



**MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN**  
ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2016  
MANISTEE CO (5101)



Spring, 2017

Manistee Co

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 Manistee Co (5101) 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. Manistee Co 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 October 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>	70%	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:	October 1, 2018	October 1, 2018	October 1, 2017	October 1, 2017	October 1, 2018	October 1, 2018	October 1, 2017	October 1, 2017
<b>Division</b>								
01 - General	-	-	-	-	\$ 0	\$ 0	\$ 0	\$ 0
02 - Sheriff/POAM	-	-	-	-	16,952	18,431	14,723	16,695
04 - MCF	11.15%	12.17%	10.94%	12.25%	47,924	52,298	48,055	53,831
10 - 911 Employees	7.98%	8.62%	7.41%	8.33%	4,008	4,332	3,500	3,932
11 - Exec Employees	-	-	-	-	16,309	17,362	14,842	16,246
12 - Elected Officials	-	-	-	-	7,409	7,898	6,037	6,689
13 - GEA & TPOAM	-	-	-	-	10,968	11,928	9,488	10,768
14 - Court Employees	-	-	-	-	18,688	20,482	18,593	20,985
20 - Sheriff/Adm	-	-	-	-	6,160	6,688	5,396	6,100
41 - Medical Facility Admin	-	-	-	-	0	0	10,261	10,317
HA - AFSCME hired aft 10/01	8.16%	8.26%	8.07%	8.23%	2,936	2,972	2,458	2,506
HB - Sheriff POAM (POLC) af	6.59%	6.59%	6.61%	6.61%	3,354	3,354	2,274	2,274
HC - Executive after 10/1/2	7.94%	7.99%	7.93%	8.01%	2,704	2,722	2,446	2,470
HE - Court EEs hired af 11/	7.38%	7.46%	8.01%	8.12%	4,254	4,299	4,388	4,448
<b>Municipality Total</b>					<b>\$ 141,666</b>	<b>\$ 152,766</b>	<b>\$ 142,461</b>	<b>\$ 157,261</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 - General	0.00%	0.00%
02 - Sheriff/POAM	12.28%	12.28%
04 - MCF	4.85%	4.22%

Valuation Date:	Employee Contribution Rate	
	12/31/2016	12/31/2015
<b>Division</b>		
10 - 911 Employees	2.52%	2.52%
11 - Exec Employees	2.44%	2.44%
12 - Elected Officials	4.53%	4.53%
13 - GEA & TPOAM	5.99%	5.99%
14 - Court Employees	3.28%	3.28%
20 - Sheriff/Adm	2.88%	2.88%
41 - Medical Facility Admin	0.00%	0.00%
HA - AFSCME hired aft 10/01	0.00%	0.00%
HB - Sheriff POAM (POLC) af	0.00%	0.00%
HC - Executive after 10/1/2	0.00%	0.00%
HE - Court EEs hired af 11/	0.00%	0.00%

The employer may contribute more than the minimum required contributions, as these additional contributions will earn investment income and may result in lower future contribution requirements. **MERS strongly encourages employers to contribute more than the minimum contribution shown above.**

Assuming that experience of the plan meets actuarial assumptions:

- To accelerate to a 100% funding ratio in 10 years, estimated monthly employer contributions for the entire employer would be \$ 219,171, instead of \$ 152,766.

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 65% (instead of 70%); and ii) your total employer contribution requirement for the fiscal year starting October 1, 2018 would be \$ 2,030,376 (instead of \$ 1,833,192).

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	\$ 66,145,842	\$ 58,798,778	\$ 52,648,167	\$ 47,466,970
Valuation Assets	\$ 36,953,823	\$ 36,953,823	\$ 36,953,823	\$ 36,953,823
Unfunded Accrued Liability	\$ 29,192,019	\$ 21,844,955	\$ 15,694,344	\$ 10,513,147
<b>Funded Ratio</b>	56%	63%	70%	78%
Monthly Normal Cost	\$ 105,906	\$ 76,894	\$ 55,143	\$ 38,440
Monthly Amortization Payment	\$ 145,289	\$ 116,513	\$ 97,623	\$ 69,046
<b>Total Employer Contribution<sup>1</sup></b>	\$ 260,146	\$ 203,445	\$ 152,766	\$ 107,486

<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

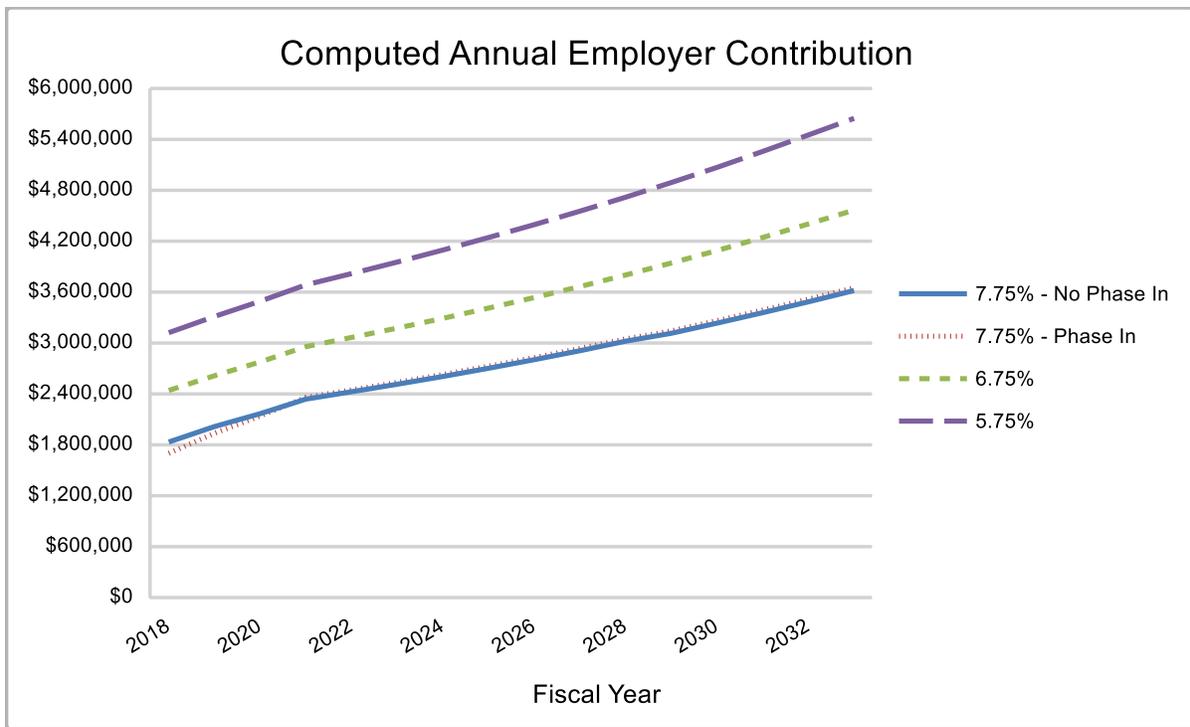
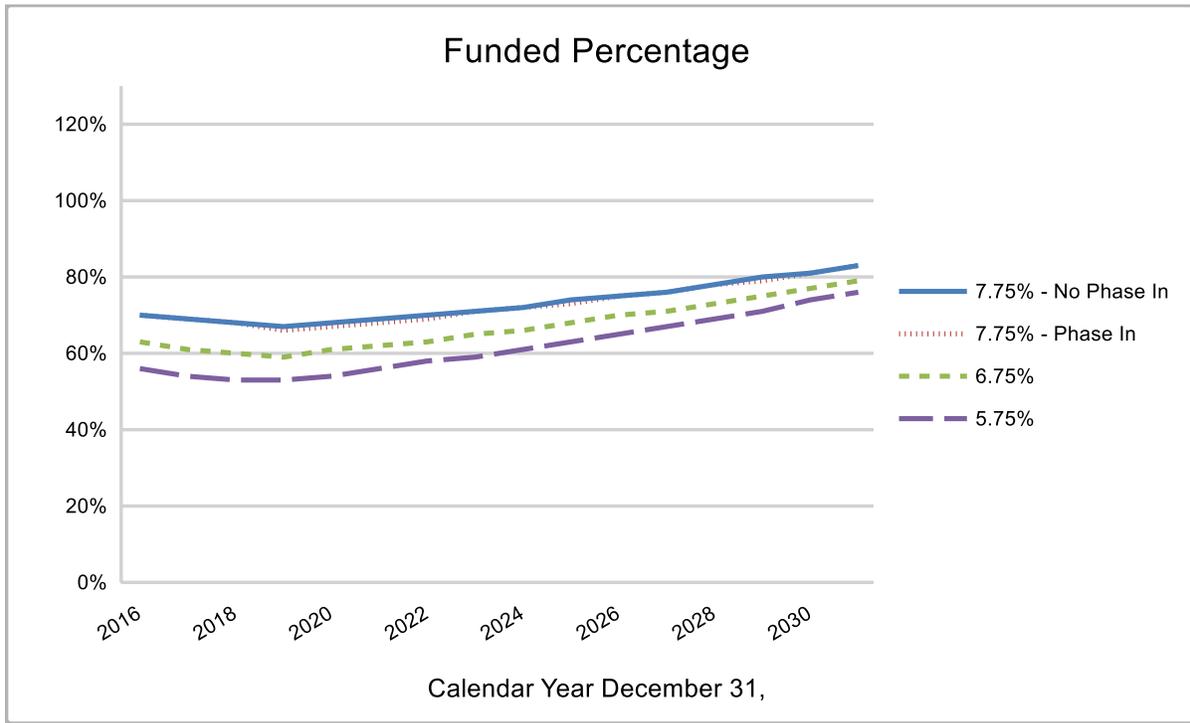
The next two pages show projections of the plan's funded ratio and computed employer contributions under the actuarial assumptions used in the valuation and alternate assumed long-term investment return scenarios. All four projections take into account the past investment losses that will continue to 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 10/1	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	\$ 52,648,167	\$ 36,953,823	70%	\$ 1,699,992
2017	2019	54,600,000	37,600,000	69%	1,940,000
2018	2020	56,700,000	38,400,000	68%	2,140,000
2019	2021	58,700,000	39,000,000	66%	2,360,000
2020	2022	60,600,000	40,700,000	67%	2,450,000
2021	2023	62,600,000	42,600,000	68%	2,540,000
<b>NO 5-YEAR PHASE-IN</b>					
2016	2018	\$ 52,648,167	\$ 36,953,823	70%	\$ 1,833,192
2017	2019	54,600,000	37,600,000	69%	2,020,000
2018	2020	56,700,000	38,400,000	68%	2,170,000
2019	2021	58,700,000	39,100,000	67%	2,340,000
2020	2022	60,600,000	41,000,000	68%	2,430,000
2021	2023	62,600,000	42,900,000	69%	2,510,000
<b>6.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return</b>					
<b>NO 5-YEAR PHASE-IN</b>					
2016	2018	\$ 58,798,778	\$ 36,953,823	63%	\$ 2,441,340
2017	2019	60,900,000	37,300,000	61%	2,610,000
2018	2020	63,200,000	37,800,000	60%	2,780,000
2019	2021	65,300,000	38,800,000	59%	2,960,000
2020	2022	67,400,000	40,800,000	61%	3,070,000
2021	2023	69,500,000	43,000,000	62%	3,180,000
<b>5.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return</b>					
<b>NO 5-YEAR PHASE-IN</b>					
2016	2018	\$ 66,145,842	\$ 36,953,823	56%	\$ 3,121,752
2017	2019	68,500,000	36,900,000	54%	3,310,000
2018	2020	70,900,000	37,300,000	53%	3,490,000
2019	2021	73,200,000	38,600,000	53%	3,690,000
2020	2022	75,500,000	41,000,000	54%	3,820,000
2021	2023	77,800,000	43,500,000	56%	3,950,000



## Employer Contribution Details For the Fiscal Year Beginning October 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 - General	-	-	-	-			0.00%	
02 - Sheriff/POAM	-	-	-	-	15.95%	14.87%	12.28%	
04 - MCF	4.81%	7.36%	12.17%	11.15%			4.85%	0.86%
10 - 911 Employees	7.37%	1.25%	8.62%	7.98%			2.52%	0.88%
11 - Exec Employees	-	-	-	-	21.84%	20.68%	2.44%	
12 - Elected Officials	-	-	-	-			4.53%	
13 - GEA & TPOAM	-	-	-	-	20.33%	18.97%	5.99%	
14 - Court Employees	-	-	-	-	22.50%	20.83%	3.28%	
20 - Sheriff/Adm	-	-	-	-			2.88%	
HA - AFSCME hired aft 1	8.21%	0.05%	8.26%	8.16%	20.33%	18.97%	0.00%	0.84%
HB - Sheriff POAM (POLC	6.39%	0.20%	6.59%	6.59%	15.95%	14.87%	0.00%	0.89%
HC - Executive after 10	7.63%	0.36%	7.99%	7.94%	21.84%	20.68%	0.00%	0.93%
HE - Court EEs hired af	7.39%	0.07%	7.46%	7.38%	22.50%	20.83%	0.00%	0.88%
<b>Estimated Monthly Contribution<sup>3</sup></b>								
01 - General	\$ 0	\$ 0	\$ 0	\$ 0				
02 - Sheriff/POAM	3,171	15,260	18,431	16,952				
04 - MCF	20,667	31,631	52,298	47,924				
10 - 911 Employees	3,703	629	4,332	4,008				
11 - Exec Employees	5,235	12,127	17,362	16,309				
12 - Elected Officials	1,194	6,704	7,898	7,409				
13 - GEA & TPOAM	2,321	9,607	11,928	10,968				
14 - Court Employees	5,134	15,348	20,482	18,688				
20 - Sheriff/Adm	654	6,034	6,688	6,160				
HA - AFSCME hired aft 1	2,955	17	2,972	2,936				

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					
HB - Sheriff POAM (POLC	3,252	102	3,354	3,354				
HC - Executive after 10	2,599	123	2,722	2,704				
HE - Court EEs hired af	4,258	41	4,299	4,254				
<b>Total Municipality</b>	<b>\$ 55,143</b>	<b>\$ 97,623</b>	<b>\$ 152,766</b>	<b>\$ 141,666</b>				
<b>Estimated Annual Contribution<sup>3</sup></b>	<b>\$ 661,716</b>	<b>\$ 1,171,476</b>	<b>\$ 1,833,192</b>	<b>\$ 1,699,992</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 October 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

<b>01 - General: Closed to new hires</b>		
	<b>2016 Valuation</b>	<b>2015 Valuation</b>
<b>Benefit Multiplier:</b>	2.00% Multiplier (no max)	2.00% Multiplier (no 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>	5 years	5 years
<b>Employee Contributions:</b>	0%	0%
<b>Act 88:</b>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)
<b>02 - Sheriff/POAM: Closed to new hires, linked to Division HB</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>	8 years	8 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>COLA for Future Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	12.28%	12.28%
<b>Act 88:</b>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)
<b>04 - MCF: Open Division</b>		
	<b>2016 Valuation</b>	<b>2015 Valuation</b>
<b>Benefit Multiplier:</b>	2.00% Multiplier (no max)	2.00% Multiplier (no max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	6 years	6 years
<b>Early Retirement (Unreduced):</b>	30 and Out	30 and Out
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>Employee Contributions:</b>	4.85%	4.22%
<b>Act 88:</b>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)

Table 2 (continued)

<b>10 - 911 Employees: Open Division</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>	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>	5 years	5 years
<b>Employee Contributions:</b>	2.52%	2.52%
<b>Act 88:</b>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)
<b>11 - Exec Employees: 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>	8 years	8 years
<b>Early Retirement (Unreduced):</b>	55/20	55/20
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>Employee Contributions:</b>	2.44%	2.44%
<b>Act 88:</b>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)
<b>12 - Elected Officials: Closed to new hires, linked to Division HD</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>	8 years	8 years
<b>Early Retirement (Unreduced):</b>	55/20	55/20
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>Employee Contributions:</b>	4.53%	4.53%
<b>Act 88:</b>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)
<b>13 - GEA &amp; TPOAM: Closed to new hires, linked to Division HA</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>	8 years	8 years
<b>Early Retirement (Unreduced):</b>	55/20	55/20
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>Employee Contributions:</b>	5.99%	5.99%
<b>Act 88:</b>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)

Table 2 (continued)

**14 - Court Employees: Closed to new hires, linked to Division HE**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	8 years	8 years
<b>Early Retirement (Unreduced):</b>	55/20	55/20
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>Employee Contributions:</b>	3.28%	3.28%
<b>Act 88:</b>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)

**20 - Sheriff/Adm: Closed to new hires, linked to Division HF**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	8 years	8 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>Employee Contributions:</b>	2.88%	2.88%
<b>Act 88:</b>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)

**41 - Medical Facility Administrator: Closed to new hires**

	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>	6 years	6 years
<b>Early Retirement (Unreduced):</b>	50/30	50/30
<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>	0%	0%
<b>Act 88:</b>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)

**HA - AFSCME hired aft 10/01/2011: Open Division, linked to Division 13**

	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>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)

Table 2 (continued)

**HB - Sheriff POAM (POLC) af 10/1/12: 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>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)

**HC - Executive after 10/1/2012: Open Division, linked to Division 11**

	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>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)

**HE - Court EEs hired af 11/1/2012: 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>	Yes (Adopted 12/8/1970)	Yes (Adopted 12/8/1970)

## 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 - General							
Active Employees	0	\$ 0	0	\$ 0	0.0	0.0	0.0
Vested Former Employees	2	4,801	1	4,004	54.3	5.1	10.0
Retirees and Beneficiaries	15	56,094	15	56,094	77.1		
02 - Sheriff/POAM							
Active Employees	19	\$ 1,017,465	20	\$ 1,041,121	43.4	14.1	14.1
Vested Former Employees	4	20,450	5	32,364	45.3	6.0	18.5
Retirees and Beneficiaries	20	292,278	18	269,920	67.8		
04 - MCF							
Active Employees	132	\$ 4,658,970	133	\$ 4,764,948	43.6	9.7	10.1
Vested Former Employees	44	219,950	43	198,147	49.2	8.5	11.2
Retirees and Beneficiaries	101	1,171,481	98	1,009,435	69.4		
10 - 911 Employees							
Active Employees	12	\$ 544,795	12	\$ 511,836	45.4	13.6	14.7
Vested Former Employees	3	47,514	4	49,050	50.8	15.2	19.2
Retirees and Beneficiaries	1	7,065	1	7,065	68.0		
11 - Exec Employees							
Active Employees	17	\$ 826,210	17	\$ 797,847	46.8	12.8	14.0
Vested Former Employees	4	49,452	4	49,452	50.4	10.2	13.1
Retirees and Beneficiaries	9	219,015	9	219,015	67.4		
12 - Elected Officials							
Active Employees	3	\$ 196,725	3	\$ 226,266	54.7	14.9	19.4
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	4	159,579	3	100,829	64.4		
13 - GEA & TPOAM							
Active Employees	17	\$ 556,935	21	\$ 633,618	54.1	15.3	15.3
Vested Former Employees	2	1,475	2	1,475	57.8	1.8	15.0
Retirees and Beneficiaries	18	264,989	15	216,394	68.2		
14 - Court Employees							
Active Employees	16	\$ 709,590	22	\$ 940,869	52.1	11.7	14.4
Vested Former Employees	12	220,823	8	136,774	54.0	15.4	19.4
Retirees and Beneficiaries	27	486,983	25	470,345	65.8		
20 - Sheriff/Adm							
Active Employees	2	\$ 123,445	3	\$ 189,048	48.2	26.3	26.3
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	5	179,071	4	127,712	60.8		

**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>
41 - Medical Facility Adm							
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	0	0	2	109,685	0.0		
HA - AFSCME hired aft 10/							
Active Employees	10	\$ 238,032	8	\$ 160,598	49.1	1.5	1.5
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
HB - Sheriff POAM (POLC)							
Active Employees	13	\$ 463,571	8	\$ 293,975	39.0	2.0	2.0
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
HC - Executive after 10/1							
Active Employees	4	\$ 171,115	4	\$ 149,735	40.8	3.4	8.2
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
HE - Court EEs hired af 1							
Active Employees	10	\$ 484,997	8	\$ 366,760	41.7	1.7	3.5
Vested Former Employees	2	2,212	1	695	51.9	1.8	9.8
Retirees and Beneficiaries	0	0	0	0	0.0		
<b>Total Municipality</b>							
<b>Active Employees</b>	<b>255</b>	<b>\$ 9,991,850</b>	<b>259</b>	<b>\$ 10,076,621</b>	<b>45.2</b>	<b>10.0</b>	<b>10.7</b>
<b>Vested Former Employees</b>	<b>73</b>	<b>566,677</b>	<b>68</b>	<b>471,961</b>	<b>50.4</b>	<b>9.4</b>	<b>13.4</b>
<b>Retirees and Beneficiaries</b>	<b>200</b>	<b>2,836,555</b>	<b>190</b>	<b>2,586,494</b>	<b>68.8</b>		
<b>Total Participants</b>	<b>528</b>		<b>517</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 - General	\$ 1,352,614	\$ 0	\$ 1,268,770	\$ 0
02 - Sheriff/POAM	3,252,452	864,730	2,952,757	771,903
04 - MCF	13,082,240	891,996	11,560,879	738,771
10 - 911 Employees	1,367,135	205,649	1,181,197	190,903
11 - Exec Employees	2,330,798	256,164	2,154,866	227,847
12 - Elected Officials	1,011,661	59,759	823,574	108,312
13 - GEA & TPOAM	2,332,061	314,275	2,198,768	314,013
14 - Court Employees	4,663,988	441,722	4,374,419	436,275
20 - Sheriff/Adm	1,610,604	49,786	1,459,682	94,379
41 - Medical Facility Administrator	0	0	221,605	0
HA - AFSCME hired aft 10/01/2011	35,023	0	17,585	0
HB - Sheriff POAM (POLC) af 10/1/12	74,309	0	40,454	0
HC - Executive after 10/1/2012	35,282	0	20,243	0
HE - Court EEs hired af 11/1/2012	76,538	0	33,957	0
<b>Municipality Total</b>	<b>\$ 31,224,705</b>	<b>\$ 3,084,081</b>	<b>\$ 28,308,756</b>	<b>\$ 2,882,403</b>
<b>Combined Reserves</b>	<b>\$ 34,308,786</b>		<b>\$ 31,191,159</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	\$ 1,068,561		\$ 189,730	\$ 1,620,885	\$ (851,189)	\$ (7,341)	\$ 0	\$ 21,872,750
2007	1,123,584		224,450	1,771,002	(1,045,981)	(19,857)	9,097	23,935,045
2008	1,178,188		230,119	1,182,754	(1,182,275)	(6,298)	23,222	25,360,755
2009	1,256,070		247,418	1,402,588	(1,339,391)	(9,407)	52,425	26,970,458
2010	1,536,237		276,547	1,639,656	(1,561,388)	(25,378)	0	28,836,132
2011	1,329,259	\$ 0	298,496	1,572,288	(1,763,005)	(16,612)	0	30,256,558
2012	1,253,282	0	339,894	1,458,482	(1,835,042)	(23,342)	56,346	31,506,178
2013	1,277,307	0	309,257	1,925,047	(1,979,373)	(33,091)	36,130	33,041,455
2014	1,304,362	0	407,374	1,915,524	(2,197,586)	(37,483)	48,038	34,481,684
2015	1,352,930	0	381,789	1,718,738	(2,505,464)	(15,796)	0	35,413,881
2016	1,341,154	500,003	452,068	1,888,489	(2,653,542)	(17,468)	29,238	36,953,823

**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 - General				
Active Employees	\$ 0	\$ 958,052	0.0%	\$ (958,052)
Vested Former Employees	40,483	40,483	100.0%	0
Retirees And Beneficiaries	458,359	458,359	100.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	<b>\$ 498,842</b>	<b>\$ 1,456,894</b>	<b>292.1%</b>	<b>\$ (958,052)</b>
02 - Sheriff/POAM				
Active Employees	\$ 3,498,404	\$ 895,731	25.6%	\$ 2,602,673
Vested Former Employees	146,521	146,521	100.0%	0
Retirees And Beneficiaries	3,380,824	3,380,824	100.0%	0
Pending Refunds	<u>11,520</u>	<u>11,520</u>	100.0%	<u>0</u>
Total	<b>\$ 7,037,269</b>	<b>\$ 4,434,596</b>	<b>63.0%</b>	<b>\$ 2,602,673</b>
04 - MCF				
Active Employees	\$ 8,504,436	\$ 3,077,130	36.2%	\$ 5,427,306
Vested Former Employees	1,112,865	1,112,865	100.0%	0
Retirees And Beneficiaries	10,803,743	10,803,743	100.0%	0
Pending Refunds	<u>57,842</u>	<u>57,842</u>	100.0%	<u>0</u>
Total	<b>\$ 20,478,886</b>	<b>\$ 15,051,580</b>	<b>73.5%</b>	<b>\$ 5,427,306</b>
10 - 911 Employees				
Active Employees	\$ 1,425,983	\$ 1,326,666	93.0%	\$ 99,317
Vested Former Employees	301,877	301,877	100.0%	0
Retirees And Beneficiaries	65,207	65,207	100.0%	0
Pending Refunds	<u>288</u>	<u>288</u>	100.0%	<u>0</u>
Total	<b>\$ 1,793,355</b>	<b>\$ 1,694,038</b>	<b>94.5%</b>	<b>\$ 99,317</b>
11 - Exec Employees				
Active Employees	\$ 2,306,448	\$ 249,753	10.8%	\$ 2,056,695
Vested Former Employees	397,177	397,177	100.0%	0
Retirees And Beneficiaries	2,133,552	2,133,552	100.0%	0
Pending Refunds	<u>5,922</u>	<u>5,922</u>	100.0%	<u>0</u>
Total	<b>\$ 4,843,099</b>	<b>\$ 2,786,404</b>	<b>57.5%</b>	<b>\$ 2,056,695</b>
12 - Elected Officials				
Active Employees	\$ 614,008	\$ 58,491	9.5%	\$ 555,517
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	1,671,019	1,095,530	65.6%	575,489
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	<b>\$ 2,285,027</b>	<b>\$ 1,154,021</b>	<b>50.5%</b>	<b>\$ 1,131,006</b>

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets <sup>1</sup>	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
13 - GEA & TPOAM				
Active Employees	\$ 1,891,797	\$ 297,758	15.7%	\$ 1,594,039
Vested Former Employees	12,819	2,591	20.2%	10,228
Retirees And Beneficiaries	2,560,879	2,536,228	99.0%	24,651
Pending Refunds	<u>13,778</u>	<u>13,778</u>	100.0%	<u>0</u>
Total	<b>\$ 4,479,273</b>	<b>\$ 2,850,355</b>	<b>63.6%</b>	<b>\$ 1,628,918</b>
14 - Court Employees				
Active Employees	\$ 1,738,532	\$ 195,914	11.3%	\$ 1,542,618
Vested Former Employees	1,537,344	447,918	29.1%	1,089,426
Retirees And Beneficiaries	4,849,484	4,849,484	100.0%	0
Pending Refunds	<u>6,019</u>	<u>6,019</u>	100.0%	<u>0</u>
Total	<b>\$ 8,131,379</b>	<b>\$ 5,499,335</b>	<b>67.6%</b>	<b>\$ 2,632,044</b>
20 - Sheriff/Adm				
Active Employees	\$ 814,637	\$ 49,236	6.0%	\$ 765,401
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	1,997,899	1,739,162	87.0%	258,737
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	<b>\$ 2,812,536</b>	<b>\$ 1,788,398</b>	<b>63.6%</b>	<b>\$ 1,024,138</b>
HA - AFSCME hired aft 10/01/2011				
Active Employees	\$ 40,714	\$ 37,723	92.7%	\$ 2,991
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	<b>\$ 40,714</b>	<b>\$ 37,723</b>	<b>92.7%</b>	<b>\$ 2,991</b>
HB - Sheriff POAM (POLC) af 10/1/12				
Active Employees	\$ 96,983	\$ 80,038	82.5%	\$ 16,945
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	<b>\$ 96,983</b>	<b>\$ 80,038</b>	<b>82.5%</b>	<b>\$ 16,945</b>
HC - Executive after 10/1/2012				
Active Employees	\$ 58,863	\$ 38,002	64.6%	\$ 20,861
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	<b>\$ 58,863</b>	<b>\$ 38,002</b>	<b>64.6%</b>	<b>\$ 20,861</b>
HE - Court EEs hired af 11/1/2012				
Active Employees	\$ 79,878	\$ 70,376	88.1%	\$ 9,502
Vested Former Employees	12,063	12,063	100.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	<b>\$ 91,941</b>	<b>\$ 82,439</b>	<b>89.7%</b>	<b>\$ 9,502</b>

**Table 6 (continued)**

Division	Actuarial Accrued Liability	Valuation Assets <sup>1</sup>	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
<b>Total Municipality</b>				
Active Employees	\$ 21,070,683	\$ 7,334,870	34.8%	\$ 13,735,813
Vested Former Employees	3,561,149	2,461,495	69.1%	1,099,654
Retirees and Beneficiaries	27,920,966	27,062,089	96.9%	858,877
Pending Refunds	<u>95,369</u>	<u>95,369</u>	100.0%	<u>0</u>
<b>Total Participants</b>	<b>\$ 52,648,167</b>	<b>\$ 36,953,823</b>	<b>70.2%</b>	<b>\$ 15,694,344</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.				
<b>Linked Divisions HB, 02</b>				
Active Employees	\$ 3,595,387	\$ 975,769	27.1%	\$ 2,619,618
Vested Former Employees	146,521	146,521	100.0%	0
Retirees and Beneficiaries	3,380,824	3,380,824	100.0%	0
Pending Refunds	<u>11,520</u>	<u>11,520</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 7,134,252</b>	<b>\$ 4,514,634</b>	<b>63.3%</b>	<b>\$ 2,619,618</b>
<b>Linked Divisions HC, 11</b>				
Active Employees	\$ 2,365,311	\$ 287,755	12.2%	\$ 2,077,556
Vested Former Employees	397,177	397,177	100.0%	0
Retirees and Beneficiaries	2,133,552	2,133,552	100.0%	0
Pending Refunds	<u>5,922</u>	<u>5,922</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 4,901,962</b>	<b>\$ 2,824,406</b>	<b>57.6%</b>	<b>\$ 2,077,556</b>
<b>Linked Divisions HA, 13</b>				
Active Employees	\$ 1,932,511	\$ 335,481	17.4%	\$ 1,597,030
Vested Former Employees	12,819	2,591	20.2%	10,228
Retirees and Beneficiaries	2,560,879	2,536,228	99.0%	24,651
Pending Refunds	<u>13,778</u>	<u>13,778</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 4,519,987</b>	<b>\$ 2,888,078</b>	<b>63.9%</b>	<b>\$ 1,631,909</b>
<b>Linked Divisions HE, 14</b>				
Active Employees	\$ 1,818,410	\$ 266,290	14.6%	\$ 1,552,120
Vested Former Employees	1,549,407	459,981	29.7%	1,089,426
Retirees and Beneficiaries	4,849,484	4,849,484	100.0%	0
Pending Refunds	<u>6,019</u>	<u>6,019</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 8,223,320</b>	<b>\$ 5,581,774</b>	<b>67.9%</b>	<b>\$ 2,641,546</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	\$ 18,936,031	\$ 15,068,096	80%	\$ 3,867,935
2003	20,679,808	16,710,314	81%	3,969,494
2004	22,701,054	18,266,909	80%	4,434,145
2005	24,390,467	19,852,104	81%	4,538,363
2006	27,629,462	21,872,750	79%	5,756,712
2007	31,065,279	23,935,045	77%	7,130,234
2008	33,375,896	25,360,755	76%	8,015,141
2009	34,479,961	26,970,458	78%	7,509,503
2010	36,592,533	28,836,132	79%	7,756,401
2011	39,228,060	30,256,558	77%	8,971,502
2012	41,258,320	31,506,178	76%	9,752,142
2013	43,329,826	33,041,455	76%	10,288,371
2014	46,145,483	34,481,684	75%	11,663,799
2015	50,527,189	35,413,881	70%	15,113,308
2016	52,648,167	36,953,823	70%	15,694,344

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

## Division 01 - General

**Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 739,318	\$ 1,435,762	194%	\$ (696,444)
2007	762,484	1,476,381	194%	(713,897)
2008	724,670	1,474,886	204%	(750,216)
2009	691,759	1,472,592	213%	(780,833)
2010	623,477	1,327,578	213%	(704,101)
2011	609,042	1,332,163	219%	(723,121)
2012	609,550	1,335,265	219%	(725,715)
2013	564,145	1,359,509	241%	(795,364)
2014	507,088	1,430,025	282%	(922,937)
2015	502,337	1,440,539	287%	(938,202)
2016	498,842	1,456,894	292%	(958,052)

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	1	\$ 8,121	0.00%	0.00%
2007	1	9,656	0.00%	0.00%
2008	1	9,040	0.00%	0.00%
2009	1	8,640	0.00%	0.00%
2010	1	8,640	0.00%	0.00%
2011	1	8,520	0.00%	0.00%
2012	1	11,187	0.00%	0.00%
2013	0	0	\$ 0	0.00%
2014	0	0	\$ 0	0.00%
2015	0	0	\$ 0	0.00%
2016	0	0	\$ 0	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 57 for past benefit provision changes.

## Division 02 - Sheriff/POAM

Table 8-02: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 3,268,713	\$ 2,664,131	82%	\$ 604,582
2007	3,805,191	2,739,311	72%	1,065,880
2008	3,894,810	2,745,255	70%	1,149,555
2009	4,016,871	2,889,651	72%	1,127,220
2010	4,209,382	3,096,990	74%	1,112,392
2011	4,552,496	3,309,956	73%	1,242,540
2012	5,087,061	3,596,243	71%	1,490,818
2013	5,468,332	3,834,273	70%	1,634,059
2014	5,931,070	4,046,642	68%	1,884,428
2015	6,586,413	4,228,912	64%	2,357,501
2016	7,037,269	4,434,596	63%	2,602,673

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	24	\$ 976,582	11.80%	1.33%
2007	24	1,070,070	12.00%	5.91%
2008	24	1,045,353	12.00%	7.91%
2009	25	1,121,135	12.00%	7.72%
2010	25	1,145,538	12.00%	7.54%
2011	25	1,173,102	12.00%	7.84%
2012	24	1,195,594	\$ 13,782	7.54%
2013	22	1,093,007	\$ 14,572	7.84%
2014	20	1,026,719	\$ 14,709	9.57%
2015	20	1,041,121	\$ 16,695	12.28%
2016	19	1,017,465	\$ 18,431	12.28%

<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 57 for past benefit provision changes.

## Division 04 - MCF

**Table 8-04: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 10,249,703	\$ 8,597,858	84%	\$ 1,651,845
2007	12,025,114	9,693,514	81%	2,331,600
2008	12,956,859	10,284,029	79%	2,672,830
2009	13,070,921	10,968,020	84%	2,102,901
2010	14,101,940	11,647,589	83%	2,454,351
2011	15,101,655	12,165,558	81%	2,936,097
2012	15,684,070	12,579,145	80%	3,104,925
2013	16,420,741	13,104,416	80%	3,316,325
2014	17,578,284	13,599,449	77%	3,978,835
2015	19,249,440	13,964,801	73%	5,284,639
2016	20,478,886	15,051,580	74%	5,427,306

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

**Table 9-04: 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	147	\$ 4,521,201	9.48%	1.09%
2007	140	4,698,734	10.16%	1.09%
2008	150	4,948,211	10.84%	1.09%
2009	155	4,988,760	10.12%	1.09%
2010	166	5,446,601	10.37%	1.09%
2011	164	5,512,443	9.95%	1.79%
2012	150	5,046,655	10.54%	2.07%
2013	132	4,526,071	11.39%	2.07%
2014	128	4,762,440	10.88%	3.24%
2015	133	4,764,948	12.25%	4.22%
2016	132	4,658,970	12.17%	4.85%

<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 57 for past benefit provision changes.

## Division 10 - 911 Employees

**Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 615,270	\$ 502,473	82%	\$ 112,797
2007	720,834	585,087	81%	135,747
2008	817,655	664,918	81%	152,737
2009	854,423	812,535	95%	41,888
2010	938,807	975,230	104%	(36,423)
2011	1,086,257	1,084,705	100%	1,552
2012	1,174,771	1,184,073	101%	(9,302)
2013	1,294,055	1,308,870	101%	(14,815)
2014	1,400,025	1,433,088	102%	(33,063)
2015	1,624,420	1,557,858	96%	66,562
2016	1,793,355	1,694,038	95%	99,317

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	11	\$ 387,106	8.43%	2.52%
2007	11	410,300	8.82%	2.52%
2008	11	425,346	9.16%	2.52%
2009	11	437,482	7.61%	2.52%
2010	11	448,872	6.19%	2.52%
2011	11	463,095	7.05%	2.52%
2012	11	464,434	6.73%	2.52%
2013	11	460,819	6.97%	2.52%
2014	10	431,427	6.72%	2.52%
2015	12	511,836	8.33%	2.52%
2016	12	544,795	8.62%	2.52%

<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 57 for past benefit provision changes.

## Division 11 - Exec Employees

**Table 8-11: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 2,104,166	\$ 1,444,167	69%	\$ 659,999
2007	2,500,478	1,720,662	69%	779,816
2008	2,788,124	1,936,487	69%	851,637
2009	3,211,291	2,157,213	67%	1,054,078
2010	3,278,546	2,275,482	69%	1,003,064
2011	3,529,663	2,364,102	67%	1,165,561
2012	3,769,364	2,446,624	65%	1,322,740
2013	3,914,884	2,537,327	65%	1,377,557
2014	4,168,459	2,630,629	63%	1,537,830
2015	4,608,182	2,705,289	59%	1,902,893
2016	4,843,099	2,786,404	58%	2,056,695

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	10	\$ 458,324	15.57%	2.44%
2007	12	556,571	15.37%	2.44%
2008	17	742,830	14.58%	2.44%
2009	19	794,052	15.98%	2.44%
2010	18	807,660	15.99%	2.44%
2011	18	806,819	17.03%	2.44%
2012	17	795,876	\$ 12,324	2.44%
2013	17	755,305	\$ 12,095	2.44%
2014	17	778,071	\$ 13,349	2.44%
2015	17	797,847	\$ 16,246	2.44%
2016	17	826,210	\$ 17,362	2.44%

<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 57 for past benefit provision changes.

## Division 12 - Elected Officials

**Table 8-12: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 922,024	\$ 651,056	71%	\$ 270,968
2007	1,059,238	718,005	68%	341,233
2008	1,126,015	756,764	67%	369,251
2009	1,155,370	812,393	70%	342,977
2010	1,215,266	877,694	72%	337,572
2011	1,341,349	941,492	70%	399,857
2012	1,423,344	924,598	65%	498,746
2013	1,757,853	1,047,645	60%	710,208
2014	1,844,538	1,053,537	57%	791,001
2015	2,025,763	1,058,047	52%	967,716
2016	2,285,027	1,154,021	51%	1,131,006

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

**Table 9-12: Computed Employer Contributions - Comparative Schedule**

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	4	\$ 242,835	12.30%	4.53%
2007	3	202,975	15.51%	4.53%
2008	3	210,143	16.02%	4.53%
2009	3	215,059	15.48%	4.53%
2010	3	219,128	15.21%	4.53%
2011	2	158,524	20.20%	4.53%
2012	1	101,700	\$ 3,038	4.53%
2013	3	220,124	\$ 5,186	4.53%
2014	3	224,009	\$ 5,480	4.53%
2015	3	226,266	\$ 6,689	4.53%
2016	3	196,725	\$ 7,898	4.53%

<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 57 for past benefit provision changes.

## Division 13 - GEA & TPOAM

### Table 8-13: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 2,954,578	\$ 2,083,855	71%	\$ 870,723
2007	2,876,309	2,097,872	73%	778,437
2008	3,101,910	2,175,229	70%	926,681
2009	3,140,019	2,230,121	71%	909,898
2010	3,264,650	2,360,063	72%	904,587
2011	3,436,020	2,500,608	73%	935,412
2012	3,571,455	2,628,676	74%	942,779
2013	3,602,669	2,668,206	74%	934,463
2014	3,884,839	2,823,151	73%	1,061,688
2015	4,261,728	2,852,966	67%	1,408,762
2016	4,479,273	2,850,355	64%	1,628,918

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

### Table 9-13: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	35	\$ 944,223	12.58%	3.56%
2007	36	977,433	11.96%	3.56%
2008	32	890,442	13.58%	3.56%
2009	32	857,407	14.09%	3.56%
2010	31	870,042	13.98%	3.56%
2011	29	822,796	\$ 9,516	3.56%
2012	28	828,770	\$ 9,031	4.71%
2013	26	767,554	\$ 8,413	4.71%
2014	25	756,257	\$ 9,354	4.71%
2015	21	633,618	\$ 10,768	5.99%
2016	17	556,935	\$ 11,928	5.99%

<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 57 for past benefit provision changes.

## Division 14 - Court Employees

**Table 8-14: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 4,135,910	\$ 2,717,068	66%	\$ 1,418,842
2007	4,538,473	3,049,991	67%	1,488,482
2008	4,887,832	3,364,001	69%	1,523,831
2009	5,331,403	3,793,544	71%	1,537,859
2010	5,915,663	4,267,875	72%	1,647,788
2011	6,422,241	4,538,489	71%	1,883,752
2012	6,724,479	4,794,736	71%	1,929,743
2013	7,009,083	5,116,441	73%	1,892,642
2014	7,342,963	5,352,120	73%	1,990,843
2015	7,916,423	5,461,975	69%	2,454,448
2016	8,131,379	5,499,335	68%	2,632,044

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	34	\$ 1,253,205	15.15%	3.28%
2007	34	1,378,853	14.93%	3.28%
2008	35	1,468,586	14.88%	3.28%
2009	36	1,515,890	14.66%	3.28%
2010	36	1,543,725	15.29%	3.28%
2011	36	1,524,043	16.34%	3.28%
2012	36	1,526,060	\$ 19,955	3.28%
2013	32	1,423,975	\$ 18,681	3.28%
2014	25	1,160,842	\$ 18,142	3.28%
2015	22	940,869	\$ 20,985	3.28%
2016	16	709,590	\$ 20,482	3.28%

<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 57 for past benefit provision changes.

## Division 20 - Sheriff/Adm

Table 8-20: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 1,460,355	\$ 1,153,422	79%	\$ 306,933
2007	1,884,275	1,440,780	76%	443,495
2008	2,187,117	1,588,242	73%	598,875
2009	2,115,719	1,518,250	72%	597,469
2010	2,146,704	1,548,938	72%	597,766
2011	2,253,644	1,592,306	71%	661,338
2012	2,308,192	1,629,893	71%	678,299
2013	2,375,062	1,695,294	71%	679,768
2014	2,498,228	1,743,985	70%	754,243
2015	2,650,198	1,764,453	67%	885,745
2016	2,812,536	1,788,398	64%	1,024,138

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	4	\$ 200,457	14.17%	2.88%
2007	5	243,343	16.10%	2.88%
2008	6	286,767	19.27%	2.88%
2009	4	229,462	22.36%	2.88%
2010	4	230,387	22.12%	2.88%
2011	4	235,776	23.32%	2.88%
2012	4	237,370	25.05%	2.88%
2013	4	235,773	\$ 4,702	2.88%
2014	3	187,431	\$ 5,042	2.88%
2015	3	189,048	\$ 6,100	2.88%
2016	2	123,445	\$ 6,688	2.88%

<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 57 for past benefit provision changes.

## Division 41 - Medical Facility Administrator

**Table 8-41: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 888,604	\$ 423,986	48%	\$ 464,618
2007	892,883	413,442	46%	479,441
2008	890,904	370,944	42%	519,960
2009	892,185	316,139	35%	576,046
2010	898,098	458,693	51%	439,405
2011	895,693	427,179	48%	468,514
2012	904,083	385,792	43%	518,291
2013	899,992	347,652	39%	552,340
2014	917,999	310,240	34%	607,759
2015	946,288	251,606	27%	694,682

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

**Table 9-41: 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	1	\$ 91,308	35.93%	0.00%
2007	1	99,058	35.66%	0.00%
2008	1	94,500	39.23%	0.00%
2009	1	104,165	38.93%	0.00%
2010	1	107,776	30.92%	0.00%
2011	1	108,352	33.02%	0.00%
2012	1	119,622	35.22%	0.00%
2013	1	107,541	40.53%	0.00%
2014	0	0	\$ 8,463	0.00%
2015	0	0	\$ 10,317	0.00%
2016	0	0	\$ 0	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 57 for past benefit provision changes.

## Division HA - AFSCME hired aft 10/01/2011

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2013	4,466	4,510	101%	(44)
2014	13,473	8,618	64%	4,855
2015	20,165	19,966	99%	199
2016	40,714	37,723	93%	2,991

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		
2011	0	\$ 0	0.00%	0.00%
2013	4	69,578	9.02%	0.00%
2014	5	80,788	8.79%	0.00%
2015	8	160,598	8.23%	0.00%
2016	10	238,032	8.26%	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 57 for past benefit provision changes.

## Division HB - Sheriff POAM (POLC) at 10/1/12

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	\$ 1,951	\$ 1,133	58%	\$ 818
2013	8,802	9,020	103%	(218)
2014	27,066	23,874	88%	3,192
2015	53,123	45,931	87%	7,192
2016	96,983	80,038	83%	16,945

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		
2012	1	\$ 31,595	5.80%	0.00%
2013	6	179,423	6.60%	0.00%
2014	8	252,324	6.61%	0.00%
2015	8	293,975	6.61%	0.00%
2016	13	463,571	6.59%	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 57 for past benefit provision changes.

## Division HC - Executive after 10/1/2012

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2013	4,925	4,605	94%	320
2014	18,074	12,556	70%	5,518
2015	35,437	22,984	65%	12,453
2016	58,863	38,002	65%	20,861

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

### Table 9-HC: 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		
2013	3	77,372	6.97%	0.00%
2014	4	142,298	8.25%	0.00%
2015	4	149,735	8.01%	0.00%
2016	4	171,115	7.99%	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 57 for past benefit provision changes.

## Division HE - Court EEs hired af 11/1/2012

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2013	4,817	3,687	77%	1,130
2014	13,377	13,770	103%	(393)
2015	47,272	38,554	82%	8,718
2016	91,941	82,439	90%	9,502

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		
2013	2	74,441	7.34%	0.00%
2014	6	207,654	7.98%	0.00%
2015	8	366,760	8.12%	0.00%
2016	10	484,997	7.46%	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 57 for past benefit provision changes.

## Division 01 - General

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 10/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ (938,202)	10	\$ (1,016,729)	10	\$ (124,356)
Gain/Loss	12/31/2016	52,943	10	60,331	10	7,380
<b>Total</b>				<b>\$ (956,398)</b>		<b>\$ (116,976)</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 - Sheriff/POAM

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 10/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 2,357,501	23	\$ 2,453,453	22	\$ 167,316
Gain/Loss	12/31/2016	203,355	22	231,731	22	15,804
<b>Total</b>				<b>\$ 2,685,184</b>		<b>\$ 183,120</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 04 - MCF

**Table 10-04: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 10/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 5,284,639	23	\$ 6,385,606	22	\$ 435,468
Gain/Loss	12/31/2016	(690,714)	22	(787,098)	22	(53,676)
Plan Amendments	12/31/2016	(28,629)	22	(32,624)	22	(2,220)
<b>Total</b>				<b>\$ 5,565,884</b>		<b>\$ 379,572</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 - 911 Employees

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 10/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 66,562	23	\$ 82,172	22	\$ 5,604
Gain/Loss	12/31/2016	25,040	22	28,534	22	1,944
<b>Total</b>				<b>\$ 110,706</b>		<b>\$ 7,548</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 - Exec Employees

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 10/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 1,902,893	23	\$ 2,028,526	22	\$ 138,336
Gain/Loss	12/31/2016	92,461	22	105,363	22	7,188
<b>Total</b>				<b>\$ 2,133,889</b>		<b>\$ 145,524</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 12 - Elected Officials

**Table 10-12: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 10/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 967,716	23	\$ 1,024,642	22	\$ 69,876
Gain/Loss	12/31/2016	136,027	22	155,008	22	10,572
<b>Total</b>				<b>\$ 1,179,650</b>		<b>\$ 80,448</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 13 - GEA & TPOAM

**Table 10-13: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 10/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 1,408,762	23	\$ 1,485,986	22	\$ 101,340
Gain/Loss	12/31/2016	179,396	22	204,429	22	13,944
<b>Total</b>				<b>\$ 1,690,415</b>		<b>\$ 115,284</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 - Court Employees

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 10/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 2,454,448	23	\$ 2,578,042	22	\$ 175,812
Gain/Loss	12/31/2016	107,697	22	122,725	22	8,364
<b>Total</b>				<b>\$ 2,700,767</b>		<b>\$ 184,176</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 - Sheriff/Adm

**Table 10-20: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 10/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 885,745	23	\$ 935,378	22	\$ 63,792
Gain/Loss	12/31/2016	110,882	22	126,355	22	8,616
<b>Total</b>				<b>\$ 1,061,733</b>		<b>\$ 72,408</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 HA - AFSCME hired aft 10/01/2011

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 10/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Gain/Loss	12/31/2016	2,059	15	2,346	15	204
<b>Total</b>				<b>\$ 2,346</b>		<b>\$ 204</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 - Sheriff POAM (POLC) af 10/1/12

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 10/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 7,192	23	\$ 7,533	22	\$ 516
Gain/Loss	12/31/2016	9,103	22	10,373	22	708
<b>Total</b>				<b>\$ 17,906</b>		<b>\$ 1,224</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 HC - Executive after 10/1/2012

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 10/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 12,453	23	\$ 14,242	22	\$ 972
Gain/Loss	12/31/2016	6,503	22	7,411	22	504
<b>Total</b>				<b>\$ 21,653</b>		<b>\$ 1,476</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 - Court EEs hired af 11/1/2012

### Table 10-HE: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 10/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 8,718	23	\$ 12,513	22	\$ 852
Gain/Loss	12/31/2016	(4,569)	22	(5,207)	22	(360)
<b>Total</b>				<b>\$ 7,306</b>		<b>\$ 492</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:	200
Inactive employees entitled to but not yet receiving benefits:	73
Active employees:	<u>255</u>
	528

Total Pension Liability as of 12/31/2015 measurement date:	\$ 49,188,871
Total Pension Liability as of 12/31/2016 measurement date:	\$ 51,269,482
Service Cost for the year ending on the 12/31/2016 measurement date:	\$ 1,012,047

Change in the Total Pension Liability due to:

- Benefit changes <sup>1</sup> :	\$ (29,258)
- Differences between expected and actual experience <sup>2</sup> :	\$ (99,919)
- 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):	4
Covered employee payroll: (Needed for Required Supplementary Information)	\$ 9,991,850

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:	\$ 5,889,416	-	\$ (4,967,662)

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

## Benefit Provision History

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

### 01 - General

12/1/2016	Service Credit Purchase Estimates - Yes
7/1/1996	Benefit B-2
9/1/1992	Temporary 6 Year Vesting (09/01/1992 - 11/03/1992)
1/1/1992	8 Year Vesting
4/15/1986	Day of work defined as 4 Hours a Day for All employees.
1/1/1984	Member Contribution Rate 0.00%
12/8/1970	Covered by Act 88
12/1/1970	Benefit C-1 (Old)
12/1/1964	Fiscal Month - January
12/1/1964	Benefit FAC-5 (5 Year Final Average Compensation)
12/1/1964	10 Year Vesting
12/1/1964	Benefit C (Old)
12/1/1964	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%

### 02 - Sheriff/POAM

12/1/2016	Service Credit Purchase Estimates - Yes
10/1/2015	Participant Contribution Rate 12.28%
1/1/2014	Member Contribution Rate 9.57%
1/1/2013	Member Contribution Rate 7.84%
1/1/2012	Member Contribution Rate 7.54%
1/1/2011	Member Contribution Rate 7.72%
1/1/2010	Member Contribution Rate 7.91%
1/1/2009	Member Contribution Rate 5.91%
1/1/2008	Member Contribution Rate 4.77%
1/1/2007	E2 2.5% COLA for future retirees (07/01/2006)
7/1/2006	Member Contribution Rate 4.82%
7/1/2001	Member Contribution Rate 1.33%
10/1/1999	Member Contribution Rate 1.24%
7/1/1999	Member Contribution Rate 0.00%
10/1/1998	Benefit B-4 (80% max)
10/1/1998	Member Contribution Rate 2.88%
1/1/1997	Temporary Benefit B-4 (80% max) (01/01/1997 - 04/03/1997)
1/1/1995	8 Year Vesting
1/1/1995	Benefit B-2
1/1/1990	Blanket Resolution (All Service)
1/1/1988	Benefit C-2/Base C-1 (Old)
1/1/1988	Benefit F50 (With 25 Years of Service)
4/15/1986	Day of work defined as 4 Hours a Day for All employees.
1/1/1984	Member Contribution Rate 0.00%
12/8/1970	Covered by Act 88

**02 - Sheriff/POAM**

12/1/1970	Benefit C-1 (Old)
12/1/1964	Benefit FAC-5 (5 Year Final Average Compensation)
12/1/1964	10 Year Vesting
12/1/1964	Benefit C (Old)
12/1/1964	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
12/1/1964	Fiscal Month - January

**04 - MCF**

12/1/2016	Service Credit Purchase Estimates - Yes
10/1/2016	Participant Contribution Rate 4.85%
10/1/2015	Participant Contribution Rate 4.22%
1/1/2014	Member Contribution Rate 3.24%
1/1/2013	Member Contribution Rate 2.29%
1/1/2012	Member Contribution Rate 2.07%
6/1/2011	Member Contribution Rate 1.79%
4/1/2006	Member Contribution Rate 1.09%
2/1/2006	Benefit B-2
1/1/2001	30 Years & Out
1/1/2001	6 Year Vesting
1/1/2001	Benefit B-1
4/1/1986	Member Contribution Rate 0.00%
12/8/1970	Covered by Act 88
12/1/1970	Benefit C-1 (Old)
12/1/1964	Benefit FAC-5 (5 Year Final Average Compensation)
12/1/1964	10 Year Vesting
12/1/1964	Benefit C (Old)
12/1/1964	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
12/1/1964	Fiscal Month - January

**10 - 911 Employees**

12/1/2016	Service Credit Purchase Estimates - Yes
7/1/2000	Benefit B-4 (80% max)
7/1/2000	Member Contribution Rate 2.52%
9/1/1997	Benefit B-2
1/1/1992	8 Year Vesting
4/15/1986	Day of work defined as 4 Hours a Day for All employees.
1/1/1984	Member Contribution Rate 0.00%
12/8/1970	Covered by Act 88
12/1/1964	Fiscal Month - January
12/1/1964	Benefit FAC-5 (5 Year Final Average Compensation)
12/1/1964	10 Year Vesting
12/1/1964	Benefit C-1 (Old)

**11 - Exec Employees**

12/1/2016	Service Credit Purchase Estimates - Yes
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**11 - Exec Employees**

10/1/1998	Benefit FAC-5 (5 Year Final Average Compensation)
10/1/1998	8 Year Vesting
10/1/1998	Benefit B-4 (80% max)
10/1/1998	Benefit F55 (With 20 Years of Service)
10/1/1998	Member Contribution Rate 2.44%
12/8/1970	Covered by Act 88
12/1/1964	Fiscal Month - January

**12 - Elected Officials**

12/1/2016	Service Credit Purchase Estimates - Yes
10/1/1998	Benefit FAC-5 (5 Year Final Average Compensation)
10/1/1998	8 Year Vesting
10/1/1998	Benefit B-4 (80% max)
10/1/1998	Benefit F55 (With 20 Years of Service)
10/1/1998	Member Contribution Rate 4.53%
12/8/1970	Covered by Act 88
12/1/1964	Fiscal Month - January

**13 - GEA & TPOAM**

12/1/2016	Service Credit Purchase Estimates - Yes
10/1/2015	Participant Contribution Rate 5.99%
1/1/2012	Member Contribution Rate 4.71%
7/1/1999	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1999	8 Year Vesting
7/1/1999	Benefit B-4 (80% max)
7/1/1999	Benefit F55 (With 20 Years of Service)
7/1/1999	Member Contribution Rate 3.56%
12/8/1970	Covered by Act 88
12/1/1964	Fiscal Month - January

**14 - Court Employees**

12/1/2016	Service Credit Purchase Estimates - Yes
7/1/2000	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/2000	8 Year Vesting
7/1/2000	Benefit B-4 (80% max)
7/1/2000	Benefit F55 (With 20 Years of Service)
7/1/2000	Member Contribution Rate 3.28%
12/8/1970	Covered by Act 88
12/1/1964	Fiscal Month - January

**20 - Sheriff/Adm**

12/1/2016	Service Credit Purchase Estimates - Yes
1/1/1999	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1999	8 Year Vesting

**20 - Sheriff/Adm**

1/1/1999	Benefit B-4 (80% max)
1/1/1999	Benefit F50 (With 25 Years of Service)
1/1/1999	Member Contribution Rate 2.88%
12/8/1970	Covered by Act 88
12/1/1964	Fiscal Month - January

**41 - Medical Facility Administrator**

12/1/2016	Service Credit Purchase Estimates - Yes
1/1/1998	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1998	6 Year Vesting
1/1/1998	Benefit B-2
1/1/1998	Benefit F50 (With 30 Years of Service)
1/1/1998	Member Contribution Rate 0.00%
12/8/1970	Covered by Act 88
12/1/1964	Fiscal Month - January

**HA - AFSCME hired aft 10/01/2011**

10/1/2015	Hybrid Elapsed Time
10/1/2011	Benefit FAC-3 (3 Year Final Average Compensation)
10/1/2011	Loans
10/1/2011	Pickup
10/1/2011	Rollovers
10/1/2011	6 Year Vesting
10/1/2011	1.5% Multiplier
12/8/1970	Covered by ACT 88
12/1/1964	Fiscal Month - January

**HB - Sheriff POAM (POLC) af 10/1/12**

10/1/2015	Hybrid Elapsed Time
10/1/2012	Day of work defined as 4 Hours a Day for All employees.
10/1/2012	Benefit FAC-3 (3 Year Final Average Compensation)
10/1/2012	Loans
10/1/2012	Pickup
10/1/2012	Rollovers
10/1/2012	6 Year Vesting
10/1/2012	1.5% Multiplier
10/1/2012	Benefit F55 (With 25 Years of Service)
12/8/1970	Covered by ACT 88
12/1/1964	Fiscal Month - January

**HC - Executive after 10/1/2012**

10/1/2015	Hybrid Elapsed Time
10/1/2012	Benefit FAC-3 (3 Year Final Average Compensation)
10/1/2012	Loans

**HC - Executive after 10/1/2012**

10/1/2012	Pickup
10/1/2012	Rollovers
10/1/2012	6 Year Vesting
10/1/2012	1.5% Multiplier
12/8/1970	Covered by ACT 88
12/1/1964	Fiscal Month - January

**HE - Court EEs hired af 11/1/2012**

10/1/2015	Hybrid Elapsed Time
11/1/2012	Benefit FAC-3 (3 Year Final Average Compensation)
11/1/2012	Loans
11/1/2012	Pickup
11/1/2012	Rollovers
11/1/2012	6 Year Vesting
11/1/2012	1.5% Multiplier
12/8/1970	Covered by ACT 88
12/1/1964	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	113%

### Miscellaneous and Technical Assumptions

Loads – None.

### Amortization Policy for Closed Divisions

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