MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

EASTPOINTE, CITY OF (5019)

Spring, 2016

Eastpointe, 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, 2015. The report includes the determination of liabilities and contribution rates resulting from the participation of Eastpointe, City of (5019) 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. Eastpointe, 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, 2015 annual actuarial valuation is to:

- Measure funding progress
- Establish contribution requirements for the fiscal year beginning January 1, 2017
- 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, 2015 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. The most recent study was completed in 2015, and this December 31, 2015 valuation report reflects changes in assumptions and methods. 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-2015AnnualActuarialValuation-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,

Cathy Nagy, MAAA, FSA
Jim Koss, MAAA, ASA
Curtis Powell, MAAA, EA
Alan Sonnanstine, MAAA, ASA

TABLE OF CONTENTS

Executive Summary

New Actuarial Assumptions and Methods

The actuarial assumptions and methods are adopted by the MERS Retirement Board, and are reviewed every five years in an Experience Study. The Experience Study is a comprehensive, detailed analysis that reviews MERS' funding policy and compares actual experience with the current actuarial assumptions; the study recommends adjustments as necessary. The most recent study was completed in 2015, and this December 31, 2015 valuation report reflects several changes in actuarial assumptions.

The main assumption and method changes were:

- The mortality table was adjusted to reflect longer lifetimes.
- The assumed annual rate of investment return, net of all expenses, was lowered from 8% to 7.75%.
- The asset smoothing was changed from 10 to 5 years.
- The amortization period was moved to a fixed period amortization for the December 31, 2014 annual valuations.
    - The period will continue to gradually decrease for both open and closed divisions until the current unfunded accrued liability (UAL) is completely paid off.
    - Moving to this type of "fixed period amortization" means that all unfunded liabilities will be fully funded by a specific date in the future.
    - Once the amortization period drops below 15 years (10 years for closed divisions), any future liability and asset gains or losses will be spread over a 15-year fixed period for open divisions and a 10-year fixed period for closed divisions — creating "layers" of UAL on an annual basis.
    - This transparent method allows tracking of what changed your UAL, and sets a fixed period in time in which that UAL change will be fully funded.

Various other actuarial assumptions were revised, but the revisions had a smaller impact than the two assumption changes above (first two bullets). For a summary of all of the actuarial assumptions and methods, please refer to the division-specific assumptions described on the last page of this report, and to the Appendix.

The new amortization period layers and the new 5-year asset smoothing do not impact this 2015 annual valuation, other than the 6 year projections. These method changes will first impact the December 31, 2016 annual valuations.

The impacts of the assumption changes on the funded ratio and the required employer contributions are displayed on the next few pages. While these changes in assumptions will mean larger liabilities and contributions than anticipated by the prior assumptions for most employers, they will ensure each employer makes reasonable progress towards funding the unfunded liabilities of the employer. When discussing changes in assumptions it is important to remember that, although the assumptions used impact the annual contributions, the true cost of the plan will be based on what will actually happen in the future – independent of the assumptions used. MERS recognizes that many municipalities are already taking steps to reduce their UAL. The MERS Board approved a "phase in" of the total impact of the assumption changes over the next 5 years (impacting fiscal years beginning 2017 – 2021) as an option for you. Of course, if the employer pays less in the first 4 years, they will likely have to pay somewhat more in later years.

MERS created a dedicated resource page on their website, www.mersofmich.com, regarding this topic, with links to frequently asked questions, upcoming events and additional details.

Impacts from the Assumption Changes

The new actuarial assumptions changed your December 31, 2015 percent funded from 56% to 54%, a change of -2%.

The new assumptions changed your total monthly employer contribution requirement, before any phase-in, from $234,022 to $259,771, a change of $25,749 (a 11% increase). Under the 5-year phase-in the first year increase is instead 2% (from $234,022 to $239,091 monthly).

Additional detail is shown on the following pages.

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 accounts 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:

For comparison purposes, we have included your December 31, 2015 funded ratio if it had been calculated under the previous assumptions. Note: Your actual funded level as of December 31, 2015 is the amount listed under the new assumptions.

	New Assumptions	Previous Assumptions	
	12/31/2015	**12/31/2015**	**12/31/2014**
Funded Ratio	54%	56%	

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 computed employer contributions are shown in the following table. Employee contributions, if any, are in addition to the computed employer contributions. Note: Your minimum required contribution is the amount listed under the new assumptions, with phase-in. For comparison purposes, we have included your computed employer contribution if it had been calculated under the previous assumptions.

	Percentage of Payroll				Monthly $ Based on Valuation Payroll			
	New Assumptions		Previous Assumptions		New Assumptions		Previous Assumptions	
	Phase-in	Full Impact			Phase-in	Full Impact		
Valuation Date:	12/31/2015	12/31/2015	12/31/2015	12/31/2014	12/31/2015	12/31/2015	12/31/2015	12/31/2014
Fiscal Year Beginning:	January 1, 2017	January 1, 2017	January 1, 2017	January 1, 2016	January 1, 2017	January 1, 2017	January 1, 2017	January 1, 2016
Division								
01 - General Retiree	-	-	-		$ 57,792	$ 65,076	$ 55,971	$
02 - Police Retirees	-	-	-		57,833	63,825	56,336	
05 - Fire Retirees	-	-	-		33,862	37,450	32,967	
11 - Gnrl btwn 1/1/92 - 1/1	-	-	-		3,346	3,614	3,277	
12 - Gnrl btwn 1/1/98 - 1/1	-	-	-		14,164	14,948	13,966	
14 - General after 1/1/13	4.95%	5.05%	4.92%		2,742	2,798	2,726	
20 - Police w>20yrs svc 6/3	-	-	-		10,528	11,212	10,359	
21 - Police w<20yrs svc 6/3	-	-	-		34,686	35,818	34,402	
22 - Police after 7/1/12	5.58%	5.58%	5.72%		1,869	1,869	1,915	
51 - Fire w>20yrs svc 6/30/	-	-	-		0	0	0	
52 - Fire w<20yrs svc 6/30/	-	-	-		20,543	21,435	20,320	
53 - Fire after 7/1/11	5.69%	5.69%	5.88%		1,726	1,726	1,783	
Municipality Total					**$ 239,091**	**$ 259,771**	**$ 234,022**	**$**

Under the new assumptions, both the full impact and the phased in employer contribution requirements are shown in the table above. The phase in allows the employer to spread the increase of the new actuarial assumptions over 5 fiscal years. By default, MERS will invoice you the phased in contribution amount. However, MERS strongly encourages employers to contribute more than the minimum required contribution, including paying the full amount of the impact of the changes, if possible.

Employee contribution rates reflected in the valuations are shown below:

	Employee Contribution Rate	
Valuation Date:	12/31/2015	12/31/2014
Division		
01 - General Retiree	0.00%	0.00%
02 - Police Retirees	0.00%	0.00%
05 - Fire Retirees	0.00%	0.00%
11 - Gnrl btwn 1/1/92 - 1/1	0.00%	0.00%

	Employee Contribution Rate	
Valuation Date:	12/31/2015	12/31/2014
Division		
12 - Gnrl btwn 1/1/98 - 1/1	0.00%	0.00%
14 - General after 1/1/13	0.00%	0.00%
20 - Police w>20yrs svc 6/3	5.00%	0.00%
21 - Police w<20yrs svc 6/3	0.00%	0.00%
22 - Police after 7/1/12	0.00%	0.00%
51 - Fire w>20yrs svc 6/30/	5.00%	0.00%
52 - Fire w<20yrs svc 6/30/	5.00%	0.00%
53 - Fire after 7/1/11	0.00%	0.00%

The employer may contribute more than the minimum required contributions, as these additional contributions will earn investment income and may result in lower future contribution requirements. **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 $ 439,694, instead of $ 259,771.
- To accelerate to a 100% funding ratio in 20 years, estimated monthly employer contributions for the entire employer would be $ 281,023, instead of $ 259,771.

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 Asset Smoothing

The actuarial value of assets, used to determine both your funded ratio and your required employer contribution, is based on a smoothed value of assets (10-year smoothing prior to 2016; 5-year smoothing beginning in 2016). A smoothing method reduces the volatility of the valuation results, which affects your required employer contribution and funded ratio. The smoothed actuarial rate of return for 2015 was 5.21%.

As of December 31, 2015 the actuarial value of assets is 113% of market value. This means that meeting the actuarial assumption in the next few years will require average annual market returns that exceed the 7.75% investment return assumption.

If the December 31, 2015 valuation results were based on market value on that date instead of smoothed funding value: i) the funded percent of your entire municipality would be 48% (instead of 54%); and ii) your total employer contribution requirement for the fiscal year starting January 1, 2017 would be $ 3,492,912 (instead of $ 3,117,252).

The asset smoothing method is a powerful tool for reducing the volatility of your required employer contributions. **However, if the current 13% 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 2020.

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, 2015 valuation, and are for the municipality in total, not by division. These results do not reflect a 5-year phase in of the impact of the new actuarial assumptions.

	Assumed Future Annual Smoothed Rate of Investment Return			
	Lower Future Annual Returns		**Valuation Assumption**	**Higher Returns**
12/31/2015 Valuation Results	**5.75%**	**6.75%**	**7.75%**	**8.75%**
Accrued Liability	$ 100,559,088	$ 90,366,276	$ 81,809,456	$ 74,561,662
Valuation Assets	$ 44,103,513	$ 44,103,513	$ 44,103,513	$ 44,103,513
Unfunded Accrued Liability	$ 56,455,575	$ 46,262,763	$ 37,705,943	$ 30,458,149
Funded Ratio	44%	49%	54%	59%
Monthly Normal Cost	$ 86,187	$ 66,591	$ 51,404	$ 39,537
Monthly Amortization Payment	$ 260,106	$ 234,183	$ 207,980	$ 181,319
Total Employer Contribution[1]	$ 346,293	$ 300,774	$ 259,771	$ 222,689

[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.

Six Year Projection Scenarios

The table on the following page illustrates the plan's projected liabilities and computed employer contributions for the next six fiscal years, under the new actuarial assumptions and under three future economic/assumption scenarios. All four projections take into account the past financial losses that will continue to affect the smoothed rate of return for the next four years. Under the 7.75% scenarios, two sets of projections are shown:

- Based on the phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. This projects your minimum required contribution.
- Based on no phase-in of the increased contribution requirements.

The 7.75% scenarios provide an estimate of computed employer contributions based on current actuarial assumptions, and a projected 7.75% market return. The other two scenarios may be useful if the municipality chooses to budget more conservatively, and make contributions in addition to the minimum requirements. The 6.75% and 5.75% projections provide an indication of the potential required employer contribution if MERS were to realize investment returns of 6.75% and 5.75% over the long-term.

Valuation Year Ending 12/31	Fiscal Year Beginning 1/1	Actuarial Accrued Liability	Valuation Assets	Funded Percentage	Computed Annual Employer Contribution
7.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
WITH 5-YEAR PHASE-IN					
2015	2017	$ 81,809,456	$ 44,103,513	54%	$ 2,869,092
2016	2018	82,371,244	42,742,134	52%	3,238,176
2017	2019	82,998,998	41,095,987	50%	3,636,504
2018	2020	83,635,112	39,745,670	48%	4,063,320
2019	2021	84,267,742	38,715,490	46%	4,530,480
2020	2022	84,854,819	39,113,212	46%	4,893,612
NO 5-YEAR PHASE-IN					
2015	2017	$ 81,809,456	$ 44,103,513	54%	$ 3,117,252
2016	2018	82,371,244	42,742,134	52%	3,406,332
2017	2019	82,998,998	41,373,163	50%	3,725,616
2018	2020	83,635,112	40,217,728	48%	4,077,732
2019	2021	84,267,742	39,301,745	47%	4,474,920
2020	2022	84,854,819	39,757,096	47%	4,833,396
6.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
NO 5-YEAR PHASE-IN					
2015	2017	$ 90,366,276	$ 44,103,513	49%	$ 3,609,288
2016	2018	90,900,245	42,329,164	47%	3,912,876
2017	2019	91,496,664	41,087,921	45%	4,247,112
2018	2020	92,095,871	40,069,729	44%	4,619,868
2019	2021	92,685,112	39,293,162	42%	5,053,740
2020	2022	93,220,883	39,953,428	43%	5,449,632
5.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
NO 5-YEAR PHASE-IN					
2015	2017	$ 100,559,088	$ 44,103,513	44%	$ 4,155,516
2016	2018	101,039,359	41,916,028	42%	4,479,468
2017	2019	101,578,899	40,864,865	40%	4,832,916
2018	2020	102,115,669	40,049,457	39%	5,229,792
2019	2021	102,635,923	39,477,384	39%	5,685,108
2020	2022	103,094,568	40,230,642	39%	6,138,048

Employer Contribution Details (Without a 5-year Phase-In)
For the Fiscal Year Beginning January 1, 2017

Table 1

Division	Amort. Period for Unfund. Liab.[4,5]	Employer Contributions[1] Normal Cost	Unfunded Accrued Liability	Total Computed Employer Contribut.	Blended Employer Contribut.[6]	Employee Contribution Rate	Employee Contribut. Conversion Factor[2]
Percentage of Payroll							
01 - General Retiree	23	-	-	-		0.00%	
02 - Police Retirees	23	-	-	-		0.00%	
05 - Fire Retirees	23	-	-	-		0.00%	
11 - Gnrl btwn 1/1/92 -	24	-	-	-	10.25%	0.00%	
12 - Gnrl btwn 1/1/98 -	24	-	-	-	10.25%	0.00%	
14 - General after 1/1/	24	4.99%	0.06%	5.05%	10.25%	0.00%	0.82%
20 - Police w>20yrs svc	24	-	-	-	18.99%	5.00%	
21 - Police w<20yrs svc	24	-	-	-	18.99%	0.00%	
22 - Police after 7/1/1	24	5.44%	0.14%	5.58%	18.99%	0.00%	0.94%
51 - Fire w>20yrs svc 6	24	-	-	-	15.61%	5.00%	
52 - Fire w<20yrs svc 6	24	-	-	-	15.61%	5.00%	
53 - Fire after 7/1/11	24	6.00%	-0.31%	5.69%	15.61%	0.00%	0.94%
Estimated Monthly Contribution[3]							
01 - General Retiree	23	$ 0	$ 65,076	$ 65,076			
02 - Police Retirees	23	0	63,825	63,825			
05 - Fire Retirees	23	0	37,450	37,450			
11 - Gnrl btwn 1/1/92 -	24	1,019	2,595	3,614			
12 - Gnrl btwn 1/1/98 -	24	7,409	7,539	14,948			
14 - General after 1/1/	24	2,765	33	2,798			
20 - Police w>20yrs svc	24	7,168	4,044	11,212			
21 - Police w<20yrs svc	24	18,799	17,019	35,818			
22 - Police after 7/1/1	24	1,822	47	1,869			
51 - Fire w>20yrs svc 6	24	1,918	(2,305)	0			
52 - Fire w<20yrs svc 6	24	8,684	12,751	21,435			
53 - Fire after 7/1/11	24	1,820	(94)	1,726			
Total Municipality		**$ 51,404**	**$ 207,980**	**$ 259,771**			
Estimated Annual Contribution[3]		**$ 616,848**	**$ 2,495,760**	**$ 3,117,252**			

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 projected fiscal year payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts. For divisions that will have no new hires, invoices will be based on the above dollar amounts which are based on projected fiscal year payroll. See description of Open Divisions and Closed Divisions in the Appendix.

4 If projected assets exceed projected liabilities as of the beginning of the January 1, 2017 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 3.75% 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 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.

Note that the Employer Contribution Details shown in Table 1 do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 1 above. The contribution requirements including the 5-year phase-in are shown on page 8.

Please see the Comments on Asset Smoothing.

Benefit Provisions

Table 2

01 - General Retiree: Closed to new hires

	2015 Valuation	2014 Valuation
Benefit Multiplier:	Old Plan Benefits	-
Normal Retirement Age:	-	-
Vesting:	-	-
Early Retirement (Unreduced):	-	-
Early Retirement (Reduced):	-	-
Final Average Compensation:	-	-
Employee Contributions:	-	-
Act 88:	No	

02 - Police Retirees: Closed to new hires

	2015 Valuation	2014 Valuation
Benefit Multiplier:	Old Plan Benefits	-
Normal Retirement Age:	-	-
Vesting:	-	-
Early Retirement (Unreduced):	-	-
Early Retirement (Reduced):	-	-
Final Average Compensation:	-	-
Employee Contributions:	-	-
Act 88:	No	

05 - Fire Retirees: Closed to new hires

	2015 Valuation	2014 Valuation
Benefit Multiplier:	Old Plan Benefits	-
Normal Retirement Age:	-	-
Vesting:	-	-
Early Retirement (Unreduced):	-	-
Early Retirement (Reduced):	-	-
Final Average Compensation:	-	-
Employee Contributions:	-	-
Act 88:	No	

Table 2 (continued)

11 - Gnrl btwn 1/1/92 - 1/1/98: Closed to new hires, linked to Division 14

	2015 Valuation	2014 Valuation
Benefit Multiplier:	Before SSAge: 2.8% for service before 12/31/12; 1.0% for service after 12/31/12 (Termination FAC). After SSAge: 2.38% for service before 12/31/12; 1.0% for service after 12/31/12 (Termination FAC)	-
Normal Retirement Age:	60	-
Vesting:	10 years	-
Early Retirement (Unreduced):	55/25	-
Early Retirement (Reduced):	50/25 55/15	-
Final Average Compensation:	3 years	-
Employee Contributions:	0%	-
Act 88:	No	

12 - Gnrl btwn 1/1/98 - 1/1/13: Closed to new hires, linked to Division 14

	2015 Valuation	2014 Valuation
Benefit Multiplier:	Before SSAge: 2.8% for service before 12/31/12; 1.0% for service after 12/31/12 (Termination FAC). After SSAge: 2.38% for service before 12/31/12; 1.0% for service after 12/31/12 (Termination FAC)	-
Normal Retirement Age:	60	-
Vesting:	10 years	-
Early Retirement (Unreduced):	57/25	-
Early Retirement (Reduced):	50/25 55/15	-
Final Average Compensation:	3 years	-
Employee Contributions:	0%	-
Act 88:	No	

14 - General after 1/1/13: Open Division, linked to Division 11, 12

	2015 Valuation	2014 Valuation
Benefit Multiplier:	1.00% Multiplier (no max)	-
Normal Retirement Age:	60	-
Vesting:	10 years	-
Early Retirement (Unreduced):	57/25	-
Early Retirement (Reduced):	50/25 55/15	-
Final Average Compensation:	3 years	-
Employee Contributions:	0%	-
Act 88:	No	

Table 2 (continued)

20 - Police w>20yrs svc 6/30/14: Closed to new hires, linked to Division 22

	2015 Valuation	2014 Valuation
Benefit Multiplier:	Before SSAge: 2.8% for first 25 years of service; 1.0% for service over 25 years (75% max). After SSAge: 2.38% (75% max)	-
Normal Retirement Age:	55	-
Vesting:	10 years	-
Early Retirement (Unreduced):	50/25	-
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	-
Employee Contributions:	5%	-
Act 88:	No	

21 - Police w<20yrs svc 6/30/14: Closed to new hires, linked to Division 22

	2015 Valuation	2014 Valuation
Benefit Multiplier:	Bridged Benefit: 2.80% Multiplier (no max) Termination FAC; to 1.80% Multiplier (no max)	-
Bridged Benefit Date:	07/01/2014	
Normal Retirement Age:	55	-
Vesting:	10 years	-
Early Retirement (Unreduced):	50/25 55/10	-
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	-
Employee Contributions:	0%	-
Act 88:	No	

22 - Police after 7/1/12: Open Division, linked to Division 20, 21

	2015 Valuation	2014 Valuation
Benefit Multiplier:	1.00% Multiplier (no max)	-
Normal Retirement Age:	55	-
Vesting:	10 years	-
Early Retirement (Unreduced):	50/25 55/10	-
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	-
Employee Contributions:	0%	-
Act 88:	No	

Table 2 (continued)

51 - Fire w>20yrs svc 6/30/14: Closed to new hires, linked to Division 53

	2015 Valuation	2014 Valuation
Benefit Multiplier:	Before SSAge: 2.8% for first 25 years of service; 1.0% for service over 25 years (75% max). After SSAge: 2.38% (75% max)	-
Normal Retirement Age:	55	-
Vesting:	10 years	-
Early Retirement (Unreduced):	50/25	-
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	-
Employee Contributions:	5%	-
Act 88:	No	

52 - Fire w<20yrs svc 6/30/14: Closed to new hires, linked to Division 53

	2015 Valuation	2014 Valuation
Benefit Multiplier:	Bridged Benefit: 2.80% Multiplier (no max) Termination FAC; to 2.00% Multiplier (no max)	-
Bridged Benefit Date:	07/01/2014	
Normal Retirement Age:	55	-
Vesting:	10 years	-
Early Retirement (Unreduced):	50/25 55/10	-
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	-
Employee Contributions:	5%	-
Act 88:	No	

53 - Fire after 7/1/11: Open Division, linked to Division 51, 52

	2015 Valuation	2014 Valuation
Benefit Multiplier:	1.00% Multiplier (no max)	-
Normal Retirement Age:	55	-
Vesting:	10 years	-
Early Retirement (Unreduced):	50/25 55/10	-
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	-
Employee Contributions:	0%	-
Act 88:	No	

Participant Summary

Table 3

Division	2015 Valuation Number	2015 Valuation Annual Payroll[1]	2014 Valuation Number	2014 Valuation Annual Payroll[1]	2015 Valuation Average Age	Average Benefit Service[2]	Average Eligibility Service[2]
01 - General Retiree							
Active Employees	0	$ 0		$	0.0	0.0	0.0
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	115	2,811,039			71.2		
02 - Police Retirees							
Active Employees	0	$ 0		$	0.0	0.0	0.0
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	64	2,189,928			66.1		
05 - Fire Retirees							
Active Employees	0	$ 0		$	0.0	0.0	0.0
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	33	1,277,608			67.8		
11 - Gnrl btwn 1/1/92 - 1							
Active Employees	5	$ 258,898		$	50.5	20.2	20.2
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	0	0			0.0		
12 - Gnrl btwn 1/1/98 - 1							
Active Employees	32	$ 1,625,061		$	49.6	11.9	12.6
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	0	0			0.0		
14 - General after 1/1/13							
Active Employees	10	$ 440,253		$	43.1	0.9	0.9
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	0	0			0.0		
20 - Police w>20yrs svc 6							
Active Employees	8	$ 705,926		$	48.7	17.4	17.4
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	0	0			0.0		
21 - Police w<20yrs svc 6							
Active Employees	22	$ 1,886,034		$	41.5	14.1	14.1
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	0	0			0.0		
22 - Police after 7/1/12							
Active Employees	5	$ 279,182		$	29.1	0.8	0.8
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	0	0			0.0		

Table 3 (continued)

Division	2015 Valuation Number	2015 Valuation Annual Payroll[1]	2014 Valuation Number	2014 Valuation Annual Payroll[1]	2015 Valuation Average Age	2015 Valuation Average Benefit Service[2]	2015 Valuation Average Eligibility Service[2]
51 - Fire w>20yrs svc 6/3							
Active Employees	2	$ 206,776		$	51.8	12.0	12.0
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	0	0			0.0		
52 - Fire w<20yrs svc 6/3							
Active Employees	14	$ 1,224,431		$	43.8	14.4	14.4
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	0	0			0.0		
53 - Fire after 7/1/11							
Active Employees	6	$ 276,526		$	27.0	0.4	0.4
Vested Former Employees	0	0			0.0	0.0	0.0
Retirees and Beneficiaries	0	0			0.0		
Total Municipality							
Active Employees	**104**	**$ 6,903,087**		**$**	**44.2**	**11.3**	**11.5**
Vested Former Employees	**0**	**0**			**0.0**	**0.0**	**0.0**
Retirees and Beneficiaries	**212**	**6,278,575**			**69.1**		
Total Participants	**316**						

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	2015 Valuation Employer and Retiree[1]	2015 Valuation Employee[2]	2014 Valuation Employer and Retiree[1]	2014 Valuation Employee[2]
01 - General Retiree	$ 14,180,401	$ 0	$	$
02 - Police Retirees	9,641,853	0		
05 - Fire Retirees	5,241,267	0		
11 - Gnrl btwn 1/1/92 - 1/1/98	411,163	0		
12 - Gnrl btwn 1/1/98 - 1/1/13	1,401,137	0		
14 - General after 1/1/13	14,523	0		
20 - Police w>20yrs svc 6/30/14	2,237,767	17,114		
21 - Police w<20yrs svc 6/30/14	2,936,202	0		
22 - Police after 7/1/12	14,917	0		
51 - Fire w>20yrs svc 6/30/14	820,848	5,101		
52 - Fire w<20yrs svc 6/30/14	1,880,945	29,581		
53 - Fire after 7/1/11	11,829	0		
Municipality Total	**$ 38,792,852**	**$ 51,796**	**$**	**$**
Combined Reserves	**$ 38,844,648**			

[1] Reserve for Employer Contributions and Benefit Payments

[2] Reserve for Employee Contributions

The December 31, 2015 valuation assets are equal to 1.135382 times the reported market value of assets (compared to 1.059937 as of December 31, 2014). 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						
2015	$ 43,570,569	0	$ 51,796	$ 3,645,018	$ (3,163,870)	$ 0	$ 0	$ 44,103,513

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.

The investment income column reflects the recognized investment income based on the smoothed value of assets. It does not reflect the market value investment return in any given year.

Actuarial Accrued Liabilities and Valuation Assets
As of December 31, 2015

Table 6

Division	Actuarial Accrued Liability	Valuation Assets[1]	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
01 - General Retiree				
Active Employees	$ 0	$ 0	0.0%	$ 0
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	27,777,940	16,100,172	58.0%	11,677,768
Pending Refunds	0	0	0.0%	0
Total	**$ 27,777,940**	**$ 16,100,172**	**58.0%**	**$ 11,677,768**
02 - Police Retirees				
Active Employees	$ 0	$ 0	0.0%	$ 0
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	22,400,403	10,947,186	48.9%	11,453,217
Pending Refunds	0	0	0.0%	0
Total	**$ 22,400,403**	**$ 10,947,186**	**48.9%**	**$ 11,453,217**
05 - Fire Retirees				
Active Employees	$ 0	$ 0	0.0%	$ 0
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	12,671,189	5,950,840	47.0%	6,720,349
Pending Refunds	0	0	0.0%	0
Total	**$ 12,671,189**	**$ 5,950,840**	**47.0%**	**$ 6,720,349**
11 - Gnrl btwn 1/1/92 - 1/1/98				
Active Employees	$ 943,228	$ 466,827	49.5%	$ 476,401
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 943,228**	**$ 466,827**	**49.5%**	**$ 476,401**
12 - Gnrl btwn 1/1/98 - 1/1/13				
Active Employees	$ 2,974,907	$ 1,590,826	53.5%	$ 1,384,081
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 2,974,907**	**$ 1,590,826**	**53.5%**	**$ 1,384,081**
14 - General after 1/1/13				
Active Employees	$ 22,845	$ 16,489	72.2%	$ 6,356
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 22,845**	**$ 16,489**	**72.2%**	**$ 6,356**

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets[1]	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
20 - Police w>20yrs svc 6/30/14				
Active Employees	$ 3,299,737	$ 2,560,151	77.6%	$ 739,586
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 3,299,737**	**$ 2,560,151**	**77.6%**	**$ 739,586**
21 - Police w<20yrs svc 6/30/14				
Active Employees	$ 6,470,031	$ 3,333,711	51.5%	$ 3,136,320
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 6,470,031**	**$ 3,333,711**	**51.5%**	**$ 3,136,320**
22 - Police after 7/1/12				
Active Employees	$ 25,853	$ 16,936	65.5%	$ 8,917
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 25,853**	**$ 16,936**	**65.5%**	**$ 8,917**
51 - Fire w>20yrs svc 6/30/14				
Active Employees	$ 703,842	$ 937,768	133.2%	$ (233,926)
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 703,842**	**$ 937,768**	**133.2%**	**$ (233,926)**
52 - Fire w<20yrs svc 6/30/14				
Active Employees	$ 4,515,812	$ 2,169,177	48.0%	$ 2,346,635
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 4,515,812**	**$ 2,169,177**	**48.0%**	**$ 2,346,635**
53 - Fire after 7/1/11				
Active Employees	$ 3,669	$ 13,430	366.0%	$ (9,761)
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 3,669**	**$ 13,430**	**366.0%**	**$ (9,761)**
Total Municipality				
Active Employees	**$ 18,959,924**	**$ 11,105,315**	**58.6%**	**$ 7,854,609**
Vested Former Employees	**0**	**0**	**0.0%**	**0**
Retirees and Beneficiaries	**62,849,532**	**32,998,198**	**52.5%**	**29,851,334**
Pending Refunds	**0**	**0**	**0.0%**	**0**
Total Participants	**$ 81,809,456**	**$ 44,103,513**	**53.9%**	**$ 37,705,943**

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets[1]	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
The following results show the combined accrued liabilities and assets for each set of linked divisions. These results are already included in the table above.				
Linked Divisions 14, 11, 12				
Active Employees	$ 3,940,980	$ 2,074,142	52.6%	$ 1,866,838
Vested Former Employees	0	0	0.0%	0
Retirees and Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 3,940,980**	**$ 2,074,142**	**52.6%**	**$ 1,866,838**
Linked Divisions 22, 20, 21				
Active Employees	$ 9,795,621	$ 5,910,798	60.3%	$ 3,884,823
Vested Former Employees	0	0	0.0%	0
Retirees and Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 9,795,621**	**$ 5,910,798**	**60.3%**	**$ 3,884,823**
Linked Divisions 53, 51, 52				
Active Employees	$ 5,223,323	$ 3,120,375	59.7%	$ 2,102,948
Vested Former Employees	0	0	0.0%	0
Retirees and Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 5,223,323**	**$ 3,120,375**	**59.7%**	**$ 2,102,948**

1 Includes both employer and employee assets.

Please see the Comments on Asset Smoothing.

See the MERS Fiscal Responsibility Policy on the MERS website at:
http://www.mersofmich.com/Portals/0/Assets/PageResources/MERS/PlanDocument/Pension/MERSPlanDocument_Section46.pdf .

Actuarial Accrued Liabilities - Comparative Schedule

Table 7

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 81,809,456	$ 44,103,513	54%	$ 37,705,943

Notes: Actuarial assumptions were revised for the 2004, 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Division 01 - General Retiree

Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 27,777,940	$ 16,100,172	58%	$ 11,677,768

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-01: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2015	0	$ 0	$ 65,076	0.00%

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

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 02 - Police Retirees

Table 8-02: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 22,400,403	$ 10,947,186	49%	$ 11,453,217

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-02: Computed Employer Contributions - Comparative Schedule

Valuation Date	Active Employees		Computed Employer	Employee Contribution
December 31	Number	Annual Payroll	Contribution[1]	Rate[2]
2015	0	$ 0	$ 63,825	0.00%

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

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 05 - Fire Retirees

Table 8-05: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 12,671,189	$ 5,950,840	47%	$ 6,720,349

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-05: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2015	0	$ 0	$ 37,450	0.00%

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

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 11 - Gnrl btwn 1/1/92 - 1/1/98

Table 8-11: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 943,228	$ 466,827	50%	$ 476,401

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-11: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2015	5	$ 258,898	$ 3,614	0.00%

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

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 12 - Gnrl btwn 1/1/98 - 1/1/13

Table 8-12: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 2,974,907	$ 1,590,826	54%	$ 1,384,081

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-12: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2015	32	$ 1,625,061	$ 14,948	0.00%

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

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 14 - General after 1/1/13

Table 8-14: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 22,845	$ 16,489	72%	$ 6,356

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-14: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2015	10	$ 440,253	5.05%	0.00%

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

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 20 - Police w>20yrs svc 6/30/14

Table 8-20: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 3,299,737	$ 2,560,151	78%	$ 739,586

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-20: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2015	8	$ 705,926	$ 11,212	5.00%

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

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 21 - Police w<20yrs svc 6/30/14

Table 8-21: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 6,470,031	$ 3,333,711	52%	$ 3,136,320

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-21: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2015	22	$ 1,886,034	$ 35,818	0.00%

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

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 22 - Police after 7/1/12

Table 8-22: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 25,853	$ 16,936	66%	$ 8,917

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-22: Computed Employer Contributions - Comparative Schedule

Valuation Date	Active Employees		Computed Employer	Employee Contribution
December 31	Number	Annual Payroll	Contribution[1]	Rate[2]
2015	5	$ 279,182	5.58%	0.00%

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

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 51 - Fire w>20yrs svc 6/30/14

Table 8-51: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 703,842	$ 937,768	133%	$ (233,926)

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-51: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2015	2	$ 206,776	$ 0	5.00%

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

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 52 - Fire w<20yrs svc 6/30/14

Table 8-52: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 4,515,812	$ 2,169,177	48%	$ 2,346,635

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-52: Computed Employer Contributions - Comparative Schedule

Valuation Date	Active Employees		Computed Employer	Employee Contribution
December 31	Number	Annual Payroll	Contribution[1]	Rate[2]
2015	14	$ 1,224,431	$ 21,435	5.00%

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

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 53 - Fire after 7/1/11

Table 8-53: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	$ 3,669	$ 13,430	366%	$ (9,761)

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.

Table 9-53: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2015	6	$ 276,526	5.69%	0.00%

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

[2] For each valuation year, the computed employer contribution is based on the employee rate. If the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

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:		12/31/2015
Measurement Date of Total Pension Liability (TPL):		12/31/2015
At 12/31/2015, the following employees were covered by the benefit terms:		
Inactive employees or beneficiaries currently receiving benefits:		212
Inactive employees entitled to but not yet receiving benefits:		0
Active employees:		104
		316
Total Pension Liability as of 12/31/2014 measurement date:	$	
Total Pension Liability as of 12/31/2015 measurement date:	$	79,885,732
Service Cost for the year ending on the 12/31/2015 measurement date:	$	652,628
Change in the Total Pension Liability due to:		
- Benefit changes[1]:	$	0
- Differences between expected and actual experience[2]:	$	
- Changes in assumptions[2]:	$	0

[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.

Average expected remaining service lives of all employees (active and inactive):		4
Covered employee payroll: (Needed for Required Supplementary Information)	$	6,903,087

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

	1% Decrease (7.00%)	Current Discount Rate (8.00%)	1% Increase (9.00%)
Change in Net Pension Liability as of 12/31/2015:	$ 8,202,226	-	$ (6,962,363)

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

GASB 68 Information

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

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

Actuarial Valuation Date:		12/31/2015
Measurement Date of Total Pension Liability (TPL):		12/31/2016
At 12/31/2015, the following employees were covered by the benefit terms:		
Inactive employees or beneficiaries currently receiving benefits:		212
Inactive employees entitled to but not yet receiving benefits:		0
Active employees:		104
		316
Total Pension Liability as of 12/31/2015 measurement date:	$	
Total Pension Liability as of 12/31/2016 measurement date:	$	80,442,904
Service Cost for the year ending on the 12/31/2016 measurement date:	$	663,716
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

[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.

Average expected remaining service lives of all employees (active and inactive):		4
Covered employee payroll: (Needed for Required Supplementary Information)	$	6,903,087

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

	1% Decrease (7.00%)	Current Discount Rate (8.00%)	1% Increase (9.00%)
Change in Net Pension Liability as of 12/31/2016:	$ 8,178,067	-	$ (6,954,307)

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

Benefit Provision History

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

01 - General Retiree

6/1/2014	Fiscal Month - January

02 - Police Retirees

6/1/2014	Fiscal Month - January

05 - Fire Retirees

6/1/2014	Fiscal Month - January

11 - Gnrl btwn 1/1/92 - 1/1/98

7/1/2015	Benefit F55 (With 25 Years of Service)
7/1/2015	Participant Contribution Rate 0%
6/1/2015	Day of work defined as 8 Hours a Day for All employees.
6/1/2015	Exclude Service Credit Purchases
6/1/2015	Benefit FAC-3 (3 Year Final Average Compensation)
6/1/2015	10 Year Vesting
6/1/2015	1.0% multiplier (80% max)
6/1/2014	Fiscal Month - January

12 - Gnrl btwn 1/1/98 - 1/1/13

6/1/2015	Day of work defined as 8 Hours a Day for All employees.
6/1/2015	Benefit FAC-3 (3 Year Final Average Compensation)
6/1/2015	Non Standard Compensation Definition
6/1/2015	10 Year Vesting
6/1/2015	1.0% multiplier (80% max)
6/1/2015	Eligible at Age 57 (With 25 Years of Service)
6/1/2015	Participant Contribution Rate 0%
6/1/2014	Fiscal Month - January

14 - General after 1/1/13

6/1/2015	Day of work defined as 8 Days a Day for All employees.
6/1/2015	Exclude Service Credit Purchases
6/1/2015	Benefit FAC-3 (3 Year Final Average Compensation)
6/1/2015	10 Year Vesting
6/1/2015	1.0% multiplier
6/1/2015	Eligible at Age 57 (With 25 Years of Service)
6/1/2015	Participant Contribution Rate 0%
6/1/2014	Fiscal Month - January

20 - Police w>20yrs svc 6/30/14

6/1/2015	Day of work defined as 8 Days a Day for All employees.
6/1/2015	Exclude Service Credit Purchases
6/1/2015	Benefit FAC-3 (highest 36 from 1/1/2008 to term)
6/1/2015	Benefit FAC-3 (3 Year Final Average Compensation)
6/1/2015	10 Year Vesting
6/1/2015	2.8%<25 yrs 1%>25yrs SS age recalc 2.38% (75% max)
6/1/2015	Benefit F55 (With 25 Years of Service)
6/1/2015	Benefit F55 (With 10 Years of Service)
6/1/2015	Participant Contribution Rate 5%
6/1/2014	Fiscal Month - January

21 - Police w<20yrs svc 6/30/14

7/1/2014	Current FAC
7/1/2014	1.8% multiplier
6/1/2014	Day of work defined as 8 Hours a Day for All employees.
6/1/2014	Exclude Service Credit Purchases
6/1/2014	Benefit FAC-3 (3 Year Final Average Compensation)
6/1/2014	10 Year Vesting
6/1/2014	2.8% multiplier
6/1/2014	Benefit F50 (With 25 Years of Service)
6/1/2014	Benefit F55 (With 10 Years of Service)
6/1/2014	Participant Contribution Rate 0%
6/1/2014	Fiscal Month - January

22 - Police after 7/1/12

6/1/2015	Day of work defined as 8 Hours a Day for All employees.
6/1/2015	Exclude Service Credit Purchases
6/1/2015	Benefit FAC-3 (3 Year Final Average Compensation)
6/1/2015	10 Year Vesting
6/1/2015	1.0% multiplier
6/1/2015	Benefit F50 (With 25 Years of Service)
6/1/2015	Benefit F55 (With 10 Years of Service)
6/1/2015	Participant Contribution Rate 0%
6/1/2014	Fiscal Month - January

51 - Fire w>20yrs svc 6/30/14

6/1/2015	Day of work defined as 8 Hours a Day for All employees.
6/1/2015	Exclude Service Credit Purchases
6/1/2015	Benefit FAC-3 (3 Year Final Average Compensation)
6/1/2015	10 Year Vesting
6/1/2015	2.8%<25 yrs 1%>25yrs SS age recalc 2.38% (75% max)
6/1/2015	Benefit F50 (With 25 Years of Service)
6/1/2015	Benefit F55 (With 10 Years of Service)
6/1/2015	Participant Contribution Rate 5%
6/1/2014	Fiscal Month - January

52 - Fire w<20yrs svc 6/30/14

7/1/2014	Current FAC
7/1/2014	2.0% multiplier (80% max)
6/1/2014	Day of work defined as 8 Hours a Day for All employees.
6/1/2014	Exclude Service Credit Purchases
6/1/2014	Benefit FAC-3 (3 Year Final Average Compensation)
6/1/2014	10 Year Vesting
6/1/2014	2.8% multiplier
6/1/2014	Benefit F50 (With 25 Years of Service)
6/1/2014	Benefit F55 (With 10 Years of Service)
6/1/2014	Participant Contribution Rate 5%
6/1/2014	Fiscal Month - January

53 - Fire after 7/1/11

6/1/2015	Day of work defined as 8 Hours a Day for All employees.
6/1/2015	Exclude Service Credit Purchases
6/1/2015	Benefit FAC-3 (3 Year Final Average Compensation)
6/1/2015	10 Year Vesting
6/1/2015	1.0% multiplier
6/1/2015	Benefit F50 (With 25 Years of Service)
6/1/2015	Benefit F55 (With 10 Years of Service)
6/1/2015	Participant Contribution Rate 0%
6/1/2014	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
11 - Gnrl btwn 1/1/92 - 1/1/	0.00%
12 - Gnrl btwn 1/1/98 - 1/1/	0.00%
14 - General after 1/1/13	0.00%
20 - Police w>20yrs svc 6/30	7.70%
21 - Police w<20yrs svc 6/30	7.70%
22 - Police after 7/1/12	0.00%
51 - Fire w>20yrs svc 6/30/1	7.70%
52 - Fire w<20yrs svc 6/30/1	7.70%
53 - Fire after 7/1/11	0.00%

Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
11 - Gnrl btwn 1/1/92 - 1/1/	75%
12 - Gnrl btwn 1/1/98 - 1/1/	75%
14 - General after 1/1/13	75%
20 - Police w>20yrs svc 6/30	50%
21 - Police w<20yrs svc 6/30	50%
22 - Police after 7/1/12	50%
51 - Fire w>20yrs svc 6/30/1	40%
52 - Fire w<20yrs svc 6/30/1	40%
53 - Fire after 7/1/11	40%

Miscellaneous and Technical Assumptions

Loads – None.

Amortization Policy for Closed Divisions

Closed Division	Amortization Option
All Closed Divisions	Option A