



**MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN**  
ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2016  
PITTSFIELD CHTR TWP (8110)



Spring, 2017

Pittsfield Chtr Twp

In care of:

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

This report presents the results of the Annual Actuarial Valuation, prepared as of December 31, 2016. The report includes the determination of liabilities and contribution rates resulting from the participation of Pittsfield Chtr Twp (8110) in the Municipal Employees' Retirement System of Michigan ("MERS"). MERS is a nonprofit organization, independent from the State, that has provided retirement plans for municipal employees for 70 years. Pittsfield Chtr Twp is responsible for the employer contributions needed to provide MERS benefits for its employees and former employees under the Michigan Constitution and the MERS Plan Document.

The purpose of the December 31, 2016 annual actuarial valuation is to:

- Measure funding progress
- Establish contribution requirements for the fiscal year beginning January 1, 2018
- 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, 2016 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. 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-2016AnnualActuarialValuation-Appendix.pdf](http://www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2016AnnualActuarialValuation-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

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## Executive Summary

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### Actuarial Assumptions and Methods Adopted with the December 31, 2015 Valuations

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 changes to the assumptions and methods based on the 2015 Experience Study were first reflected in the December 31, 2015 valuations. The impact of these changes is being phased-in over a 5 year period. The phase-in allows the employer to spread the impact of the new assumptions over 5 fiscal years. This report continues to provide contributions both with and without the phase-in adjustments.

The assumptions and methods are described in the [Appendix](#) on the MERS website.

As part of the recent Experience Study, the following changes are first reflected in the December 31, 2016 annual valuation:

- The asset smoothing was changed from 10 to 5 years. The gain (loss) recognized each year will be 20% of the current year's gain (loss) plus 20% of the gain (loss) from each of the 4 preceding years. The cumulative difference between the market value and valuation assets as of December 31, 2015 will be recognized over 4 years.
- Annual changes in Unfunded Accrued Liability (UAL) will be amortized over fixed periods, creating "layers" of UAL. This will require removing and creating "layers" of UAL on an annual basis.
  - o 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.
  - o 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.

MERS created a dedicated resource page on their website for additional information on these topics (<http://www.mersofmich.com/Employer/Work-Scenarios/Unfunded-Liability>).

## 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:

	12/31/2016	12/31/2015
<b>Funded Ratio</b>	71%	70%

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. Changes to the assumptions and methods based on the 2015 Experience Study were first reflected in the December 31, 2015 valuations. The impact of these changes is being phased-in over a 5 year period. The phase-in allows the employer to spread the impact of the new assumptions over 5 fiscal years. This valuation reflects the second year of the phase-in.

Your minimum required contribution is the amount in the “Phase-in” columns. By default, MERS will invoice you the phased-in contribution amount, but strongly encourages you to contribute more than the minimum required contribution. If for 2017 your municipality is making employer contributions based on rates without the phase-in applied, contact MERS to ensure this rate is used again for 2018 and not the defaulted phase-in rates.

	Percentage of Payroll				Monthly \$ Based on Projected Payroll			
	Phase-in	No Phase-in	Phase-in	No Phase-in	Phase-in	No Phase-in	Phase-in	No Phase-in
Valuation Date:	12/31/2016	12/31/2016	12/31/2015	12/31/2015	12/31/2016	12/31/2016	12/31/2015	12/31/2015
Fiscal Year Beginning:	January 1, 2018	January 1, 2018	January 1, 2017	January 1, 2017	January 1, 2018	January 1, 2018	January 1, 2017	January 1, 2017
<b>Division</b>								
01 - TPOAM	-	-	-	-	\$ 5,290	\$ 5,707	\$ 5,390	\$ 5,946
02 - Pol Ptrl	-	-	-	-	20,022	21,924	19,447	21,983
05 - Fire Fght	-	-	-	-	12,949	13,921	13,225	14,521
10 - Elctd Ofc	-	-	-	26.71%	3,997	4,423	5,077	5,645
11 - Dspchr	-	-	-	-	601	784	1,109	1,353
14 - Adm/NonUnion	-	-	-	-	11,312	12,887	13,146	15,246
15 - Utilities Dr	-	-	-	-	615	660	506	566
20 - Pol Cmnd	-	-	-	-	39,012	41,874	36,238	40,054
HA - POLC/cler/Dispatch aft	5.93%	5.96%	5.07%	5.16%	540	543	232	236
HB - IAFF ee's hired on/aft	6.32%	6.45%	6.23%	6.41%	718	733	697	717
HD - POAM on/after 1/1/2015	6.07%	6.24%	6.59%	6.79%	1,647	1,692	1,966	2,026
HE - Non-union on/after 1/1	8.00%	8.16%	7.01%	7.28%	4,780	4,873	3,213	3,337
HF - TPOAM on/aft 3/30/15	7.32%	7.44%	8.79%	9.14%	1,983	2,016	1,090	1,134
<b>Municipality Total</b>					<b>\$ 103,466</b>	<b>\$ 112,037</b>	<b>\$ 101,336</b>	<b>\$ 112,764</b>

Employee contribution rates reflected in the valuations are shown below:

Valuation Date:	Employee Contribution Rate	
	12/31/2016	12/31/2015
<b>Division</b>		
01 - TPOAM	2.00%	2.00%
02 - Pol Ptrl	6.17%	6.17%
05 - Fire Fght	5.00%	5.00%
10 - Elctd Ofc	6.93%	6.93%

Valuation Date:	Employee Contribution Rate	
	12/31/2016	12/31/2015
<b>Division</b>		
11 - Dspchr	5.00%	5.00%
14 - Adm/NonUnion	5.00%	5.00%
15 - Utilities Dr	6.00%	6.00%
20 - Pol Cmnd	9.06%	9.06%
HA - POLC/cler/Dispatch aft	0.00%	0.00%
HB - IAFF ee's hired on/aft	0.00%	0.00%
HD - POAM on/after 1/1/2015	0.00%	0.00%
HE - Non-union on/after 1/1	0.00%	0.00%
HF - TPOAM on/aft 3/30/15	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 \$ 158,215, instead of \$ 112,037.
- To accelerate to a 100% funding ratio in 20 years, estimated monthly employer contributions for the entire employer would be \$ 115,846, instead of \$ 112,037.

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. For example:
  - o Lower actual investment returns would result in higher required employer contributions, and vice-versa.
  - o Smaller than assumed pay increases would lower required employer contributions.
  - o 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.



- o Retirements at earlier ages than assumed would usually increase required employer contributions.
- o More non-vested terminations of employment than assumed would decrease required contributions.
- o More disabilities or survivor (death) benefits than assumed would increase required contributions.
- o Longer lifetimes after retirement than assumed would increase required employer contributions.

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 2016 was 5.14%.

As of December 31, 2016 the actuarial value of assets is 108% 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, 2016 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 66% (instead of 71%); and ii) your total employer contribution requirement for the fiscal year starting January 1, 2018 would be \$ 1,479,288 (instead of \$ 1,344,444).

The asset smoothing method is a powerful tool for reducing the volatility of your required employer contributions. **However, if the current 8% 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 Defined Benefit retirement plans, the plan sponsor, and the plan participants are exposed to certain risks. While risks cannot be eliminated entirely, they can be managed 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 manage the economic and demographic risks, and the contribution volatility risks. For example, the investment risk is the largest economic risk and is managed by having a balanced portfolio and a clearly defined investment strategy. Demographic risks are managed 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 managed 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. 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, 2016 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
	5.75%	6.75%	7.75%	8.75%
<b>12/31/2016 Valuation Results</b>				
Accrued Liability	\$ 47,112,398	\$ 40,662,410	\$ 35,375,796	\$ 31,038,363
Valuation Assets	\$ 25,223,934	\$ 25,223,934	\$ 25,223,934	\$ 25,223,934
Unfunded Accrued Liability	\$ 21,888,464	\$ 15,438,476	\$ 10,151,862	\$ 5,814,429
<b>Funded Ratio</b>	54%	62%	71%	81%
Monthly Normal Cost	\$ 107,235	\$ 76,762	\$ 53,995	\$ 36,751
Monthly Amortization Payment	\$ 111,553	\$ 84,677	\$ 58,042	\$ 33,630
<b>Total Employer Contribution<sup>1</sup></b>	\$ 218,788	\$ 161,439	\$ 112,037	\$ 70,381

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

## Projection Scenarios

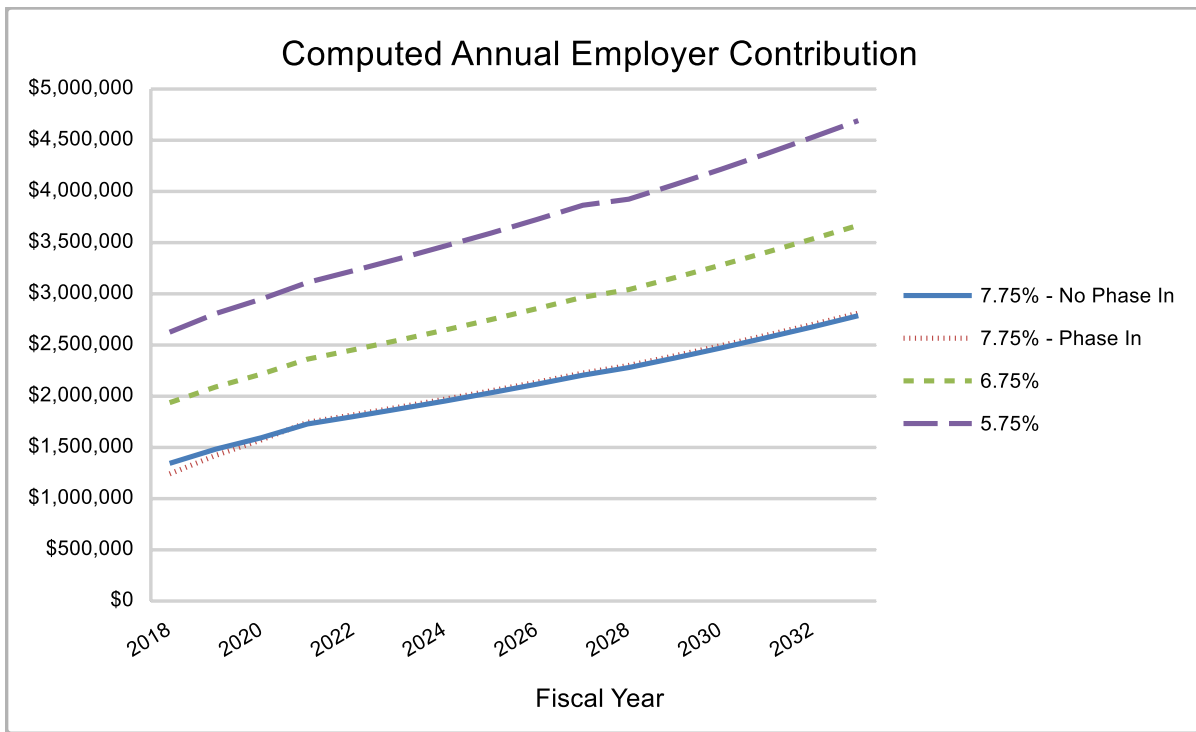
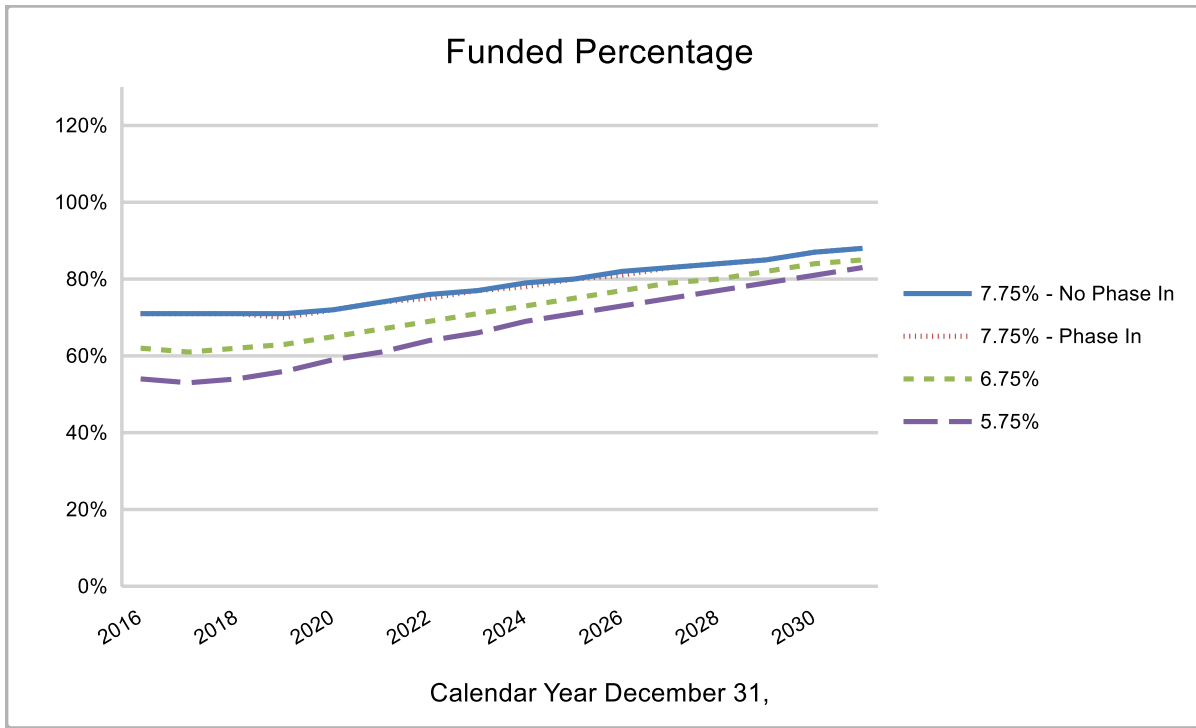
The next two pages show projections of the plan's funded ratio and computed employer contributions under the actuarial assumptions used in the valuation and alternate assumed long-term investment return scenarios. All four projections take into account the past investment losses that will continue to affect the smoothed rate of return in the short term. 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.

The projections are shown both in tabular and graphical form in total for the employer. The tables show projections for six years. The graphs show projections for fifteen years.

Valuation Year Ending 12/31	Fiscal Year Beginning 1/1	Actuarial Accrued Liability	Valuation Assets	Funded Percentage	Computed Annual Employer Contribution
<b>7.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return</b>					
<b>WITH 5-YEAR PHASE-IN</b>					
2016	2018	\$ 35,375,796	\$ 25,223,934	71%	\$ 1,241,592
2017	2019	37,800,000	26,800,000	71%	1,420,000
2018	2020	40,400,000	28,600,000	71%	1,570,000
2019	2021	43,200,000	30,300,000	70%	1,750,000
2020	2022	46,100,000	33,100,000	72%	1,820,000
2021	2023	49,000,000	36,100,000	74%	1,890,000
<b>NO 5-YEAR PHASE-IN</b>					
2016	2018	\$ 35,375,796	\$ 25,223,934	71%	\$ 1,344,444
2017	2019	37,800,000	26,800,000	71%	1,480,000
2018	2020	40,400,000	28,700,000	71%	1,600,000
2019	2021	43,200,000	30,500,000	71%	1,730,000
2020	2022	46,100,000	33,300,000	72%	1,800,000
2021	2023	49,000,000	36,300,000	74%	1,880,000
<b>6.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return</b>					
<b>NO 5-YEAR PHASE-IN</b>					
2016	2018	\$ 40,662,410	\$ 25,223,934	62%	\$ 1,937,268
2017	2019	43,300,000	26,600,000	61%	2,090,000
2018	2020	46,300,000	28,800,000	62%	2,220,000
2019	2021	49,300,000	31,000,000	63%	2,360,000
2020	2022	52,500,000	34,100,000	65%	2,450,000
2021	2023	55,800,000	37,500,000	67%	2,550,000
<b>5.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return</b>					
<b>NO 5-YEAR PHASE-IN</b>					
2016	2018	\$ 47,112,398	\$ 25,223,934	54%	\$ 2,625,456
2017	2019	50,100,000	26,300,000	53%	2,810,000
2018	2020	53,400,000	29,000,000	54%	2,950,000
2019	2021	56,800,000	31,600,000	56%	3,110,000
2020	2022	60,300,000	35,300,000	59%	3,230,000
2021	2023	64,000,000	39,200,000	61%	3,340,000



## Employer Contribution Details For the Fiscal Year Beginning January 1, 2018

Table 1

Division	Employer Contributions <sup>1</sup>			Computed Employer Contribut. With Phase-In	Blended ER Rate No Phase-In <sup>5</sup>	Blended ER Rate With Phase-In <sup>5</sup>	Employee Contribut. Rate	Employee Contribut. Conversion Factor <sup>2</sup>
	Normal Cost	Payment of the Unfunded Accrued Liability <sup>4</sup>	Computed Employer Contribut. No Phase-In					
<b>Percentage of Payroll</b>								
01 - TPOAM	-	-	-	-	8.75%	8.24%	2.00%	
02 - Pol Ptrl	-	-	-	-	13.82%	12.68%	6.17%	
05 - Fire Fght	-	-	-	-	8.96%	8.36%	5.00%	
10 - Elctd Ofc	-	-	-	-			6.93%	
11 - Dsptrchr	-	-	-	-	3.34%	2.87%	5.00%	
14 - Adm/NonUnion	-	-	-	-	9.36%	8.48%	5.00%	
15 - Utilities Dr	-	-	-	-			6.00%	
20 - Pol Cmnd	-	-	-	-			9.06%	
HA - POLC/cler/Dispatch	6.33%	-0.37%	5.96%	5.93%	3.34%	2.87%	0.00%	0.90%
HB - IAFF ee's hired on	6.34%	0.11%	6.45%	6.32%	8.96%	8.36%	0.00%	0.89%
HD - POAM on/after 1/1/	6.59%	-0.35%	6.24%	6.07%	13.82%	12.68%	0.00%	0.95%
HE - Non-union on/after	8.44%	-0.28%	8.16%	8.00%	9.36%	8.48%	0.00%	0.90%
HF - TPOAM on/aft 3/30/	7.47%	-0.03%	7.44%	7.32%	8.75%	8.24%	0.00%	0.89%
<b>Estimated Monthly Contribution<sup>3</sup></b>								
01 - TPOAM	\$ 4,420	\$ 1,287	\$ 5,707	\$ 5,290				
02 - Pol Ptrl	11,968	9,956	21,924	20,022				
05 - Fire Fght	9,898	4,023	13,921	12,949				
10 - Elctd Ofc	519	3,904	4,423	3,997				
11 - Dsptrchr	1,370	(586)	784	601				
14 - Adm/NonUnion	8,727	4,160	12,887	11,312				
15 - Utilities Dr	0	660	660	615				
20 - Pol Cmnd	6,947	34,927	41,874	39,012				
HA - POLC/cler/Dispatch	577	(34)	543	540				
HB - IAFF ee's hired on	720	13	733	718				

Table 1 (continued)

Division	Employer Contributions <sup>1</sup>			Computed Employer Contribut. With Phase-In	Blended ER Rate No Phase-In <sup>5</sup>	Blended ER Rate With Phase-In <sup>5</sup>	Employee Contribut. Rate	Employee Contribut. Conversion Factor <sup>2</sup>
	Normal Cost	Payment of the Unfunded Accrued Liability <sup>4</sup>	Computed Employer Contribut. No Phase-In					
HD - POAM on/after 1/1/	1,788	(96)	1,692	1,647				
HE - Non-union on/after	5,038	(165)	4,873	4,780				
HF - TPOAM on/aft 3/30/	2,023	(7)	2,016	1,983				
<b>Total Municipality</b>	<b>\$ 53,995</b>	<b>\$ 58,042</b>	<b>\$ 112,037</b>	<b>\$ 103,466</b>				
<b>Estimated Annual Contribution<sup>3</sup></b>	<b>\$ 647,940</b>	<b>\$ 696,504</b>	<b>\$ 1,344,444</b>	<b>\$ 1,241,592</b>				

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

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

<sup>3</sup> For divisions that are open to new hires, estimated contributions are based on 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 (ie closed divisions), invoices will be based on the above dollar amounts which are based on projected fiscal year payroll. See description of Open Divisions and Closed Divisions in the [Appendix](#).

<sup>4</sup> If projected assets exceed projected liabilities as of the beginning of the January 1, 2018 fiscal year, the negative unfunded accrued liability is treated as overfunding credit and is used to reduce the contribution. This amortization is used to reduce the employer contribution rate. Note that if the overfunding credit is larger than the normal cost, the full credit is shown above but the total contribution requirement is zero. This will cause the displayed normal cost and unfunded accrued liability contributions to not add across.

<sup>5</sup> For linked divisions, the employer will be invoiced the Computed Employer Contribution with Phase-in rate shown above for each linked division (a contribution rate for the open division; a contribution dollar for the closed-but-linked division), unless the employer elects to contribute the Blended Employer Contribution rate shown above, by contacting MERS at 800-767-2308.

**Please see the Comments on Asset Smoothing in the Executive Summary of this report.**



## Benefit Provisions

Table 2

### 01 - TPOAM: Closed to new hires, linked to Division HF

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.00% Multiplier (no max)	2.00% Multiplier (no max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	2%	2%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)

### 02 - Pol Ptrl: Closed to new hires, linked to Division HD

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>COLA for Future Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	6.17%	6.17%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)

### 05 - Fire Fght: Closed to new hires, linked to Division HB

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/15	55/15
<b>Early Retirement (Reduced):</b>	50/25	50/25
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	5%	5%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)

Table 2 (continued)

<b>10 - Elctd Ofc: Closed to new hires, linked to Division HG</b>		
	<b>2016 Valuation</b>	<b>2015 Valuation</b>
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	8 years	8 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>COLA for Future Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	6.93%	6.93%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)
<b>11 - Dsptrchr: Closed to new hires, linked to Division HA</b>		
	<b>2016 Valuation</b>	<b>2015 Valuation</b>
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	5%	5%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)
<b>14 - Adm/NonUnion: Closed to new hires, linked to Division HE</b>		
	<b>2016 Valuation</b>	<b>2015 Valuation</b>
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	5%	5%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)

Table 2 (continued)

<b>15 - Utilities Dr: Closed to new hires</b>		
	<b>2016 Valuation</b>	<b>2015 Valuation</b>
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	6%	6%
<b>Act 88:</b>	Yes (Adopted 10/1/2007)	Yes (Adopted 10/1/2007)
<b>20 - Pol Cmnd: Closed to new hires, linked to Division HC</b>		
	<b>2016 Valuation</b>	<b>2015 Valuation</b>
<b>Benefit Multiplier:</b>	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>COLA for Future Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	9.06%	9.06%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)
<b>HA - POLC/cler/Dispatch aft 7/1/14: Open Division, linked to Division 11</b>		
	<b>2016 Valuation</b>	<b>2015 Valuation</b>
<b>Benefit Multiplier:</b>	Hybrid Plan - 1.50% Multiplier	Hybrid Plan - 1.50% Multiplier
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	6 years	6 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	-	-
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	0%	0%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)
<b>HB - IAFF ee's hired on/aft 1/1/14: Open Division, linked to Division 05</b>		
	<b>2016 Valuation</b>	<b>2015 Valuation</b>
<b>Benefit Multiplier:</b>	Hybrid Plan - 1.50% Multiplier	Hybrid Plan - 1.50% Multiplier
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	6 years	6 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<b>Early Retirement (Reduced):</b>	-	-
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	0%	0%
<b>Act 88:</b>	Yes (Adopted 11/10/2003)	Yes (Adopted 11/10/2003)

Table 2 (continued)

**HD - POAM on/after 1/1/2015: Open Division, linked to Division 02**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	Hybrid Plan - 1.50% Multiplier	Hybrid Plan - 1.50% Multiplier
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	6 years	6 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<b>Early Retirement (Reduced):</b>	-	-
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	0%	0%
<b>Act 88:</b>	No	No

**HE - Non-union on/after 1/1/2015: Open Division, linked to Division 14**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	Hybrid Plan - 1.50% Multiplier	Hybrid Plan - 1.50% Multiplier
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	6 years	6 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	-	-
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	0%	0%
<b>Act 88:</b>	No	No

**HF - TPOAM on/aft 3/30/15: Open Division, linked to Division 01**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	Hybrid Plan - 1.50% Multiplier	Hybrid Plan - 1.50% Multiplier
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	6 years	6 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	-	-
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	0%	0%
<b>Act 88:</b>	No	No

## Participant Summary

**Table 3**

Division	2016 Valuation		2015 Valuation		2016 Valuation		
	Number	Annual Payroll <sup>1</sup>	Number	Annual Payroll <sup>1</sup>	Average Age	Average Benefit Service <sup>2</sup>	Average Eligibility Service <sup>2</sup>
01 - TPOAM							
Active Employees	16	\$ 741,752	20	\$ 822,799	44.1	8.1	8.9
Vested Former Employees	7	42,251	5	34,536	42.3	7.4	13.7
Retirees and Beneficiaries	9	64,609	9	64,609	67.6		
02 - Pol Ptrl							
Active Employees	23	\$ 1,689,595	24	\$ 1,680,414	40.3	14.6	14.8
Vested Former Employees	3	20,014	2	3,206	37.3	4.4	9.1
Retirees and Beneficiaries	5	100,519	5	98,652	58.3		
05 - Fire Fght							
Active Employees	25	\$ 1,772,309	25	\$ 1,767,537	40.4	12.3	12.9
Vested Former Employees	2	68,138	2	68,138	52.3	19.6	19.6
Retirees and Beneficiaries	3	57,566	3	57,566	56.8		
10 - Elctd Ofc							
Active Employees	2	\$ 164,298	3	\$ 235,634	60.2	8.1	8.8
Vested Former Employees	1	14,444	1	14,444	56.1	8.0	8.0
Retirees and Beneficiaries	5	84,392	4	69,407	77.9		
11 - Dsptrchr							
Active Employees	7	\$ 355,374	7	\$ 378,771	42.1	13.8	13.8
Vested Former Employees	4	32,910	4	32,910	41.4	8.5	14.5
Retirees and Beneficiaries	0	0	0	0	0.0		
14 - Adm/NonUnion							
Active Employees	26	\$ 1,723,713	32	\$ 2,025,795	50.7	12.7	15.2
Vested Former Employees	8	124,200	8	124,200	50.0	10.4	17.6
Retirees and Beneficiaries	13	219,357	11	191,372	65.8		
15 - Utilities Dr							
Active Employees	0	\$ 0	0	\$ 0	0.0	0.0	0.0
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	1	19,167	1	19,167	59.7		
20 - Pol Cmnd							
Active Employees	11	\$ 989,066	11	\$ 958,619	43.5	17.9	20.1
Vested Former Employees	1	23,169	1	23,169	60.3	16.8	16.8
Retirees and Beneficiaries	11	468,395	11	458,637	58.1		
HA - POLC/cler/Dispatch a							
Active Employees	2	\$ 87,059	1	\$ 35,002	32.1	0.9	0.9
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		

Table 3 (continued)

Division	2016 Valuation		2015 Valuation		2016 Valuation		
	Number	Annual Payroll <sup>1</sup>	Number	Annual Payroll <sup>1</sup>	Average Age	Average Benefit Service <sup>2</sup>	Average Eligibility Service <sup>2</sup>
HB - IAFF ee's hired on/a							
Active Employees	1	\$ 51,875	1	\$ 45,728	36.9	1.6	1.7
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
HD - POAM on/after 1/1/20							
Active Employees	5	\$ 216,567	5	\$ 240,367	25.4	1.0	1.5
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
HE - Non-union on/after 1							
Active Employees	9	\$ 391,660	5	\$ 218,662	42.7	0.6	3.8
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
HF - TPOAM on/aft 3/30/15							
Active Employees	7	\$ 241,720	2	\$ 66,861	40.1	0.9	1.0
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
<b>Total Municipality</b>							
<b>Active Employees</b>	<b>134</b>	<b>\$ 8,424,988</b>	<b>136</b>	<b>\$ 8,476,189</b>	<b>42.9</b>	<b>10.7</b>	<b>11.9</b>
<b>Vested Former Employees</b>	<b>26</b>	<b>325,126</b>	<b>23</b>	<b>300,603</b>	<b>46.0</b>	<b>9.5</b>	<b>14.9</b>
<b>Retirees and Beneficiaries</b>	<b>47</b>	<b>1,014,005</b>	<b>44</b>	<b>959,410</b>	<b>64.1</b>		
<b>Total Participants</b>	<b>207</b>		<b>203</b>				

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

<sup>2</sup> Description can be found under Miscellaneous and Technical Assumptions in the [Appendix](#).

## Reported Assets (Market Value)

**Table 4**

Division	2016 Valuation		2015 Valuation	
	Employer and Retiree <sup>1</sup>	Employee <sup>2</sup>	Employer and Retiree <sup>1</sup>	Employee <sup>2</sup>
01 - TPOAM	\$ 1,147,483	\$ 301,754	\$ 998,885	\$ 250,716
02 - Pol Ptrl	3,937,709	1,347,106	3,236,566	1,228,240
05 - Fire Fght	3,091,312	1,129,686	2,567,091	951,454
10 - Elctd Ofc	296,322	153,905	225,533	177,782
11 - Dsptrchr	496,479	320,572	405,932	300,251
14 - Adm/NonUnion	4,489,480	1,447,505	3,935,055	1,287,876
15 - Utilities Dr	138,991	0	138,473	0
20 - Pol Cmnd	3,997,896	1,034,676	3,570,503	937,101
HA - POLC/cler/Dispatch aft 7/1/14	5,781	0	2,085	0
HB - IAFF ee's hired on/aft 1/1/14	5,500	0	1,741	0
HD - POAM on/after 1/1/2015	27,711	0	11,861	0
HE - Non-union on/after 1/1/2015	37,007	0	11,346	0
HF - TPOAM on/aft 3/30/15	11,610	0	2,288	0
<b>Municipality Total</b>	<b>\$ 17,683,281</b>	<b>\$ 5,735,204</b>	<b>\$ 15,107,359</b>	<b>\$ 5,133,420</b>
<b>Combined Reserves</b>	<b>\$ 23,418,485</b>		<b>\$ 20,240,779</b>	

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

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

The December 31, 2016 valuation assets are equal to 1.077095 times the reported market value of assets (compared to 1.135382 as of December 31, 2015). The derivation of valuation assets is described, and detailed calculations of valuation assets are shown, in the [Appendix](#).

## Flow of Valuation Assets

**Table 5**

Year Ended 12/31	Employer Contributions		Employee Contributions	Investment Income	Benefit Payments	Employee Contribution Refunds	Net Transfers	Valuation Asset Balance
	Required	Additional						
2006	\$ 416,355		\$ 353,345	\$ 654,031	\$ (169,433)	\$ (29,878)	\$ 36,086	\$ 9,015,922
2007	472,566		359,907	733,266	(206,619)	(96,078)	(1)	10,278,963
2008	510,445		367,989	580,155	(199,071)	(88,761)	65,728	11,515,448
2009	503,828		365,468	803,796	(310,482)	(84,863)	34,825	12,828,020
2010	742,471		432,920	1,032,060	(448,528)	(69,956)	312,836	14,829,823
2011	784,130	\$ 0	413,860	972,208	(482,536)	(39,475)	5,514	16,483,524
2012	751,402	0	415,425	929,886	(580,364)	(51,588)	26,952	17,975,237
2013	815,893	0	444,508	1,210,749	(715,656)	(15,986)	0	19,714,745
2014	808,039	0	427,000	1,197,131	(817,351)	(66,658)	0	21,262,906
2015	992,973	0	433,629	1,178,970	(911,658)	(2,733)	26,929	22,981,016
2016	1,026,766	200,000	433,666	1,382,167	(982,566)	(33,253)	216,138	25,223,934

**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, 2016

Table 6

Division	Actuarial Accrued Liability	Valuation Assets <sup>1</sup>	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
01 - TPOAM				
Active Employees	\$ 896,451	\$ 673,509	75.1%	\$ 222,942
Vested Former Employees	221,059	221,059	100.0%	0
Retirees And Beneficiaries	633,825	633,825	100.0%	0
Pending Refunds	<u>32,573</u>	<u>32,573</u>	100.0%	<u>0</u>
Total	<b>\$ 1,783,908</b>	<b>\$ 1,560,966</b>	<b>87.5%</b>	<b>\$ 222,942</b>
02 - Pol Ptrl				
Active Employees	\$ 5,968,451	\$ 4,224,421	70.8%	\$ 1,744,030
Vested Former Employees	48,944	48,944	100.0%	0
Retirees And Beneficiaries	1,397,848	1,397,848	100.0%	0
Pending Refunds	<u>21,035</u>	<u>21,035</u>	100.0%	<u>0</u>
Total	<b>\$ 7,436,278</b>	<b>\$ 5,692,248</b>	<b>76.5%</b>	<b>\$ 1,744,030</b>
05 - Fire Fght				
Active Employees	\$ 4,016,857	\$ 3,306,336	82.3%	\$ 710,521
Vested Former Employees	581,917	581,917	100.0%	0
Retirees And Beneficiaries	655,994	655,994	100.0%	0
Pending Refunds	<u>2,169</u>	<u>2,169</u>	100.0%	<u>0</u>
Total	<b>\$ 5,256,937</b>	<b>\$ 4,546,416</b>	<b>86.5%</b>	<b>\$ 710,521</b>
10 - Elctd Ofc				
Active Employees	\$ 276,004	\$ 90,665	32.8%	\$ 185,339
Vested Former Employees	138,808	40,049	28.9%	98,759
Retirees And Beneficiaries	727,470	332,850	45.8%	394,620
Pending Refunds	<u>21,373</u>	<u>21,373</u>	100.0%	<u>0</u>
Total	<b>\$ 1,163,655</b>	<b>\$ 484,937</b>	<b>41.7%</b>	<b>\$ 678,718</b>
11 - Dsptrchr				
Active Employees	\$ 688,180	\$ 759,725	110.4%	\$ (71,545)
Vested Former Employees	101,228	101,228	100.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	<u>19,089</u>	<u>19,089</u>	100.0%	<u>0</u>
Total	<b>\$ 808,497</b>	<b>\$ 880,042</b>	<b>108.8%</b>	<b>\$ (71,545)</b>
14 - Adm/NonUnion				
Active Employees	\$ 3,856,976	\$ 3,128,341	81.1%	\$ 728,635
Vested Former Employees	925,712	925,712	100.0%	0
Retirees And Beneficiaries	2,206,108	2,206,108	100.0%	0
Pending Refunds	<u>134,536</u>	<u>134,536</u>	100.0%	<u>0</u>
Total	<b>\$ 7,123,332</b>	<b>\$ 6,394,697</b>	<b>89.8%</b>	<b>\$ 728,635</b>

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets <sup>1</sup>	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
15 - Utilities Dr				
Active Employees	\$ 0	\$ 0	0.0%	\$ 0
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	234,687	149,707	63.8%	84,980
Pending Refunds	0	0	0.0%	0
Total	\$ 234,687	\$ 149,707	63.8%	\$ 84,980
20 - Pol Cmnd				
Active Employees	\$ 4,900,984	\$ 1,020,467	20.8%	\$ 3,880,517
Vested Former Employees	249,753	14,209	5.7%	235,544
Retirees And Beneficiaries	6,356,785	4,385,882	69.0%	1,970,903
Pending Refunds	0	0	0.0%	0
Total	\$ 11,507,522	\$ 5,420,558	47.1%	\$ 6,086,964
HA - POLC/cler/Dispatch aft 7/1/14				
Active Employees	\$ 2,639	\$ 6,227	236.0%	\$ (3,588)
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 2,639	\$ 6,227	236.0%	\$ (3,588)
HB - IAFF ee's hired on/aft 1/1/14				
Active Employees	\$ 8,263	\$ 5,924	71.7%	\$ 2,339
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 8,263	\$ 5,924	71.7%	\$ 2,339
HD - POAM on/after 1/1/2015				
Active Employees	\$ 18,222	\$ 29,847	163.8%	\$ (11,625)
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 18,222	\$ 29,847	163.8%	\$ (11,625)
HE - Non-union on/after 1/1/2015				
Active Employees	\$ 19,752	\$ 39,860	201.8%	\$ (20,108)
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 19,752	\$ 39,860	201.8%	\$ (20,108)
HF - TPOAM on/aft 3/30/15				
Active Employees	\$ 12,104	\$ 12,505	103.3%	\$ (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	\$ 12,104	\$ 12,505	103.3%	\$ (401)

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets <sup>1</sup>	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
<b>Total Municipality</b>				
Active Employees	\$ 20,664,883	\$ 13,297,827	64.3%	\$ 7,367,056
Vested Former Employees	2,267,421	1,933,118	85.3%	334,303
Retirees and Beneficiaries	12,212,717	9,762,214	79.9%	2,450,503
Pending Refunds	<u>230,775</u>	<u>230,775</u>	100.0%	<u>0</u>
<b>Total Participants</b>	<b>\$ 35,375,796</b>	<b>\$ 25,223,934</b>	<b>71.3%</b>	<b>\$ 10,151,862</b>
The following results show the combined accrued liabilities and assets for each set of linked divisions. These results are already included in the table above.				
Linked Divisions HF, 01				
Active Employees	\$ 908,555	\$ 686,014	75.5%	\$ 222,541
Vested Former Employees	221,059	221,059	100.0%	0
Retirees and Beneficiaries	633,825	633,825	100.0%	0
Pending Refunds	<u>32,573</u>	<u>32,573</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 1,796,012</b>	<b>\$ 1,573,471</b>	<b>87.6%</b>	<b>\$ 222,541</b>
Linked Divisions HD, 02				
Active Employees	\$ 5,986,673	\$ 4,254,268	71.1%	\$ 1,732,405
Vested Former Employees	48,944	48,944	100.0%	0
Retirees and Beneficiaries	1,397,848	1,397,848	100.0%	0
Pending Refunds	<u>21,035</u>	<u>21,035</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 7,454,500</b>	<b>\$ 5,722,095</b>	<b>76.8%</b>	<b>\$ 1,732,405</b>
Linked Divisions HB, 05				
Active Employees	\$ 4,025,120	\$ 3,312,260	82.3%	\$ 712,860
Vested Former Employees	581,917	581,917	100.0%	0
Retirees and Beneficiaries	655,994	655,994	100.0%	0
Pending Refunds	<u>2,169</u>	<u>2,169</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 5,265,200</b>	<b>\$ 4,552,340</b>	<b>86.5%</b>	<b>\$ 712,860</b>
Linked Divisions HA, 11				
Active Employees	\$ 690,819	\$ 765,952	110.9%	\$ (75,133)
Vested Former Employees	101,228	101,228	100.0%	0
Retirees and Beneficiaries	0	0	0.0%	0
Pending Refunds	<u>19,089</u>	<u>19,089</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 811,136</b>	<b>\$ 886,269</b>	<b>109.3%</b>	<b>\$ (75,133)</b>
Linked Divisions HE, 14				
Active Employees	\$ 3,876,728	\$ 3,168,201	81.7%	\$ 708,527
Vested Former Employees	925,712	925,712	100.0%	0
Retirees and Beneficiaries	2,206,108	2,206,108	100.0%	0
Pending Refunds	<u>134,536</u>	<u>134,536</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 7,143,084</b>	<b>\$ 6,434,557</b>	<b>90.1%</b>	<b>\$ 708,527</b>

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

**Please see the Comments on Asset Smoothing in the Executive Summary of this report.**

See Section 46 of the Plan Document for MERS Fiscal Responsibility policy, on the MERS website at:  
<https://employerportal.mersofmich.com/SharePointFormsService/Default.aspx?Publication=MERSPlanDocument.pdf>.

## Actuarial Accrued Liabilities - Comparative Schedule

**Table 7**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2002	\$ 6,638,884	\$ 4,826,738	73%	\$ 1,812,146
2003	8,233,918	5,826,387	71%	2,407,531
2004	9,711,666	6,750,466	70%	2,961,200
2005	10,943,440	7,755,416	71%	3,188,024
2006	12,681,900	9,015,922	71%	3,665,978
2007	14,059,796	10,278,963	73%	3,780,833
2008	15,441,447	11,515,448	75%	3,925,999
2009	16,665,216	12,828,020	77%	3,837,196
2010	18,841,079	14,829,823	79%	4,011,256
2011	21,644,476	16,483,524	76%	5,160,952
2012	23,384,220	17,975,237	77%	5,408,983
2013	26,862,373	19,714,745	73%	7,147,628
2014	28,683,079	21,262,906	74%	7,420,173
2015	32,970,609	22,981,016	70%	9,989,593
2016	35,375,796	25,223,934	71%	10,151,862

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

## Division 01 - TPOAM

Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 805,063	\$ 754,142	94%	\$ 50,921
2007	834,644	805,964	97%	28,680
2008	904,962	874,672	97%	30,290
2009	959,704	967,623	101%	(7,919)
2010	1,000,313	1,082,521	108%	(82,208)
2011	1,072,912	1,139,443	106%	(66,531)
2012	1,061,861	1,165,917	110%	(104,056)
2013	1,192,711	1,244,550	104%	(51,839)
2014	1,307,912	1,335,534	102%	(27,622)
2015	1,594,249	1,418,774	89%	175,475
2016	1,783,908	1,560,966	88%	222,942

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 <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	21	\$ 611,697	4.10%	5.00%
2007	22	646,217	4.29%	5.00%
2008	20	635,140	4.59%	5.00%
2009	21	697,600	4.23%	5.00%
2010	18	633,150	2.86%	5.00%
2011	17	602,922	4.51%	4.00%
2012	15	528,807	4.17%	3.00%
2013	20	731,576	5.40%	3.00%
2014	20	729,745	6.72%	2.00%
2015	20	822,799	\$ 5,946	2.00%
2016	16	741,752	\$ 5,707	2.00%

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

<sup>2</sup> For 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 through 12/31/2019 valuations do **not** reflect the phase-in 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 7.

See the Benefit Provision History on page 58 for past benefit provision changes.

## Division 02 - Pol Ptrl

Table 8-02: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 2,278,522	\$ 1,637,754	72%	\$ 640,768
2007	2,420,555	1,831,922	76%	588,633
2008	2,854,451	2,127,108	75%	727,343
2009	3,131,111	2,459,798	79%	671,313
2010	3,564,633	3,303,703	93%	260,930
2011	4,885,018	3,652,191	75%	1,232,827
2012	5,203,705	3,893,073	75%	1,310,632
2013	6,076,136	4,444,933	73%	1,631,203
2014	6,051,815	4,665,236	77%	1,386,579
2015	6,849,961	5,069,260	74%	1,780,701
2016	7,436,278	5,692,248	77%	1,744,030

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 December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	31	\$ 1,685,425	6.51%	5.00%
2007	28	1,635,804	6.29%	5.00%
2008	30	1,769,768	7.64%	5.00%
2009	31	1,827,777	7.28%	6.17%
2010	30	1,872,798	5.85%	6.17%
2011	30	1,860,017	11.47%	6.17%
2012	31	1,908,525	11.59%	6.17%
2013	29	1,997,648	12.58%	6.17%
2014	25	1,686,802	\$ 17,642	6.17%
2015	24	1,680,414	\$ 21,983	6.17%
2016	23	1,689,595	\$ 21,924	6.17%

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

<sup>2</sup> For 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 through 12/31/2019 valuations do **not** reflect the phase-in 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 7.

See the Benefit Provision History on page 58 for past benefit provision changes.

## Division 05 - Fire Fight

Table 8-05: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 1,500,773	\$ 1,221,594	81%	\$ 279,179
2007	1,713,134	1,419,202	83%	293,932
2008	1,867,228	1,577,772	84%	289,456
2009	2,149,803	1,849,791	86%	300,012
2010	2,522,564	2,164,526	86%	358,038
2011	2,949,361	2,489,043	84%	460,318
2012	3,288,692	2,821,512	86%	467,180
2013	3,787,941	3,230,511	85%	557,430
2014	4,136,363	3,608,244	87%	528,119
2015	4,794,809	3,994,893	83%	799,916
2016	5,256,937	4,546,416	87%	710,521

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 <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	20	\$ 985,429	6.34%	5.00%
2007	20	1,032,601	6.31%	5.00%
2008	21	1,097,550	7.04%	5.00%
2009	21	1,270,865	7.32%	5.00%
2010	23	1,517,003	7.42%	5.00%
2011	23	1,579,022	7.84%	5.00%
2012	23	1,614,967	7.96%	5.00%
2013	26	1,792,762	8.16%	5.00%
2014	25	1,734,496	\$ 11,804	5.00%
2015	25	1,767,537	\$ 14,521	5.00%
2016	25	1,772,309	\$ 13,921	5.00%

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

<sup>2</sup> For 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 through 12/31/2019 valuations do **not** reflect the phase-in 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 7.

See the Benefit Provision History on page 58 for past benefit provision changes.



## Division 10 - Elctd Ofc

Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 698,520	\$ 328,649	47%	\$ 369,871
2007	745,206	356,731	48%	388,475
2008	714,664	376,269	53%	338,395
2009	755,823	382,227	51%	373,596
2010	791,255	387,897	49%	403,358
2011	825,575	394,931	48%	430,644
2012	867,718	401,319	46%	466,399
2013	924,647	419,643	45%	505,004
2014	970,282	439,268	45%	531,014
2015	1,086,334	457,917	42%	628,417
2016	1,163,655	484,937	42%	678,718

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 <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	3	\$ 220,310	15.76%	6.93%
2007	3	225,804	16.10%	6.93%
2008	3	211,712	15.00%	6.93%
2009	3	234,513	15.83%	6.93%
2010	3	234,513	16.45%	6.93%
2011	3	234,513	18.10%	6.93%
2012	3	234,513	19.87%	6.93%
2013	3	243,533	20.46%	6.93%
2014	3	235,013	21.80%	6.93%
2015	3	235,634	26.71%	6.93%
2016	2	164,298	\$ 4,423	6.93%

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

<sup>2</sup> For 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 through 12/31/2019 valuations do **not** reflect the phase-in 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 7.

See the Benefit Provision History on page 58 for past benefit provision changes.

## Division 11 - Dsptchr

Table 8-11: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 212,728	\$ 249,975	118%	\$ (37,247)
2007	256,874	293,504	114%	(36,630)
2008	318,643	332,202	104%	(13,559)
2009	341,413	383,701	112%	(42,288)
2010	400,978	452,270	113%	(51,292)
2011	480,487	541,624	113%	(61,137)
2012	527,855	611,780	116%	(83,925)
2013	591,020	684,209	116%	(93,189)
2014	637,549	735,554	115%	(98,005)
2015	781,066	801,787	103%	(20,721)
2016	808,497	880,042	109%	(71,545)

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 <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	8	\$ 295,996	0.96%	5.00%
2007	9	346,806	1.31%	5.00%
2008	9	369,217	2.82%	5.00%
2009	9	390,756	1.87%	5.00%
2010	8	355,745	2.50%	5.00%
2011	9	395,048	2.54%	5.00%
2012	9	398,795	1.73%	5.00%
2013	8	381,680	1.52%	5.00%
2014	7	346,807	\$ 281	5.00%
2015	7	378,771	\$ 1,353	5.00%
2016	7	355,374	\$ 784	5.00%

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

<sup>2</sup> For 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 through 12/31/2019 valuations do **not** reflect the phase-in 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 7.

See the Benefit Provision History on page 58 for past benefit provision changes.

## Division 14 - Adm/NonUnion

Table 8-14: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 2,991,979	\$ 2,477,560	83%	\$ 514,419
2007	3,366,297	2,844,249	84%	522,048
2008	3,463,118	3,188,758	92%	274,360
2009	3,794,301	3,593,171	95%	201,130
2010	4,010,400	4,094,239	102%	(83,839)
2011	4,240,151	4,384,685	103%	(144,534)
2012	4,778,491	4,815,785	101%	(37,294)
2013	5,298,463	5,273,961	100%	24,502
2014	5,796,065	5,539,436	96%	256,629
2015	6,645,837	5,930,022	89%	715,815
2016	7,123,332	6,394,697	90%	728,635

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 <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	33	\$ 1,628,149	6.37%	6.00%
2007	33	1,650,460	6.12%	6.00%
2008	29	1,515,248	6.62%	5.00%
2009	33	1,800,059	6.11%	5.00%
2010	34	1,981,088	5.45%	5.00%
2011	33	1,942,390	5.35%	5.00%
2012	34	1,908,244	5.52%	5.00%
2013	34	2,026,959	6.46%	5.00%
2014	35	2,111,436	\$ 11,872	5.00%
2015	32	2,025,795	\$ 15,246	5.00%
2016	26	1,723,713	\$ 12,887	5.00%

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

<sup>2</sup> For 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 through 12/31/2019 valuations do **not** reflect the phase-in 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 7.

See the Benefit Provision History on page 58 for past benefit provision changes.

## Division 15 - Utilities Dr

Table 8-15: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 62,405	\$ 43,137	69%	\$ 19,268
2008	172,413	133,983	78%	38,430
2009	183,689	160,991	88%	22,698
2010	148,318	186,488	126%	(38,170)
2011	233,539	192,594	83%	40,945
2012	232,326	179,491	77%	52,835
2013	231,296	171,997	74%	59,299
2014	229,922	165,260	72%	64,662
2015	236,208	157,220	67%	78,988
2016	234,687	149,707	64%	84,980

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

Table 9-15: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2007	1	\$ 82,054	10.46%	6.00%
2008	1	85,036	11.17%	6.00%
2009	1	88,664	10.94%	6.00%
2010	0	0	\$ 0	0.00%
2011	0	0	\$ 227	0.00%
2012	0	0	\$ 295	0.00%
2013	0	0	\$ 351	0.00%
2014	0	0	\$ 411	0.00%
2015	0	0	\$ 566	6.00%
2016	0	0	\$ 660	6.00%

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

<sup>2</sup> For 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 through 12/31/2019 valuations do **not** reflect the phase-in 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 7.

See the Benefit Provision History on page 58 for past benefit provision changes.

## Division 20 - Pol Cmnd

Table 8-20: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 4,063,496	\$ 2,366,701	58%	\$ 1,696,795
2007	4,533,239	2,712,327	60%	1,820,912
2008	5,022,008	2,939,447	59%	2,082,561
2009	5,349,372	3,030,718	57%	2,318,654
2010	6,402,618	3,158,179	49%	3,244,439
2011	6,957,433	3,689,013	53%	3,268,420
2012	7,423,572	4,086,360	55%	3,337,212
2013	8,760,159	4,244,941	49%	4,515,218
2014	9,553,198	4,773,789	50%	4,779,409
2015	10,956,409	5,117,852	47%	5,838,557
2016	11,507,522	5,420,558	47%	6,086,964

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 <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	8	\$ 581,301	18.51%	10.06%
2007	9	679,208	18.33%	9.06%
2008	8	590,492	24.39%	9.06%
2009	5	391,489	38.28%	9.06%
2010	7	559,006	37.18%	9.06%
2011	8	646,496	33.90%	9.06%
2012	9	714,115	34.63%	9.06%
2013	8	690,649	47.79%	9.06%
2014	10	830,122	\$ 30,807	9.06%
2015	11	958,619	\$ 40,054	9.06%
2016	11	989,066	\$ 41,874	9.06%

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

<sup>2</sup> For 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 through 12/31/2019 valuations do **not** reflect the phase-in 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 7.

See the Benefit Provision History on page 58 for past benefit provision changes.

## Division HA - POLC/cler/Dispatch aft 7/1/14

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2014	\$ (27)	\$ 585	0%	\$ (612)
2015	0	2,367	0%	(2,367)
2016	2,639	6,227	236%	(3,588)

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

### Table 9-HA: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2014	1	\$ 33,995	5.99%	0.00%
2015	1	35,002	5.16%	0.00%
2016	2	87,059	5.96%	0.00%

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

<sup>2</sup> For 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 through 12/31/2019 valuations do **not** reflect the phase-in 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 7.

See the Benefit Provision History on page 58 for past benefit provision changes.

## Division HB - IAFF ee's hired on/aft 1/1/14

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	3,331	1,977	59%	1,354
2016	8,263	5,924	72%	2,339

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

**Table 9-HB: Computed Employer Contributions - Comparative Schedule**

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2015	1	45,728	6.41%	0.00%
2016	1	51,875	6.45%	0.00%

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

<sup>2</sup> For 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 through 12/31/2019 valuations do **not** reflect the phase-in 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 7.

See the Benefit Provision History on page 58 for past benefit provision changes.

## Division HD - POAM on/after 1/1/2015

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	11,692	13,467	115%	(1,775)
2016	18,222	29,847	164%	(11,625)

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

**Table 9-HD: Computed Employer Contributions - Comparative Schedule**

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2015	5	240,367	6.79%	0.00%
2016	5	216,567	6.24%	0.00%

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

<sup>2</sup> For 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 through 12/31/2019 valuations do **not** reflect the phase-in 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 7.

See the Benefit Provision History on page 58 for past benefit provision changes.



## Division HE - Non-union on/after 1/1/2015

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	10,713	12,882	120%	(2,169)
2016	19,752	39,860	202%	(20,108)

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

**Table 9-HE: Computed Employer Contributions - Comparative Schedule**

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2015	5	218,662	7.28%	0.00%
2016	9	391,660	8.16%	0.00%

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

<sup>2</sup> For 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 through 12/31/2019 valuations do **not** reflect the phase-in 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 7.

See the Benefit Provision History on page 58 for past benefit provision changes.

## Division HF - TPOAM on/aft 3/30/15

### Table 8-HF: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	\$ 0	\$ 2,598	0%	\$ (2,598)
2016	12,104	12,505	103%	(401)

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

### Table 9-HF: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2015	2	\$ 66,861	9.14%	0.00%
2016	7	241,720	7.44%	0.00%

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

<sup>2</sup> For 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 through 12/31/2019 valuations do **not** reflect the phase-in 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 7.

See the Benefit Provision History on page 58 for past benefit provision changes.

## Division 01 - TPOAM

**Table 10-01: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 1/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 175,475	23	\$ 202,009	22	\$ 13,776
Gain/Loss	12/31/2016	22,656	22	24,412	22	1,668
<b>Total</b>				<b>\$ 226,421</b>		<b>\$ 15,444</b>

\* This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

\*\* Please see the [Appendix](#) on the MERS website for a description of the amortization policy.

The unfunded accrued liability as of December 31, 2016 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2016 valuation to take into account the expected future contributions that are based on past valuations. The projected unfunded accrued liability is amortized over the appropriate period.

**Division 02 - Pol Ptrl**

**Table 10-02: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 1/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 1,780,701	23	\$ 1,862,439	22	\$ 127,008
Gain/Loss	12/31/2016	(102,473)	22	(110,415)	22	(7,536)
<b>Total</b>				<b>\$ 1,752,024</b>		<b>\$ 119,472</b>

\* This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

\*\* Please see the [Appendix](#) on the MERS website for a description of the amortization policy.

The unfunded accrued liability as of December 31, 2016 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2016 valuation to take into account the expected future contributions that are based on past valuations. The projected unfunded accrued liability is amortized over the appropriate period.

## Division 05 - Fire Fght

**Table 10-05: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 1/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 799,916	23	\$ 845,180	22	\$ 57,636
Gain/Loss	12/31/2016	(127,431)	22	(137,307)	22	(9,360)
<b>Total</b>				<b>\$ 707,873</b>		<b>\$ 48,276</b>

\* This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

\*\* Please see the [Appendix](#) on the MERS website for a description of the amortization policy.

The unfunded accrued liability as of December 31, 2016 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2016 valuation to take into account the expected future contributions that are based on past valuations. The projected unfunded accrued liability is amortized over the appropriate period.

## Division 10 - Elctd Ofc

**Table 10-10: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 1/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 628,417	23	\$ 652,286	22	\$ 44,484
Gain/Loss	12/31/2016	32,200	22	34,695	22	2,364
<b>Total</b>				<b>\$ 686,981</b>		<b>\$ 46,848</b>

\* This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

\*\* Please see the [Appendix](#) on the MERS website for a description of the amortization policy.

The unfunded accrued liability as of December 31, 2016 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2016 valuation to take into account the expected future contributions that are based on past valuations. The projected unfunded accrued liability is amortized over the appropriate period.

**Division 11 - Dsptchr**

**Table 10-11: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 1/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ (20,721)	10	\$ (7,606)	10	\$ (936)
Gain/Loss	12/31/2016	(63,538)	15	(68,462)	15	(6,096)
<b>Total</b>				<b>\$ (76,068)</b>		<b>\$ (7,032)</b>

\* This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

\*\* Please see the [Appendix](#) on the MERS website for a description of the amortization policy.

The unfunded accrued liability as of December 31, 2016 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2016 valuation to take into account the expected future contributions that are based on past valuations. The projected unfunded accrued liability is amortized over the appropriate period.

## Division 14 - Adm/NonUnion

**Table 10-14: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 1/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 715,815	23	\$ 776,424	22	\$ 52,944
Gain/Loss	12/31/2016	(41,144)	22	(44,333)	22	(3,024)
<b>Total</b>				<b>\$ 732,091</b>		<b>\$ 49,920</b>

\* This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

\*\* Please see the [Appendix](#) on the MERS website for a description of the amortization policy.

The unfunded accrued liability as of December 31, 2016 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2016 valuation to take into account the expected future contributions that are based on past valuations. The projected unfunded accrued liability is amortized over the appropriate period.



## Division 15 - Utilities Dr

**Table 10-15: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 1/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 78,988	16	\$ 79,133	14	\$ 7,416
Gain/Loss	12/31/2016	4,991	14	5,378	14	504
<b>Total</b>				<b>\$ 84,511</b>		<b>\$ 7,920</b>

\* This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

\*\* Please see the [Appendix](#) on the MERS website for a description of the amortization policy.

The unfunded accrued liability as of December 31, 2016 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2016 valuation to take into account the expected future contributions that are based on past valuations. The projected unfunded accrued liability is amortized over the appropriate period.

## Division 20 - Pol Cmnd

Table 10-20: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 1/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 5,838,557	23	\$ 6,046,264	22	\$ 412,332
Gain/Loss	12/31/2016	92,446	22	99,611	22	6,792
<b>Total</b>				<b>\$ 6,145,875</b>		<b>\$ 419,124</b>

\* This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

\*\* Please see the [Appendix](#) on the MERS website for a description of the amortization policy.

The unfunded accrued liability as of December 31, 2016 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2016 valuation to take into account the expected future contributions that are based on past valuations. The projected unfunded accrued liability is amortized over the appropriate period.

## Division HA - POLC/cler/Dispatch aft 7/1/14

**Table 10-HA: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 1/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ (2,367)	10	\$ (2,519)	10	\$ (312)
Gain/Loss	12/31/2016	(938)	15	(1,011)	15	(96)
<b>Total</b>				<b>\$ (3,530)</b>		<b>\$ (408)</b>

\* This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

\*\* Please see the [Appendix](#) on the MERS website for a description of the amortization policy.

The unfunded accrued liability as of December 31, 2016 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2016 valuation to take into account the expected future contributions that are based on past valuations. The projected unfunded accrued liability is amortized over the appropriate period.

## Division HB - IAFF ee's hired on/aft 1/1/14

### Table 10-HB: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 1/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 1,354	23	\$ 1,472	22	\$ 96
Gain/Loss	12/31/2016	881	22	949	22	60
<b>Total</b>				<b>\$ 2,421</b>		<b>\$ 156</b>

\* This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

\*\* Please see the [Appendix](#) on the MERS website for a description of the amortization policy.

The unfunded accrued liability as of December 31, 2016 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2016 valuation to take into account the expected future contributions that are based on past valuations. The projected unfunded accrued liability is amortized over the appropriate period.

**Division HD - POAM on/after 1/1/2015**

**Table 10-HD: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 1/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ (1,775)	10	\$ (1,800)	10	\$ (216)
Gain/Loss	12/31/2016	(9,711)	15	(10,464)	15	(936)
<b>Total</b>				<b>\$ (12,264)</b>		<b>\$ (1,152)</b>

\* This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

\*\* Please see the [Appendix](#) on the MERS website for a description of the amortization policy.

The unfunded accrued liability as of December 31, 2016 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2016 valuation to take into account the expected future contributions that are based on past valuations. The projected unfunded accrued liability is amortized over the appropriate period.

## Division HE - Non-union on/after 1/1/2015

### Table 10-HE: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 1/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ (2,169)	10	\$ (2,232)	10	\$ (276)
Gain/Loss	12/31/2016	(17,771)	15	(19,148)	15	(1,704)
<b>Total</b>				<b>\$ (21,380)</b>		<b>\$ (1,980)</b>

\* This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

\*\* Please see the [Appendix](#) on the MERS website for a description of the amortization policy.

The unfunded accrued liability as of December 31, 2016 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2016 valuation to take into account the expected future contributions that are based on past valuations. The projected unfunded accrued liability is amortized over the appropriate period.

**Division HF - TPOAM on/aft 3/30/15**

**Table 10-HF: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 1/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ (2,598)	10	\$ (2,235)	10	\$ (276)
Gain/Loss	12/31/2016	1,951	15	2,102	15	192
<b>Total</b>				<b>\$ (133)</b>		<b>\$ (84)</b>

\* This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

\*\* Please see the [Appendix](#) on the MERS website for a description of the amortization policy.

The unfunded accrued liability as of December 31, 2016 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2016 valuation to take into account the expected future contributions that are based on past valuations. The projected unfunded accrued liability is amortized over the appropriate period.

## GASB 68 Information

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

Actuarial Valuation Date:	12/31/2016
Measurement Date of Total Pension Liability (TPL):	12/31/2016

At 12/31/2016, the following employees were covered by the benefit terms:

Inactive employees or beneficiaries currently receiving benefits:	47
Inactive employees entitled to but not yet receiving benefits:	26
Active employees:	<u>134</u>
	207

Total Pension Liability as of 12/31/2015 measurement date:	\$	31,862,556
Total Pension Liability as of 12/31/2016 measurement date:	\$	34,208,564
Service Cost for the year ending on the 12/31/2016 measurement date:	\$	979,354

Change in the Total Pension Liability due to:

- Benefit changes <sup>1</sup> :	\$	0
- Differences between expected and actual experience <sup>2</sup> :	\$	(165,073)
- Changes in assumptions <sup>2</sup> :	\$	0

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

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

Average expected remaining service lives of all employees (active and inactive):	7
Covered employee payroll: (Needed for Required Supplementary Information)	\$ 8,424,988

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:	\$ 5,032,762	-	\$ (4,128,324)

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



## GASB 68 Information

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

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

Actuarial Valuation Date:	12/31/2016
Measurement Date of Total Pension Liability (TPL):	12/31/2017

At 12/31/2016, the following employees were covered by the benefit terms:

Inactive employees or beneficiaries currently receiving benefits:	47
Inactive employees entitled to but not yet receiving benefits:	26
Active employees:	<u>134</u>
	<u>207</u>

Total Pension Liability as of 12/31/2016 measurement date:	\$	34,156,414
Total Pension Liability as of 12/31/2017 measurement date:	\$	36,752,095
Service Cost for the year ending on the 12/31/2017 measurement date:	\$	977,200
Change in the Total Pension Liability due to:		
- Benefit changes <sup>1</sup> :	\$	0
- Differences between expected and actual experience <sup>2</sup> :	\$	56,321
- Changes in assumptions <sup>2</sup> :	\$	0

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

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

Average expected remaining service lives of all employees (active and inactive):	7
Covered employee payroll: (Needed for Required Supplementary Information)	\$ 8,424,988

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 12/31/2017:	\$ 5,302,963	-	\$ (4,356,016)

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 - TPOAM

12/1/2016	Service Credit Purchase Estimates - Yes
1/1/2014	Member Contribution Rate 2.00%
1/1/2012	Member Contribution Rate 3.00%
1/1/2011	Member Contribution Rate 4.00%
1/1/2004	Benefit B-2
11/10/2003	Covered by Act 88
7/11/1995	Blanket Resolution (All Service)
8/1/1991	Benefit FAC-3 (3 Year Final Average Compensation)
8/1/1991	10 Year Vesting
8/1/1991	Benefit C-2/Base B-1
8/1/1991	Member Contribution Rate 5.00%
8/1/1991	Fiscal Month - January

### 02 - Pol Ptrl

12/1/2016	Service Credit Purchase Estimates - Yes
1/1/2010	E2 2.5% COLA for future retirees (12/01/2009)
12/1/2009	Benefit F50 (With 25 Years of Service)
12/1/2009	Member Contribution Rate 6.17%
12/1/2006	Benefit B-3 (80% max)
8/1/2006	Temporary Benefit B-3 (80% max) (08/01/2006 - 09/30/2006)
8/1/2006	E2 2.5% Window COLA for future retirees (08/01/2006) to (09/30/2006)
11/10/2003	Covered by Act 88
1/1/2001	Benefit B-2
7/11/1995	Blanket Resolution (All Service)
8/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
8/1/1992	10 Year Vesting
8/1/1992	Benefit C-2/Base B-1
8/1/1992	Benefit F55 (With 15 Years of Service)
8/1/1992	Member Contribution Rate 5.00%
8/1/1991	Fiscal Month - January

### 05 - Fire Fight

12/1/2016	Service Credit Purchase Estimates - Yes
1/1/2007	Benefit B-3 (80% max)
11/10/2003	Covered by Act 88
3/1/2003	Benefit B-2
7/11/1995	Blanket Resolution (All Service)
8/1/1992	Day of work defined as 96 Hours a Month for All employees.
8/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
8/1/1992	10 Year Vesting

**05 - Fire Fight**

8/1/1992	Benefit C-2/Base B-1
8/1/1992	Benefit F55 (With 15 Years of Service)
8/1/1992	Member Contribution Rate 5.00%
8/1/1991	Fiscal Month - January

**10 - Elctd Ofc**

12/1/2016	Service Credit Purchase Estimates - Yes
1/1/2005	E2 2.5% COLA for future retirees (11/01/2004)
11/10/2003	Covered by Act 88
5/1/1996	Benefit B-3 (80% max)
5/1/1996	Member Contribution Rate 6.93%
4/30/1996	Member Contribution Rate 0.00%
4/1/1996	2.0% multiplier (80% max)
7/11/1995	Blanket Resolution (All Service)
8/1/1991	Fiscal Month - January
8/1/1991	Benefit FAC-3 (3 Year Final Average Compensation)
8/1/1991	8 Year Vesting
8/1/1991	Benefit B-2
8/1/1991	Member Contribution Rate 5.00%

**11 - Dsptrchr**

12/1/2016	Service Credit Purchase Estimates - Yes
12/1/2009	Benefit B-3 (80% max)
11/10/2003	Covered by Act 88
1/1/2003	Benefit B-2
7/11/1995	Blanket Resolution (All Service)
10/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
10/1/1992	10 Year Vesting
10/1/1992	Benefit C-2/Base B-1
10/1/1992	Member Contribution Rate 5.00%
8/1/1991	Fiscal Month - January

**14 - Adm/NonUnion**

12/1/2016	Service Credit Purchase Estimates - Yes
8/1/2008	Member Contribution Rate 5.00%
8/1/2005	Temporary 25 Years & Out (08/01/2005 - 11/03/2005)
1/1/2005	Benefit B-3 (80% max)
1/1/2005	Member Contribution Rate 6.00%
11/10/2003	Covered by Act 88
1/1/2000	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2000	10 Year Vesting
1/1/2000	Benefit B-2
1/1/2000	Member Contribution Rate 5.00%
7/11/1995	Blanket Resolution (All Service)
8/1/1991	Fiscal Month - January

**15 - Utilities Dr**

12/1/2016	Service Credit Purchase Estimates - Yes
10/1/2007	Blanket Resolution (All Service)
10/1/2007	Covered by Act 88
10/1/2007	Benefit FAC-3 (3 Year Final Average Compensation)
10/1/2007	10 Year Vesting
10/1/2007	Benefit B-3 (80% max)
10/1/2007	Benefit F55 (With 25 Years of Service)
10/1/2007	Member Contribution Rate 6.00%
8/1/1991	Fiscal Month - January

**20 - Pol Cmnd**

12/1/2016	Service Credit Purchase Estimates - Yes
10/1/2009	Temporary 20 Years & Out (10/01/2009 - 01/31/2010)
2/1/2007	Member Contribution Rate 9.06%
7/1/2005	Member Contribution Rate 10.06%
11/10/2003	Covered by Act 88
1/1/2001	E2 2.5% COLA for future retirees (01/01/2001)
1/1/1999	Benefit B-4 (80% max)
1/1/1999	Benefit F50 (With 25 Years of Service)
1/1/1999	Member Contribution Rate 11.06%
7/11/1995	Blanket Resolution (All Service)
6/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
6/1/1992	10 Year Vesting
6/1/1992	Benefit C-2/Base B-1
6/1/1992	Benefit F55 (With 15 Years of Service)
6/1/1992	Member Contribution Rate 5.00%
8/1/1991	Fiscal Month - January

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

10/1/2015	Hybrid Elapsed Time
7/1/2014	Day of work defined as 8 Hours a Day for All employees.
7/1/2014	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/2014	Loans
7/1/2014	Pickup
7/1/2014	Rollovers
7/1/2014	6 Year Vesting
7/1/2014	1.5% Multiplier
11/10/2003	Covered by ACT 88
8/1/1991	Fiscal Month - January

**HB - IAFF ee's hired on/aft 1/1/14**

10/1/2015	Hybrid Elapsed Time
1/1/2014	Day of work defined as 96 Hours a Month for All employees.
1/1/2014	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2014	Loans

**HB - IAFF ee's hired on/aft 1/1/14**

1/1/2014	Pickup
1/1/2014	Rollovers
1/1/2014	6 Year Vesting
1/1/2014	1.5% Multiplier
1/1/2014	Benefit F55 (With 25 Years of Service)
11/10/2003	Covered by ACT 88
8/1/1991	Fiscal Month - January

**HD - POAM on/after 1/1/2015**

10/1/2015	Hybrid Elapsed Time
1/1/2015	60
1/1/2015	Day of work defined as 8 Hours a Day for All employees.
1/1/2015	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2015	Loans
1/1/2015	6 Year Vesting
1/1/2015	1.5% Multiplier
1/1/2015	Benefit F55 (With 25 Years of Service)
8/1/1991	Fiscal Month - January

**HE - Non-union on/after 1/1/2015**

10/1/2015	Hybrid Elapsed Time
1/1/2015	60
1/1/2015	Day of work defined as 8 Hours a Day for All employees.
1/1/2015	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2015	Loans
1/1/2015	Pickup
1/1/2015	6 Year Vesting
1/1/2015	1.5% Multiplier
8/1/1991	Fiscal Month - January

**HF - TPOAM on/aft 3/30/15**

10/1/2015	Hybrid Elapsed Time
4/1/2015	Rollovers
4/1/2015	6 Year Vesting
4/1/2015	1.5% Multiplier
4/1/2015	60
4/1/2015	Day of work defined as 8 Hours a Day for All employees.
4/1/2015	Benefit FAC-3 (3 Year Final Average Compensation)
4/1/2015	Loans
4/1/2015	Pickup
8/1/1991	Fiscal Month - January

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

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

### Increase in Final Average Compensation

Division	FAC Increase Assumption
All Divisions	1.00%

### Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
All Divisions	94%

### Miscellaneous and Technical Assumptions

Loads – None.

### Amortization Policy for Closed Divisions

Closed Division	Amortization Option
All Closed Divisions	Accelerated to 5-Year Amortization