$ 37,886,163</b>	<b>98.5%</b>	<b>\$ 561,373</b>
<b>Vested Former Members</b>	<b>3,597,805</b>	<b>2,821,211</b>	<b>78.4%</b>	<b>776,594</b>
<b>Retirees and Beneficiaries</b>	<b>53,028,721</b>	<b>48,346,196</b>	<b>91.2%</b>	<b>4,682,525</b>
<b>Pending Refunds</b>	<b><u>145,668</u></b>	<b><u>145,668</u></b>	<b>100.0%</b>	<b><u>0</u></b>
<b>Total Participants</b>	<b>\$ 95,219,730</b>	<b>\$ 89,199,238</b>	<b>93.7%</b>	<b>\$ 6,020,492</b>

<sup>1</sup> Includes both employer and member assets.

**Please see the Comments on the Investment Markets.**

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

[http://www.mersofmich.com/Portals/0/Assets/PageResources/MERS/PlanDocument/Pension/sec\\_43c.pdf](http://www.mersofmich.com/Portals/0/Assets/PageResources/MERS/PlanDocument/Pension/sec_43c.pdf).

## Actuarial Accrued Liabilities - Comparative Schedule

**Table 7**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities	UAL as Percent of Annual Payroll
2006	\$ 63,537,463	\$ 63,652,164	100%	\$ (114,701)	0%
2007	83,118,204	86,157,824	104%	(3,039,620)	0%
2008	86,794,286	86,928,232	100%	(133,946)	0%
2009	87,394,951	86,681,601	99%	713,350	6%
2010	88,391,392	88,810,354	100%	(418,962)	0%
2011	92,614,337	89,500,639	97%	3,113,698	29%
2012	95,219,730	89,199,238	94%	6,020,492	59%

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

## GASB 25 and GASB 27 Information

The following information has been prepared to provide the information necessary to comply with GASB Statements Number 25 and 27. Statement 25 is effective for fiscal years beginning after June 15, 1996 and Statement 27 is effective for fiscal years beginning after June 15, 1997.

All entries and the annual employer contribution amount were based on the actuarial methods and assumptions used in the December 31, 2012 actuarial valuation. The entry age normal actuarial method was used to determine the disclosure entries.

### GASB 25 Information (as of 12/31/2012)

Actuarial Accrued Liability		
Retirees and beneficiaries currently receiving benefits	\$	53,028,721
Terminated employees (vested former members) not yet receiving benefits		3,597,805
Non-Vested terminated employees (pending refunds of accumulated member contributions)		145,668
Current employees -		
Accumulated employee contributions including allocated investment income		9,198,572
Employer financed		<u>29,248,964</u>
Total Actuarial Accrued Liability	\$	95,219,730
Net Assets Available for Benefits at Actuarial Value	\$	<u>89,199,238</u>
(Market Value is 78,001,158)		
Unfunded (Overfunded) Actuarial Accrued Liability	\$	6,020,492

### GASB 27 Information (as of 12/31/2012)

Fiscal Year Beginning		July 1, 2014
Annual Required Contribution (ARC)	\$	1,278,552 <sup>1</sup>

<sup>1</sup> Based on valuation payroll (based on projected fiscal year payroll for divisions that will have no new hires). For divisions that are open to new hires the actual required contribution will be based on current monthly payroll (during the fiscal year beginning July 1, 2014) times the computed employer contribution rate(s) shown in Table 1. The ARC shown here is the sum of the ARC's calculated separately for each division.

## **GASB 27 Information (Used in the 12/31/2012 Annual Actuarial Valuation)**

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

Amortization Factor Used - Underfunded or Overfunded Liabilities (5 years)	0.221706
Amortization Factor Used - Underfunded or Overfunded Liabilities (6 years)	0.187731
Amortization Factor Used - Underfunded or Overfunded Liabilities (7 years)	0.163488
Amortization Factor Used - Underfunded or Overfunded Liabilities (8 years)	0.145330
Amortization Factor Used - Underfunded or Overfunded Liabilities (9 years)	0.131227
Amortization Factor Used - Underfunded or Overfunded Liabilities (10 years)	0.119963
Amortization Factor Used - Underfunded or Overfunded Liabilities (11 years)	0.110763
Amortization Factor Used - Underfunded or Overfunded Liabilities (12 years)	0.103112
Amortization Factor Used - Underfunded or Overfunded Liabilities (13 years)	0.096652
Amortization Factor Used - Underfunded or Overfunded Liabilities (14 years)	0.091128
Amortization Factor Used - Underfunded or Overfunded Liabilities (15 years)	0.086353
Amortization Factor Used - Underfunded or Overfunded Liabilities (16 years)	0.082185
Amortization Factor Used - Underfunded or Overfunded Liabilities (17 years)	0.078519
Amortization Factor Used - Underfunded or Overfunded Liabilities (18 years)	0.075270
Amortization Factor Used - Underfunded or Overfunded Liabilities (19 years)	0.072372
Amortization Factor Used - Underfunded or Overfunded Liabilities (20 years)	0.069773
Amortization Factor Used - Underfunded or Overfunded Liabilities (21 years)	0.067430
Amortization Factor Used - Underfunded or Overfunded Liabilities (22 years)	0.065308
Amortization Factor Used - Underfunded or Overfunded Liabilities (23 years)	0.063378
Amortization Factor Used - Underfunded or Overfunded Liabilities (24 years)	0.061616
Amortization Factor Used - Underfunded or Overfunded Liabilities (25 years)	0.060002
Amortization Factor Used - Underfunded or Overfunded Liabilities (26 years)	0.058519

### **Amortization Factor Used to Compute the GASB Annual Required Contribution (ARC) For Divisions that are Closed to New Hires (and new hires are not covered by MERS DB or Hybrid provisions in a linked division) If Division is Less than 100% Funded, and Uses a Funding Period over 15 Years**

Amortization Factor Used - Underfunded Liabilities (30 year level \$)	0.085453
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Assumptions: Continuous Payments; Interest at 8% Per Year

## Benefit Provision History

The following benefit provision history is provided by MERS. Any corrections to this history or discrepancies between this information and information displayed elsewhere in the valuation report should be reported to MERS. All provisions are listed by date of adoption.

### 01 - NonUnion Gen

1/1/2012	Non Standard Compensation Definition
7/1/2010	Fiscal Month - July
3/1/2006	Blanket Resolution (All Service)
2/1/2006	DC Adoption Date 02-01-2006
1/1/2006	5 Year Vesting
1/1/2006	Annuity Withdrawal - MERS Rate
1/1/2006	Benefit D2 Plan
1/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2006	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
1/1/2006	Exclude Temporary Employees
1/1/2006	Benefit B-3 (80% max)
1/1/2006	Day of work defined as 150 Hours a Month for all employees
1/1/2006	Member Contribution Rate 5.00%
1/1/2006	Benefit F55 (With 25 Years of Service)
11/10/1964	Covered by Act 88

### 02 - NonUn Police

8/1/2011	3.0% Multiplier (80% max)
8/1/2011	Benefit F55 (With 10 Years of Service)
7/1/2010	Fiscal Month - July
3/1/2006	Blanket Resolution (All Service)
2/1/2006	DC Adoption Date 02-01-2006
1/1/2006	10 Year Vesting
1/1/2006	Annuity Withdrawal - MERS Rate
1/1/2006	Benefit D2 Plan
1/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2006	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
1/1/2006	DB Exempt from Social Security
1/1/2006	Exclude Temporary Employees
1/1/2006	2.75% Multiplier (80% max)
1/1/2006	Day of work defined as 150 Hours a Month for all employees
1/1/2006	Member Contribution Rate 6.00%
1/1/2006	Eligible at Age 53 (With 25 Years of Service)
11/10/1964	Covered by Act 88

### 10 - General Ret

7/1/2010	Fiscal Month - July
1/1/2009	Flexible E .5% COLA Adopted (01/01/2009)
1/1/2009	E Cola Adoption Date 01-01-2009
1/1/2009	E Cola Increase Amount .5
1/1/2009	E Cola Increase Type Percent

## Benefit Provision History

### 10 - General Ret

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	5 Year Vesting
8/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
8/1/2006	Benefit B-3 (80% max)
3/1/2006	Blanket Resolution (Generic Service)
11/10/1964	Covered by Act 88

### 11 - Clerical

1/1/2012	Non Standard Compensation Definition
7/1/2010	Fiscal Month - July
11/1/2006	DC Adoption Date 11-01-2006
10/1/2006	Benefit B-3 (80% max)
10/1/2006	Day of work defined as 150 Hours a Month for all employees
10/1/2006	Member Contribution Rate 5.00%
10/1/2006	Benefit F55 (With 30 Years of Service)
10/1/2006	5 Year Vesting
10/1/2006	Benefit D2 Plan
10/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
10/1/2006	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
10/1/2006	Blanket Resolution (All Service)
10/1/2006	Exclude Temporary Employees
11/10/1964	Covered by Act 88

### 12 - DPW 517M

1/1/2012	Non Standard Compensation Definition
7/1/2010	Fiscal Month - July
5/1/2007	DC Adoption Date 05-01-2007
4/1/2007	10 Year Vesting
4/1/2007	Benefit D2 Plan
4/1/2007	Benefit FAC-3 (3 Year Final Average Compensation)
4/1/2007	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
4/1/2007	Benefit B-3 (80% max)
4/1/2007	Day of work defined as 150 Hours a Month for all employees
4/1/2007	Member Contribution Rate 5.00%
4/1/2007	Benefit F55 (With 30 Years of Service)
3/1/2006	Blanket Resolution (Generic Service)
11/10/1964	Covered by Act 88

### 20 - PLC/Fire Ret

7/1/2010	Fiscal Month - July
1/1/2009	Flexible E .5% COLA Adopted (01/01/2009)
1/1/2009	E Cola Adoption Date 01-01-2009
1/1/2009	E Cola Increase Amount .5



## Benefit Provision History

### 20 - PLC/Fire Ret

1/1/2009	E Cola Increase Type Percent
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	10 Year Vesting
8/1/2006	Annuity Withdrawal - MERS Rate
8/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
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

### 21 - PolicePatrol

7/1/2010	Fiscal Month - July
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	10 Year Vesting
7/1/2006	Annuity Withdrawal - MERS Rate
7/1/2006	Benefit D2 Plan
7/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/2006	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
7/1/2006	DB Exempt from Social Security
7/1/2006	Exclude Temporary Employees
7/1/2006	Benefit B-4 (75% max)
7/1/2006	Day of work defined as 150 Hours a Month for all employees
7/1/2006	Member Contribution Rate 6.00%
7/1/2006	Benefit F55 (With 10 Years of Service)
7/1/2006	Eligible at Age 51 (With 25 Years of Service)
3/1/2006	Blanket Resolution (Generic Service)
11/10/1964	Covered by Act 88

### 22 - Police Comm

7/1/2010	Fiscal Month - July
1/1/2007	3.0% Multiplier (80% max)
7/1/2006	10 Year Vesting
7/1/2006	Annuity Withdrawal - MERS Rate
7/1/2006	Benefit D2 Plan
7/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/2006	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
7/1/2006	DB Exempt from Social Security
7/1/2006	Exclude Temporary Employees
7/1/2006	Benefit B-4 (80% max)
7/1/2006	Day of work defined as 150 Hours a Month for all employees
7/1/2006	Member Contribution Rate 6.00%

## Benefit Provision History

### 22 - Police Comm

7/1/2006	Benefit F55 (With 10 Years of Service)
7/1/2006	Eligible at Age 53 (With 25 Years of Service)
3/1/2006	Blanket Resolution (Generic Service)
11/10/1964	Covered by Act 88

### 50 - FF Local 370

7/1/2010	Fiscal Month - July
5/1/2007	DC Adoption Date 05-01-2007
4/1/2007	10 Year Vesting
4/1/2007	Annuity Withdrawal - MERS Rate
4/1/2007	Benefit D2 Plan
4/1/2007	Benefit FAC-3 (3 Year Final Average Compensation)
4/1/2007	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
4/1/2007	2.75% Multiplier (85% max)
4/1/2007	Day of work defined as 150 Hours a Month for all employees
4/1/2007	Member Contribution Rate 6.00%
4/1/2007	Benefit F55 (With 10 Years of Service)
4/1/2007	Eligible at Age 53 (With 25 Years of Service)
3/1/2006	Blanket Resolution (Generic Service)
11/10/1964	Covered by Act 88

## 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	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