MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

MADISON HEIGHTS, CITY OF (6308)

Spring, 2016

Madison Heights, 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 Madison Heights, City of (6308) 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. Madison Heights, 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 July 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 68% to 64%, a change of -4%.

The new assumptions changed your total monthly employer contribution requirement, before any phase-in, from $110,518 to $129,093, a change of $18,575 (a 17% increase). Under the 5-year phase-in the first year increase is instead 3% (from $110,518 to $114,237 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	64%	68%	68%

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

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

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

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

Your Required Employer Contributions:

Your 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:	July 1, 2017	July 1, 2017	July 1, 2017	July 1, 2016	July 1, 2017	July 1, 2017	July 1, 2017	July 1, 2016
Division								
01 - Non-Union and Departme	-	-	-	-	$ 42,458	$ 46,422	$ 41,468	$ 40,155
10 - Gnrl Crth	-	-	-	-	6,235	7,227	5,985	** 5,386
11 - Dept of Public Svcs TP	-	-	-	-	33,756	38,536	32,562	** 35,901
12 - AFSCME	-	-	-	-	17,824	20,028	17,272	15,088
13 - Cler Tmst	-	-	-	-	12,542	15,094	11,902	10,603
14 - Disptchrs	-	-	-	-	1,422	1,786	1,329	597
Municipality Total					**$ 114,237**	**$ 129,093**	**$ 110,518**	**$ 107,730**

** 11/15-amortization period was changed from Option A to B. Court $4,907 DPS $32,271

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 - Non-Union and Departme	2.50%	2.50%
10 - Gnrl Crth	5.54%	5.54%
11 - Dept of Public Svcs TP	4.84%	4.84%
12 - AFSCME	4.94%	4.94%
13 - Cler Tmst	2.50%	2.50%
14 - Disptchrs	2.50%	2.50%

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 $ 168,868, instead of $ 129,093.

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 57% (instead of 64%); and ii) your total employer contribution requirement for the fiscal year starting July 1, 2017 would be $ 1,862,328 (instead of $ 1,549,116).

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	$ 49,692,789	$ 44,683,582	$ 40,440,589	$ 36,822,568
Valuation Assets	$ 26,035,208	$ 26,035,208	$ 26,035,208	$ 26,035,208
Unfunded Accrued Liability	$ 23,657,581	$ 18,648,374	$ 14,405,381	$ 10,787,360
Funded Ratio	52%	58%	64%	71%
Monthly Normal Cost	$ 36,836	$ 27,230	$ 19,910	$ 14,266
Monthly Amortization Payment	$ 161,604	$ 134,897	$ 109,183	$ 83,668
Total Employer Contribution[1]	$ 198,440	$ 162,127	$ 129,093	$ 98,401

[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 7/1	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	$ 40,440,589	$ 26,035,208	64%	$ 1,370,844
2016	2018	41,116,262	25,675,469	62%	1,555,632
2017	2019	41,744,714	25,326,902	61%	1,747,872
2018	2020	42,254,851	24,974,112	59%	1,952,184
2019	2021	42,609,384	24,630,914	58%	2,163,588
2020	2022	42,813,547	25,038,790	59%	2,242,332
NO 5-YEAR PHASE-IN					
2015	2017	$ 40,440,589	$ 26,035,208	64%	$ 1,549,116
2016	2018	41,116,262	25,675,469	62%	1,671,660
2017	2019	41,744,714	25,426,460	61%	1,803,636
2018	2020	42,254,851	25,237,695	60%	1,951,728
2019	2021	42,609,384	24,996,201	59%	2,112,756
2020	2022	42,813,547	25,459,502	60%	2,189,892
6.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
NO 5-YEAR PHASE-IN					
2015	2017	$ 44,683,582	$ 26,035,208	58%	$ 1,945,524
2016	2018	45,352,637	25,429,211	56%	2,066,736
2017	2019	45,962,841	25,145,532	55%	2,194,176
2018	2020	46,441,697	25,125,176	54%	2,339,256
2019	2021	46,751,402	25,036,504	54%	2,501,280
2020	2022	46,898,824	25,677,835	55%	2,583,144
5.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
NO 5-YEAR PHASE-IN					
2015	2017	$ 49,692,789	$ 26,035,208	52%	$ 2,381,280
2016	2018	50,343,945	25,182,890	50%	2,500,008
2017	2019	50,922,889	24,888,820	49%	2,621,736
2018	2020	51,355,377	25,079,978	49%	2,763,780
2019	2021	51,602,960	25,181,413	49%	2,927,304
2020	2022	51,674,554	25,919,423	50%	3,027,288

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

Table 1

Division	Amort. Period for Unfund. Liab.[4,5]	Employer Contributions[1]			Blended Employer Contribut.[6]	Employee Contribution Rate	Employee Contribut. Conversion Factor[2]
		Normal Cost	Unfunded Accrued Liability	Total Computed Employer Contribut.			
Percentage of Payroll							
01 - Non-Union and Depa	16	-	-	-		2.50%	
10 - Gnrl Crth	13	-	-	-		5.54%	
11 - Dept of Public Svc	13	-	-	-		4.84%	
12 - AFSCME	16	-	-	-		4.94%	
13 - Cler Tmst	16	-	-	-		2.50%	
14 - Disptchrs	17	-	-	-		2.50%	
Estimated Monthly Contribution[3]							
01 - Non-Union and Depa	16	$ 7,812	$ 38,610	$ 46,422			
10 - Gnrl Crth	13	941	6,286	7,227			
11 - Dept of Public Svc	13	4,257	34,279	38,536			
12 - AFSCME	16	1,348	18,680	20,028			
13 - Cler Tmst	16	3,827	11,267	15,094			
14 - Disptchrs	17	1,725	61	1,786			
Total Municipality		**$ 19,910**	**$ 109,183**	**$ 129,093**			
Estimated Annual Contribution[3]		**$ 238,920**	**$ 1,310,196**	**$ 1,549,116**			

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 July 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 - Non-Union and Department Heads: Closed to new hires

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/15	55/15
Early Retirement (Reduced):	50/25	50/25
Final Average Compensation:	3 years	3 years
Employee Contributions:	2.50%	2.50%
DC Plan for New Hires:	7/1/2010	7/1/2010
Act 88:	Yes (Adopted 2/9/1970)	Yes (Adopted 2/9/1970)

10 - Gnrl Crth: Closed to new hires

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.00% Multiplier (no max)	2.00% Multiplier (no max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	50/25 55/15	50/25 55/15
Early Retirement (Reduced):	-	-
Final Average Compensation:	5 years	5 years
Employee Contributions:	5.54%	5.54%
DC Plan for New Hires:	10/1/2006	10/1/2006
Act 88:	Yes (Adopted 2/9/1970)	Yes (Adopted 2/9/1970)

11 - Dept of Public Svcs TPOAM: Closed to new hires

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/15	55/15
Early Retirement (Reduced):	50/25	50/25
Final Average Compensation:	5 years	5 years
Employee Contributions:	4.84%	4.84%
DC Plan for New Hires:	8/1/2006	8/1/2006
Act 88:	Yes (Adopted 2/9/1970)	Yes (Adopted 2/9/1970)

Table 2 (continued)

12 - AFSCME: Closed to new hires

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/15	55/15
Early Retirement (Reduced):	50/25	50/25
Final Average Compensation:	5 years	5 years
Employee Contributions:	4.94%	4.94%
DC Plan for New Hires:	7/1/2010	7/1/2010
Act 88:	Yes (Adopted 2/9/1970)	Yes (Adopted 2/9/1970)

13 - Cler Tmst: Closed to new hires

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.00% Multiplier (no max)	2.00% Multiplier (no max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/15	55/15
Early Retirement (Reduced):	50/25	50/25
Final Average Compensation:	5 years	5 years
Employee Contributions:	2.50%	2.50%
DC Plan for New Hires:	7/1/2010	7/1/2010
Act 88:	Yes (Adopted 2/9/1970)	Yes (Adopted 2/9/1970)

14 - Disptchrs: Closed to new hires

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.00% Multiplier (no max)	2.00% Multiplier (no max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/15	55/15
Early Retirement (Reduced):	50/25	50/25
Final Average Compensation:	5 years	5 years
Employee Contributions:	2.50%	2.50%
DC Plan for New Hires:	9/1/2010	9/1/2010
Act 88:	Yes (Adopted 2/9/1970)	Yes (Adopted 2/9/1970)

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	2015 Valuation Average Benefit Service[2]	2015 Valuation Average Eligibility Service[2]
01 - Non-Union and Depart							
Active Employees	10	$ 883,258	11	$ 892,963	51.1	16.2	19.3
Vested Former Employees	1	27,651	2	73,817	47.3	11.7	11.7
Retirees and Beneficiaries	23	720,566	22	736,279	70.7		
10 - Gnrl Crth							
Active Employees	4	$ 213,988	6	$ 306,656	50.6	19.3	19.3
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	10	190,230	8	146,361	67.7		
11 - Dept of Public Svcs							
Active Employees	15	$ 831,702	16	$ 911,310	47.9	20.3	20.3
Vested Former Employees	3	30,795	4	41,876	56.1	13.3	15.0
Retirees and Beneficiaries	41	810,922	40	806,725	66.4		
12 - AFSCME							
Active Employees	3	$ 219,313	3	$ 201,718	46.4	18.9	21.3
Vested Former Employees	6	77,113	6	77,113	50.6	10.9	16.9
Retirees and Beneficiaries	19	476,235	20	491,485	69.6		
13 - Cler Tmst							
Active Employees	14	$ 690,139	15	$ 686,863	53.8	21.4	21.4
Vested Former Employees	10	82,288	9	67,878	50.4	10.3	14.3
Retirees and Beneficiaries	31	441,252	32	454,612	72.4		
14 - Disptchrs							
Active Employees	5	$ 260,270	5	$ 245,316	42.7	15.2	15.2
Vested Former Employees	4	37,073	4	37,073	46.3	11.4	17.3
Retirees and Beneficiaries	1	13,799	1	13,799	63.6		
Total Municipality							
Active Employees	**51**	**$ 3,098,670**	**56**	**$ 3,244,826**	**49.8**	**19.1**	**19.9**
Vested Former Employees	**24**	**254,920**	**25**	**297,757**	**50.4**	**11.1**	**15.4**
Retirees and Beneficiaries	**125**	**2,653,004**	**123**	**2,649,261**	**69.3**		
Total Participants	**200**		**204**				

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		2014 Valuation	
	Employer and Retiree[1]	Employee[2]	Employer and Retiree[1]	Employee[2]
01 - Non-Union and Department Heads	$ 5,044,498	$ 126,471	$ 5,372,585	$ 124,811
10 - Gnrl Crth	1,443,508	128,374	1,493,113	177,778
11 - Dept of Public Svcs TPOAM	6,698,696	415,021	7,208,004	423,130
12 - AFSCME	3,177,566	149,850	3,528,815	140,529
13 - Cler Tmst	4,688,468	204,647	5,010,875	185,407
14 - Disptchrs	829,245	24,447	848,676	21,899
Municipality Total	**$ 21,881,981**	**$ 1,048,810**	**$ 23,462,068**	**$ 1,073,554**
Combined Reserves	**$ 22,930,791**		**$ 24,535,622**	

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 Required	Employer Contributions Additional	Employee Contributions	Investment Income	Benefit Payments	Employee Contribution Refunds	Net Transfers	Valuation Asset Balance
2005	$ 537,515		$ 62,351	$ 1,489,401	$ (1,520,666)	$ (7,281)	$ 0	$ 24,458,557
2006	577,333		61,632	1,937,949	(1,641,503)	(2,139)	0	25,391,829
2007	668,249		65,339	2,054,668	(1,638,877)	0	0	26,541,208
2008	671,925		60,985	1,102,980	(1,734,081)	(4,983)	(3,514)	26,634,520
2009	682,056		59,268	990,212	(1,791,304)	(5,649)	0	26,569,103
2010	729,975		56,090	1,238,090	(2,045,599)	0	0	26,547,659
2011	769,629	$ 0	92,448	1,177,872	(2,287,911)	0	0	26,299,697
2012	735,318	97,628	148,561	1,058,049	(2,360,656)	0	0	25,978,597
2013	839,178	141,000	136,395	1,431,930	(2,493,847)	(3,492)	0	26,029,761
2014	969,840	0	134,964	1,421,442	(2,554,256)	(3,658)	8,120	26,006,213
2015	1,077,399	231,772	115,135	1,228,473	(2,618,833)	(4,951)	0	26,035,208

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 - Non-Union and Department Heads				
Active Employees	$ 3,626,471	$ 123,672	3.4%	$ 3,502,799
Vested Former Employees	111,202	2,798	2.5%	108,404
Retirees And Beneficiaries	7,516,777	5,744,555	76.4%	1,772,222
Pending Refunds	0	0	0.0%	0
Total	**$ 11,254,450**	**$ 5,871,025**	**52.2%**	**$ 5,383,425**
10 - Gnrl Crth				
Active Employees	$ 765,394	$ 124,283	16.2%	$ 641,111
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	1,760,532	1,656,313	94.1%	104,219
Pending Refunds	4,091	4,091	100.0%	0
Total	**$ 2,530,017**	**$ 1,784,687**	**70.5%**	**$ 745,330**
11 - Dept of Public Svcs TPOAM				
Active Employees	$ 3,457,950	$ 375,788	10.9%	$ 3,082,162
Vested Former Employees	274,945	39,249	14.3%	235,696
Retirees And Beneficiaries	8,499,814	7,661,618	90.1%	838,196
Pending Refunds	131	131	100.0%	0
Total	**$ 12,232,840**	**$ 8,076,786**	**66.0%**	**$ 4,156,054**
12 - AFSCME				
Active Employees	$ 827,702	$ 90,877	11.0%	$ 736,825
Vested Former Employees	518,634	45,304	8.7%	473,330
Retirees And Beneficiaries	5,013,447	3,628,037	72.4%	1,385,410
Pending Refunds	13,670	13,670	100.0%	0
Total	**$ 6,373,453**	**$ 3,777,888**	**59.3%**	**$ 2,595,565**
13 - Cler Tmst				
Active Employees	$ 2,631,709	$ 1,096,389	41.7%	$ 1,535,320
Vested Former Employees	510,943	510,943	100.0%	0
Retirees And Beneficiaries	3,943,357	3,943,357	100.0%	0
Pending Refunds	4,866	4,866	100.0%	0
Total	**$ 7,090,875**	**$ 5,555,555**	**78.3%**	**$ 1,535,320**
14 - Disptchrs				
Active Employees	$ 635,017	$ 645,330	101.6%	$ (10,313)
Vested Former Employees	174,358	174,358	100.0%	0
Retirees And Beneficiaries	149,579	149,579	100.0%	0
Pending Refunds	0	0	0.0%	0
Total	**$ 958,954**	**$ 969,267**	**101.1%**	**$ (10,313)**

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets[1]	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
Total Municipality				
Active Employees	**$ 11,944,243**	**$ 2,456,339**	**20.6%**	**$ 9,487,904**
Vested Former Employees	**1,590,082**	**772,652**	**48.6%**	**817,430**
Retirees and Beneficiaries	**26,883,506**	**22,783,459**	**84.7%**	**4,100,047**
Pending Refunds	**22,758**	**22,758**	**100.0%**	**0**
Total Participants	**$ 40,440,589**	**$ 26,035,208**	**64.4%**	**$ 14,405,381**

[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
2001	$ 22,938,928	$ 22,391,959	98%	$ 546,969
2002	23,826,929	22,303,419	94%	1,523,510
2003	25,520,723	23,179,652	91%	2,341,071
2004	27,642,742	23,897,237	86%	3,745,505
2005	28,414,461	24,458,557	86%	3,955,904
2006	29,681,342	25,391,829	86%	4,289,513
2007	31,205,728	26,541,208	85%	4,664,520
2008	32,402,367	26,634,520	82%	5,767,847
2009	32,752,091	26,569,103	81%	6,182,988
2010	34,126,156	26,547,659	78%	7,578,497
2011	35,497,987	26,299,697	74%	9,198,290
2012	36,066,667	25,978,597	72%	10,088,070
2013	37,260,900	26,029,761	70%	11,231,139
2014	38,278,641	26,006,213	68%	12,272,428
2015	40,440,589	26,035,208	64%	14,405,381

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

Division 01 - Non-Union and Department Heads

Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	$ 7,622,671	$ 5,931,958	78%	$ 1,690,713
2006	8,019,042	6,088,847	76%	1,930,195
2007	8,274,109	6,309,434	76%	1,964,675
2008	8,685,702	6,286,268	72%	2,399,434
2009	8,038,466	5,658,718	70%	2,379,748
2010	8,479,273	5,680,461	67%	2,798,812
2011	9,002,861	5,618,427	62%	3,384,434
2012	9,210,025	5,577,487	61%	3,632,538
2013	10,121,532	5,664,596	56%	4,456,936
2014	10,813,793	5,826,893	54%	4,986,900
2015	11,254,450	5,871,025	52%	5,383,425

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		
2005	15	$ 1,184,003	18.53%	0.00%
2006	15	1,206,690	19.59%	0.00%
2007	14	1,182,345	20.01%	0.00%
2008	14	1,174,358	22.90%	0.00%
2009	14	1,202,689	23.37%	0.00%
2010	12	1,031,825	$ 24,020	0.00%
2011	11	972,440	$ 26,338	2.50%
2012	11	989,346	$ 28,727	2.50%
2013	10	834,038	$ 34,367	2.50%
2014	11	892,963	$ 40,155	2.50%
2015	10	883,258	$ 46,422	2.50%

[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 32 for past benefit provision changes.

Division 10 - Gnrl Crth

Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	$ 1,344,080	$ 1,245,869	93%	$ 98,211
2006	1,410,541	1,326,493	94%	84,048
2007	1,510,707	1,413,469	94%	97,238
2008	1,613,659	1,449,675	90%	163,984
2009	1,979,624	1,791,716	91%	187,908
2010	2,014,257	1,776,297	88%	237,960
2011	2,082,999	1,767,933	85%	315,066
2012	2,129,740	1,745,763	82%	383,977
2013	2,209,968	1,757,727	80%	452,241
2014	2,251,628	1,771,039	79%	480,589
2015	2,530,017	1,784,687	71%	745,330

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

Table 9-10: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2005	8	$ 369,204	7.18%	3.04%
2006	8	378,402	7.00%	3.04%
2007	7	346,669	$ 1,940	3.04%
2008	7	354,953	$ 2,943	3.04%
2009	7	358,201	$ 2,996	3.04%
2010	6	309,465	$ 3,312	3.04%
2011	6	305,279	$ 3,495	5.54%
2012	6	307,811	$ 4,094	5.54%
2013	6	309,969	$ 4,803	5.54%
2014	6	306,656	$ 5,386	5.54%
2015	4	213,988	$ 7,227	5.54%

[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 32 for past benefit provision changes.

Division 11 - Dept of Public Svcs TPOAM

Table 8-11: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	$ 9,640,698	$ 8,638,820	90%	$ 1,001,878
2006	10,061,921	8,887,396	88%	1,174,525
2007	10,438,648	9,206,357	88%	1,232,291
2008	10,780,891	9,161,812	85%	1,619,079
2009	10,290,554	8,502,821	83%	1,787,733
2010	10,634,653	8,300,780	78%	2,333,873
2011	10,798,179	8,192,100	76%	2,606,079
2012	10,921,274	8,075,242	74%	2,846,032
2013	11,218,116	8,096,873	72%	3,121,243
2014	11,704,457	8,088,521	69%	3,615,936
2015	12,232,840	8,076,786	66%	4,156,054

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	Active Employees		Computed Employer	Employee Contribution
December 31	Number	Annual Payroll	Contribution[1]	Rate[2]
2005	30	$ 1,339,492	10.42%	2.34%
2006	29	1,374,577	10.95%	2.34%
2007	29	1,461,577	$ 14,063	2.34%
2008	28	1,433,600	$ 18,318	2.34%
2009	27	1,334,228	$ 18,423	2.34%
2010	21	1,027,989	$ 20,370	2.34%
2011	20	1,047,392	$ 22,156	4.84%
2012	18	904,241	$ 24,466	4.84%
2013	18	941,118	$ 28,778	4.84%
2014	16	911,310	$ 35,901	4.84%
2015	15	831,702	$ 38,536	4.84%

[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 32 for past benefit provision changes.

Division 12 - AFSCME

Table 8-12: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	$ 4,230,783	$ 3,563,323	84%	$ 667,460
2006	4,333,119	3,748,631	87%	584,488
2007	4,718,282	3,957,761	84%	760,521
2008	4,851,889	3,978,310	82%	873,579
2009	5,195,434	4,109,828	79%	1,085,606
2010	5,647,986	4,356,935	77%	1,291,051
2011	6,077,256	4,318,993	71%	1,758,263
2012	6,195,017	4,222,690	68%	1,972,327
2013	6,313,706	4,147,075	66%	2,166,631
2014	6,083,731	3,889,273	64%	2,194,458
2015	6,373,453	3,777,888	59%	2,595,565

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	Active Employees		Computed Employer	Employee Contribution
December 31	Number	Annual Payroll	Contribution[1]	Rate[2]
2005	12	$ 743,357	11.49%	2.44%
2006	10	637,287	11.16%	2.44%
2007	9	615,532	12.95%	2.44%
2008	10	681,062	14.45%	2.44%
2009	10	683,363	16.61%	2.44%
2010	10	648,391	$ 10,539	2.44%
2011	9	618,088	$ 12,432	4.94%
2012	6	394,205	$ 13,283	4.94%
2013	6	414,844	$ 15,302	4.94%
2014	3	201,718	$ 15,088	4.94%
2015	3	219,313	$ 20,028	4.94%

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 32 for past benefit provision changes.

Division 13 - Cler Tmst

Table 8-13: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	$ 5,175,417	$ 4,646,673	90%	$ 528,744
2006	5,387,984	4,847,823	90%	540,161
2007	5,669,599	5,098,949	90%	570,650
2008	5,820,235	5,160,464	89%	659,771
2009	6,621,959	5,855,179	88%	766,780
2010	6,750,943	5,722,160	85%	1,028,783
2011	6,877,043	5,634,859	82%	1,242,184
2012	6,890,158	5,542,972	80%	1,347,186
2013	6,641,782	5,495,553	83%	1,146,229
2014	6,603,201	5,507,732	83%	1,095,469
2015	7,090,875	5,555,555	78%	1,535,320

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

Table 9-13: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2005	29	$ 1,187,967	11.32%	0.00%
2006	28	1,195,420	11.20%	0.00%
2007	30	1,318,856	11.06%	0.00%
2008	29	1,311,602	11.99%	0.00%
2009	29	1,330,765	12.64%	0.00%
2010	23	1,029,122	$ 12,383	0.00%
2011	21	952,124	$ 12,117	2.50%
2012	20	913,203	$ 12,910	2.50%
2013	18	819,952	$ 11,222	2.50%
2014	15	686,863	$ 10,603	2.50%
2015	14	690,139	$ 15,094	2.50%

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 32 for past benefit provision changes.

Division 14 - Disptchrs

Table 8-14: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	$ 400,812	$ 431,914	108%	$ (31,102)
2006	468,735	492,639	105%	(23,904)
2007	594,383	555,238	93%	39,145
2008	649,991	597,991	92%	52,000
2009	626,054	650,841	104%	(24,787)
2010	599,044	711,026	119%	(111,982)
2011	659,649	767,385	116%	(107,736)
2012	720,453	814,443	113%	(93,990)
2013	755,796	867,937	115%	(112,141)
2014	821,831	922,755	112%	(100,924)
2015	958,954	969,267	101%	(10,313)

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		
2005	9	$ 387,594	6.85%	0.00%
2006	9	398,221	6.96%	0.00%
2007	9	421,851	7.71%	0.00%
2008	9	414,190	9.45%	0.00%
2009	8	382,404	8.10%	0.00%
2010	6	295,262	4.49%	0.00%
2011	6	294,722	$ 644	2.50%
2012	6	296,804	$ 978	2.50%
2013	6	275,605	$ 642	2.50%
2014	5	245,316	$ 597	2.50%
2015	5	260,270	$ 1,786	2.50%

[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 32 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:	125
Inactive employees entitled to but not yet receiving benefits:	24
Active employees:	51
	200

Total Pension Liability as of 12/31/2014 measurement date:	$	37,399,663
Total Pension Liability as of 12/31/2015 measurement date:	$	39,482,275
Service Cost for the year ending on the 12/31/2015 measurement date:	$	349,127

Change in the Total Pension Liability due to:

- Benefit changes[1]:	$	0
- Differences between expected and actual experience[2]:	$	(448,149)
- Changes in assumptions[2]:	$	1,813,776

[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):		2
Covered employee payroll: (Needed for Required Supplementary Information)	$	3,098,670

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:	$ 4,074,878	-	$ (3,480,332)

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 - Non-Union and Department Heads

8/1/2011	Member Contribution Rate 2.50%
7/1/2010	DC Adoption Date 07-01-2010
7/1/1995	Benefit B-4 (80% max)
1/1/1987	2.25% Multiplier (no max)
1/1/1987	Benefit F55 (With 15 Years of Service)
1/1/1987	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1985	Benefit C-2/Base B-1
7/1/1984	Member Contribution Rate 0.00%
7/1/1975	Benefit C-1 (Old)
2/9/1970	Covered by Act 88
7/1/1956	Member Contribution Rate 3.00% Under $4,200.00 - Then 5.00%
7/1/1956	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1956	10 Year Vesting
7/1/1956	Benefit C (Old)
	Fiscal Month - July

10 - Gnrl Crth

8/1/2011	Member Contribution Rate 5.54%
10/1/2006	DC Adoption Date 10-01-2006
7/1/1998	Benefit B-2
7/1/1998	Benefit F50 (With 25 Years of Service)
7/1/1998	Member Contribution Rate 3.04%
7/1/1990	Benefit C-2/Base B-1
7/1/1990	Benefit F55 (With 15 Years of Service)
7/1/1984	Member Contribution Rate 0.00%
7/1/1975	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1975	10 Year Vesting
7/1/1975	Benefit C-1 (Old)
2/9/1970	Covered by Act 88
	Fiscal Month - July

11 - Dept of Public Svcs TPOAM

8/1/2011	Member Contribution Rate 4.84%
4/1/2010	Temporary 30 Years & Out (04/01/2010 - 06/30/2010)
8/1/2006	DC Adoption Date 08-01-2006
1/1/2005	Member Contribution Rate 2.34%
7/1/2004	Benefit B-3 (80% max)
7/1/2004	Member Contribution Rate 3.09%
1/1/1994	Benefit B-2
1/1/1994	Benefit F55 (With 15 Years of Service)

11 - Dept of Public Svcs TPOAM

1/1/1994	Member Contribution Rate 1.50%
1/1/1987	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1987	10 Year Vesting
1/1/1987	Benefit C-2/Base B-1
7/1/1984	Member Contribution Rate 0.00%
2/9/1970	Covered by Act 88
	Fiscal Month - July

12 - AFSCME

8/1/2011	Member Contribution Rate 4.94%
7/1/2010	DC Adoption Date 07-01-2010
7/1/2004	Member Contribution Rate 2.44%
8/1/2003	Benefit B-3 (80% max)
8/1/2003	Member Contribution Rate 3.26%
7/1/2003	Member Contribution Rate 0.82%
6/1/1998	Benefit B-2
6/1/1998	Member Contribution Rate 1.63%
7/1/1987	Benefit C-2/Base B-1
7/1/1987	Benefit F55 (With 15 Years of Service)
7/1/1984	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1984	10 Year Vesting
7/1/1984	Member Contribution Rate 0.00%
2/9/1970	Covered by Act 88
	Fiscal Month - July

13 - Cler Tmst

8/1/2011	Member Contribution Rate 2.50%
7/1/2010	DC Adoption Date 07-01-2010
7/1/2004	Member Contribution Rate 0.00%
7/1/2003	Member Contribution Rate 0.90%
1/1/1994	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1994	10 Year Vesting
1/1/1994	Benefit B-2
1/1/1994	Benefit F55 (With 15 Years of Service)
1/1/1994	Member Contribution Rate 1.80%
2/9/1970	Covered by Act 88
	Fiscal Month - July

14 - Disptchrs

12/1/2011	Member Contribution Rate 2.50%
9/1/2010	DC Adoption Date 09-01-2010
12/1/2003	Benefit B-2
7/1/1990	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1990	10 Year Vesting
7/1/1990	Benefit C-2/Base B-1

14 - Disptchrs

7/1/1990	Benefit F55 (With 15 Years of Service)
7/1/1990	Member Contribution Rate 0.00%
2/9/1970	Covered by Act 88
	Fiscal Month - July

Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method

Details on MERS plan provisions, actuarial assumptions, and actuarial methodology can be found in the Appendix. Some actuarial assumptions are specific to this municipality and its divisions. These are listed below.

Increase in Final Average Compensation

Division	FAC Increase Assumption
All Divisions	4.00%

Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
All Divisions	80%

Miscellaneous and Technical Assumptions

Loads – None.

Amortization Policy for Closed Divisions

Closed Division	Amortization Option
All Closed Divisions	Option B