



**MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN**  
ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2016  
EAST LANSING, CITY OF (3301)



Spring, 2017

East Lansing, City of

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

This report presents the results of the Annual Actuarial Valuation, prepared as of December 31, 2016. The report includes the determination of liabilities and contribution rates resulting from the participation of East Lansing, City of (3301) 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. East Lansing, City of is responsible for the employer contributions needed to provide MERS benefits for its employees and former employees under the Michigan Constitution and the MERS Plan Document.

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

- Measure funding progress
- Establish contribution requirements for the fiscal year beginning July 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

## TABLE OF CONTENTS

---

	<b>Page</b>
Executive Summary	5
Employer Contribution Details	17
Table 1	
Benefit Provisions	20
Table 2	
Participant Summary	26
Table 3	
Reported Assets (Market Value)	29
Table 4	
Flow of Valuation Assets	30
Table 5	
Actuarial Accrued Liabilities and Valuation Assets	31
Table 6	
Actuarial Accrued Liabilities - Comparative Schedule	36
Table 7	
Division-Based Comparative Schedules	37
Tables 8 and 9	
Division-Based Layered Amortization Schedule	58
Table 10	
GASB 68 Information	79
Benefit Provision History	80
Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method	88

## Executive Summary

---

### 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>	53%	55%

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:	July 1, 2018	July 1, 2018	July 1, 2017	July 1, 2017	July 1, 2018	July 1, 2018	July 1, 2017	July 1, 2017
<b>Division</b>								
01 - Gnl NonUnio	-	-	-	-	\$ 52,977	\$ 57,531	\$ 46,445	\$ 52,517
02 - Plc NonComm	-	-	-	-	48,618	53,544	45,678	52,246
05 - Fire	-	-	-	-	184,761	197,763	161,657	178,993
08 - NewHires 54B	-	-	-	-	656	1,022	1,674	2,162
10 - Gnl DPW	-	-	-	-	40,945	43,942	37,083	41,079
11 - Gnl Auxlry	-	-	-	-	14,031	15,201	13,171	14,731
12 - Gnl 54B Crt	-	-	-	-	29,199	31,191	23,837	26,493
13 - Jail Serv	-	-	-	-	1,497	1,623	1,421	1,589
14 - Water&Sewer	-	-	-	-	9,018	10,170	9,427	10,963
15 - Junior Empl	-	-	-	-	0	0	0	0
16 - Comm Devlpm	-	-	-	-	205	241	173	221
17 - Supervisory Independen	-	-	-	-	30,172	32,251	29,554	32,326
18 - UAW Non Sup	-	-	-	-	26,925	29,226	24,615	27,683
19 - UAW Jr Unit	-	-	-	-	2,026	2,251	2,236	2,536
20 - Plc Sprvsrs	80.36%	85.94%	75.21%	82.88%	74,746	79,933	67,853	74,769
21 - Police/Fire	-	-	-	-	44,242	47,158	40,319	44,207
22 - Sup of Info & Tech/Rec	47.06%	50.82%	42.79%	47.80%	3,081	3,327	2,803	3,131
23 - POAM aft 7/1/11-Office	11.60%	11.60%	11.48%	11.48%	13,027	13,027	11,286	11,286
50 - Fire Hired after 7/1/2	11.47%	11.47%	11.41%	11.41%	13,333	13,333	11,263	11,263
HA - New hires after 11/1/1	8.35%	8.62%	8.66%	9.02%	49,844	51,443	50,949	53,081
HB - Gen.Aux FOP-hired aft	6.77%	6.82%	6.75%	6.82%	1,752	1,764	1,604	1,620
<b>Municipality Total</b>					<b>\$ 641,055</b>	<b>\$ 685,941</b>	<b>\$ 583,048</b>	<b>\$ 642,896</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 - Gnl NonUnio	1.00%	1.00%
02 - Plc NonComm	2.00%	2.00%
05 - Fire	5.00%	5.00%
08 - NewHires 54B	1.00%	1.00%
10 - Gnl DPW	6.70%	6.70%
11 - Gnl Auxlry	1.00%	1.00%
12 - Gnl 54B Crt	1.00%	1.00%
13 - Jail Serv	1.00%	1.00%
14 - Water&Sewer	0.00%	0.00%
15 - Junior Empl	3.00%	3.00%
16 - Comm Devlpm	0.00%	0.00%
17 - Supervisory Independen	1.30%	1.30%
18 - UAW Non Sup	1.00%	1.00%
19 - UAW Jr Unit	3.00%	3.00%
20 - Plc Sprvsrs	3.00%	3.00%
21 - Police/Fire	4.00%	4.00%
22 - Sup of Info & Tech/Rec	0.00%	0.00%
23 - POAM aft 7/1/11-Office	0.00%	0.00%
50 - Fire Hired after 7/1/2	0.00%	0.00%
HA - New hires after 11/1/1	0.00%	0.00%
HB - Gen.Aux FOP-hired aft	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 \$ 1,068,205, instead of \$ 685,941.
- To accelerate to a 100% funding ratio in 20 years, estimated monthly employer contributions for the entire employer would be \$ 697,240, instead of \$ 685,941.

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 49% (instead of 53%); and ii) your total employer contribution requirement for the fiscal year starting July 1, 2018 would be \$ 8,827,812 (instead of \$ 8,231,292).

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	\$ 232,685,764	\$ 207,839,776	\$ 187,115,599	\$ 169,667,300
Valuation Assets	\$ 99,444,497	\$ 99,444,497	\$ 99,444,497	\$ 99,444,497
Unfunded Accrued Liability	\$ 133,241,267	\$ 108,395,279	\$ 87,671,102	\$ 70,222,803
<b>Funded Ratio</b>	43%	48%	53%	59%
Monthly Normal Cost	\$ 264,766	\$ 202,804	\$ 155,708	\$ 119,838
Monthly Amortization Payment	\$ 698,530	\$ 615,533	\$ 530,233	\$ 452,130
<b>Total Employer Contribution<sup>1</sup></b>	\$ 963,296	\$ 818,337	\$ 685,941	\$ 571,968

<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:

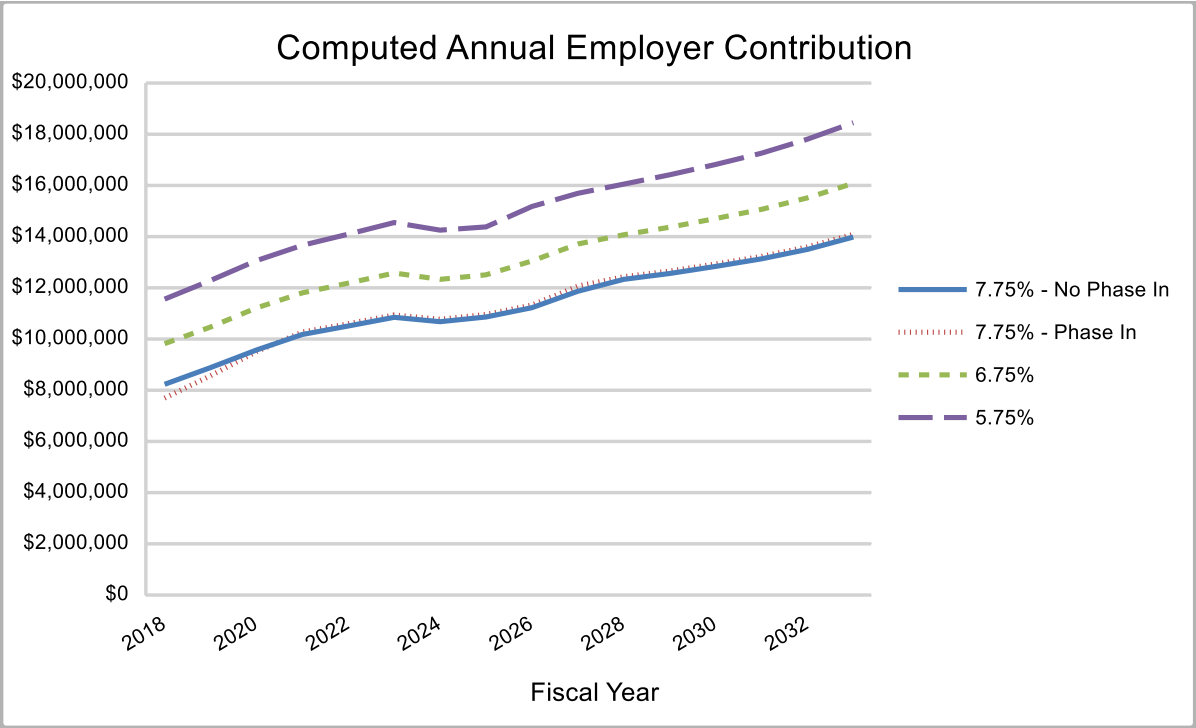
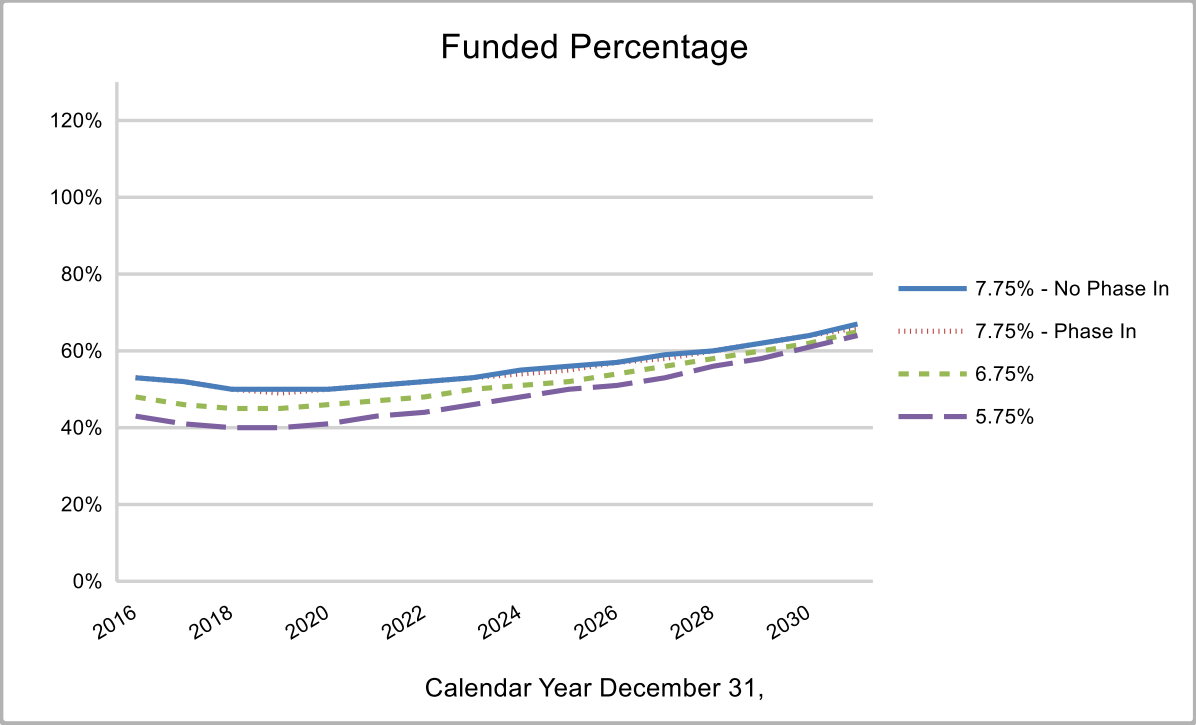
- Based on the phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. This projects your minimum required contribution.
- Based on no phase-in of the increased contribution requirements.

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.

Please note that one or more of your divisions trigger the 3 times benefit payout minimum contribution requirement during the projection period (see table following the projections and the graphs). This contribution requirement was designed so that a plan does not run out of money. This means that if assets in the plan are not enough to pay 3 years of benefit payouts, a minimum contribution is required to raise the level of the assets to be equal to at least 3 years of benefit payments. For a full description of this contribution requirement see the [Appendix](#) on the MERS website.

Valuation Year Ending 12/31	Fiscal Year Beginning 7/1	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	\$ 187,115,599	\$ 99,444,497	53%	\$ 7,692,660
2017	2019	190,300,000	98,200,000	52%	8,570,000
2018	2020	193,500,000	97,300,000	50%	9,510,000
2019	2021	196,700,000	96,700,000	49%	10,300,000
2020	2022	199,700,000	99,300,000	50%	10,600,000
2021	2023	202,500,000	102,500,000	51%	10,900,000
<b>NO 5-YEAR PHASE-IN</b>					
2016	2018	\$ 187,115,599	\$ 99,444,497	53%	\$ 8,231,292
2017	2019	190,300,000	98,200,000	52%	8,880,000
2018	2020	193,500,000	97,600,000	50%	9,570,000
2019	2021	196,700,000	97,400,000	50%	10,200,000
2020	2022	199,700,000	100,300,000	50%	10,500,000
2021	2023	202,500,000	103,600,000	51%	10,800,000
<b>6.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return</b>					
<b>NO 5-YEAR PHASE-IN</b>					
2016	2018	\$ 207,839,776	\$ 99,444,497	48%	\$ 9,820,044
2017	2019	211,200,000	97,300,000	46%	10,500,000
2018	2020	214,500,000	96,500,000	45%	11,200,000
2019	2021	217,800,000	97,000,000	45%	11,800,000
2020	2022	221,000,000	100,600,000	46%	12,200,000
2021	2023	223,900,000	104,600,000	47%	12,600,000
<b>5.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return</b>					
<b>NO 5-YEAR PHASE-IN</b>					
2016	2018	\$ 232,685,764	\$ 99,444,497	43%	\$ 11,559,552
2017	2019	236,200,000	96,300,000	41%	12,300,000
2018	2020	239,700,000	95,500,000	40%	13,100,000
2019	2021	243,100,000	96,900,000	40%	13,700,000
2020	2022	246,400,000	101,400,000	41%	14,100,000
2021	2023	249,400,000	106,400,000	43%	14,500,000



<b>Valuation Year Ending 12/31</b>	<b>Fiscal Year Beginning 7/1</b>	<b>7.75% Phase-In</b>	<b>7.75% No Phase-In</b>	<b>6.75% No Phase-In</b>	<b>5.75% No Phase-In</b>
2016	2018	No	No	No	No
2017	2019	No	No	No	17
2018	2020	17	17	17	17
2019	2021	17	17	17	17
2020	2022	17	17	17	17
2021	2023	17	17	17	17

This table shows in any given year which division(s) are impacted by the 3 times benefit payout minimum required contribution. If “No” appears in the table, it means none of the divisions are impacted.

## Employer Contribution Details For the Fiscal Year Beginning July 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 - Gnl NonUnio	-	-	-	-	37.58%	35.16%	1.00%	
02 - Plc NonComm	-	-	-	-	29.52%	27.33%	2.00%	
05 - Fire	-	-	-	-	71.76%	67.34%	5.00%	
08 - NewHires 54B	-	-	-	-	37.58%	35.16%	1.00%	
10 - Gnl DPW	-	-	-	-	37.58%	35.16%	6.70%	
11 - Gnl Auxlry	-	-	-	-	32.04%	29.81%	1.00%	
12 - Gnl 54B Crt	-	-	-	-			1.00%	
13 - Jail Serv	-	-	-	-	37.58%	35.16%	1.00%	
14 - Water&Sewer	-	-	-	-			0.00%	
15 - Junior Empl	-	-	-	-	37.58%	35.16%	3.00%	
16 - Comm Devlpm	-	-	-	-			0.00%	
17 - Supervisory Indepe	-	-	-	-	37.58%	35.16%	1.30%	
18 - UAW Non Sup	-	-	-	-	37.58%	35.16%	1.00%	
19 - UAW Jr Unit	-	-	-	-	37.58%	35.16%	3.00%	
20 - Plc Sprvsrs	15.61%	70.33%	85.94%	80.36%			3.00%	0.74%
21 - Police/Fire	-	-	-	-	37.58%	35.16%	4.00%	
22 - Sup of Info & Tech	13.96%	36.86%	50.82%	47.06%			0.00%	0.85%
23 - POAM aft 7/1/11-Of	11.17%	0.43%	11.60%	11.60%	29.52%	27.33%	0.00%	0.93%
50 - Fire Hired after 7	11.25%	0.22%	11.47%	11.47%	71.76%	67.34%	0.00%	0.91%
HA - New hires after 11	8.84%	-0.22%	8.62%	8.35%	37.58%	35.16%	0.00%	0.96%
HB - Gen.Aux FOP-hired	7.18%	-0.36%	6.82%	6.77%	32.04%	29.81%	0.00%	0.94%
<b>Estimated Monthly Contribution<sup>3</sup></b>								
01 - Gnl NonUnio	\$ 2,643	\$ 54,888	\$ 57,531	\$ 52,977				
02 - Plc NonComm	18,434	35,110	53,544	48,618				

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					
05 - Fire	23,925	173,838	197,763	184,761				
08 - NewHires 54B	1,808	(786)	1,022	656				
10 - Gnl DPW	1,198	42,744	43,942	40,945				
11 - Gnl Auxlry	3,009	12,192	15,201	14,031				
12 - Gnl 54B Crt	840	30,351	31,191	29,199				
13 - Jail Serv	727	896	1,623	1,497				
14 - Water&Sewer	2,942	7,228	10,170	9,018				
15 - Junior Empl	0	0	0	0				
16 - Comm Devlpm	0	241	241	205				
17 - Supervisory Indepe	0	32,251	32,251	30,172				
18 - UAW Non Sup	1,809	27,417	29,226	26,925				
19 - UAW Jr Unit	1,021	1,230	2,251	2,026				
20 - Plc Sprvsrs	14,519	65,414	79,933	74,746				
21 - Police/Fire	1,661	45,497	47,158	44,242				
22 - Sup of Info & Tech	914	2,413	3,327	3,081				
23 - POAM aft 7/1/11-Of	12,547	480	13,027	13,027				
50 - Fire Hired after 7	13,081	252	13,333	13,333				
HA - New hires after 11	52,774	(1,331)	51,443	49,844				
HB - Gen.Aux FOP-hired	1,856	(92)	1,764	1,752				
<b>Total Municipality</b>	<b>\$ 155,708</b>	<b>\$ 530,233</b>	<b>\$ 685,941</b>	<b>\$ 641,055</b>				
<b>Estimated Annual Contribution<sup>3</sup></b>	<b>\$ 1,868,496</b>	<b>\$ 6,362,796</b>	<b>\$ 8,231,292</b>	<b>\$ 7,692,660</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 July 1, 2018 fiscal year, the negative unfunded accrued liability is treated as overfunding credit and is used to reduce the contribution. This amortization is used to reduce the employer contribution rate. Note that if the overfunding credit is larger than the normal cost, the full credit is shown above but the total contribution requirement is zero. This will cause the displayed normal cost and unfunded accrued liability contributions to not add across.

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

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

## Benefit Provisions

Table 2

### 01 - Gnl NonUnio: Closed to new hires, linked to Division HA

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	1%	1%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

### 02 - Plc NonComm: Closed to new hires, linked to Division 23

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.75% Multiplier (80% max)	2.75% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>COLA for Future Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	2%	2%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

### 05 - Fire: Closed to new hires, linked to Division 50

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.75% Multiplier (80% max)	2.75% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>COLA for Future Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	5%	5%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

Table 2 (continued)

**08 - NewHires 54B: Closed to new hires, linked to Division HA**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	1%	1%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

**10 - Gnl DPW: Closed to new hires, linked to Division HA**

	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>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	6.70%	6.70%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

**11 - Gnl Auxlry: Closed to new hires, linked to Division HB**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	1%	1%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

**12 - Gnl 54B Crt: Closed to new hires**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	1%	1%
<b>DC Plan for New Hires:</b>	7/1/2006	7/1/2006
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

Table 2 (continued)

**13 - Jail Serv: Closed to new hires, linked to Division HA**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<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>	1%	1%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

**14 - Water&Sewer: Closed to new hires**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	0%	0%
<b>DC Plan for New Hires:</b>	7/1/2007	7/1/2007
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

**15 - Junior Empl: Closed to new hires, linked to Division HA**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	3%	3%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

Table 2 (continued)

**16 - Comm Devlpm: Closed to new hires**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.00% to Social Security Age (no max); 1.70% after SS Age (no max)	2.00% to Social Security Age (no max); 1.70% after SS Age (no max)
<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>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	0%	0%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

**17 - Supervisory Independent Union: Closed to new hires, linked to Division HA**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	1.30%	1.30%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

**18 - UAW Non Sup: Closed to new hires, linked to Division HA**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	1%	1%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

Table 2 (continued)

**19 - UAW Jr Unit: Closed to new hires, linked to Division HA**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	3%	3%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

**20 - Plc Sprvsrs: Open Division**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.75% Multiplier (80% max)	2.75% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>COLA for Future Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	3%	3%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

**21 - Police/Fire: Closed to new hires, linked to Division HA**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.75% Multiplier (80% max)	2.75% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>COLA for Future Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	4%	4%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

**22 - Sup of Info & Tech/Records: Open Division**

	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>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	0%	0%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

Table 2 (continued)

**23 - POAM aft 7/1/11-Officers Only: Open Division, linked to Division 02**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	0%	0%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

**50 - Fire Hired after 7/1/2011: Open Division, linked to Division 05**

	2016 Valuation	2015 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	55/25	55/25
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>Employee Contributions:</b>	0%	0%
<b>Act 88:</b>	Yes (Adopted 10/25/2016)	No

**HA - New hires after 11/1/10: Open Division, linked to Division 01, 08, 10, 13, 15, 17, 18, 19, 21**

	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 10/25/2016)	No

**HB - Gen.Aux FOP-hired aft 7/1/2011: 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 10/25/2016)	No

## Participant Summary

**Table 3**

Division	2016 Valuation		2015 Valuation		2016 Valuation		
	Number	Annual Payroll <sup>1</sup>	Number	Annual Payroll <sup>1</sup>	Average Age	Average Benefit Service <sup>2</sup>	Average Eligibility Service <sup>2</sup>
01 - Gnl NonUnio							
Active Employees	6	\$ 420,722	6	\$ 359,223	53.9	29.0	29.0
Vested Former Employees	5	66,682	6	73,471	55.3	8.6	18.7
Retirees and Beneficiaries	84	1,860,290	88	1,918,694	73.9		
02 - Plc NonComm							
Active Employees	19	\$ 1,312,506	23	\$ 1,541,578	42.4	16.9	17.2
Vested Former Employees	10	178,645	11	203,335	45.1	11.0	14.2
Retirees and Beneficiaries	30	1,257,482	25	1,052,583	64.5		
05 - Fire							
Active Employees	28	\$ 2,177,493	37	\$ 2,766,652	44.2	17.1	17.4
Vested Former Employees	3	21,145	3	21,145	51.7	5.4	19.3
Retirees and Beneficiaries	75	3,687,139	65	3,099,769	69.3		
08 - NewHires 54B							
Active Employees	4	\$ 208,983	5	\$ 256,717	49.4	16.9	16.9
Vested Former Employees	5	74,842	4	58,908	45.6	13.6	14.2
Retirees and Beneficiaries	2	13,605	2	13,605	65.7		
10 - Gnl DPW							
Active Employees	3	\$ 200,260	4	\$ 253,621	48.6	20.4	20.4
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	48	1,202,367	48	1,179,880	66.7		
11 - Gnl Auxlry							
Active Employees	9	\$ 376,797	9	\$ 376,267	49.1	19.1	19.5
Vested Former Employees	9	59,025	10	73,256	41.7	8.0	15.0
Retirees and Beneficiaries	16	327,325	15	315,253	66.6		
12 - Gnl 54B Crt							
Active Employees	3	\$ 152,492	4	\$ 200,366	51.4	31.1	31.1
Vested Former Employees	5	65,021	5	65,021	54.1	15.5	18.9
Retirees and Beneficiaries	15	353,612	14	327,147	67.9		
13 - Jail Serv							
Active Employees	2	\$ 100,874	2	\$ 97,316	52.7	26.1	26.1
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	1	13,362	1	13,362	51.6		
14 - Water&Sewer							
Active Employees	5	\$ 344,379	5	\$ 315,535	51.0	21.6	23.9
Vested Former Employees	7	47,180	8	100,723	51.2	8.0	20.0
Retirees and Beneficiaries	6	172,947	5	126,809	59.6		

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>
15 - Junior Empl							
Active Employees	0	\$ 0	0	\$ 0	0.0	0.0	0.0
Vested Former Employees	1	23,846	2	42,711	42.1	17.1	17.1
Retirees and Beneficiaries	3	54,876	2	36,566	64.3		
16 - Comm Devlpm							
Active Employees	0	\$ 0	0	\$ 0	0.0	0.0	0.0
Vested Former Employees	1	5,973	1	5,973	58.9	9.3	9.3
Retirees and Beneficiaries	0	0	0	0	0.0		
17 - Supervisory Independ							
Active Employees	0	\$ 0	1	\$ 65,289	0.0	0.0	0.0
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	20	787,229	20	787,229	66.1		
18 - UAW Non Sup							
Active Employees	5	\$ 273,070	6	\$ 313,654	53.5	30.0	30.0
Vested Former Employees	3	37,754	3	45,372	58.5	9.3	13.3
Retirees and Beneficiaries	33	813,051	32	778,910	67.9		
19 - UAW Jr Unit							
Active Employees	2	\$ 132,293	2	\$ 143,641	49.4	19.4	19.4
Vested Former Employees	1	12,206	1	12,206	59.9	14.8	14.8
Retirees and Beneficiaries	2	33,874	2	33,874	66.8		
20 - Plc Sprvsrs							
Active Employees	12	\$ 1,017,853	12	\$ 987,216	45.6	21.5	21.5
Vested Former Employees	2	76,362	1	25,542	47.0	18.0	18.0
Retirees and Beneficiaries	18	1,185,498	18	1,164,304	67.9		
21 - Police/Fire							
Active Employees	2	\$ 198,677	2	\$ 186,521	49.4	29.7	29.7
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	13	854,703	13	838,159	67.3		
22 - Sup of Info & Tech/R							
Active Employees	1	\$ 71,629	1	\$ 71,682	43.4	20.3	20.3
Vested Former Employees	3	41,459	3	41,459	38.9	10.2	10.2
Retirees and Beneficiaries	2	76,721	2	76,721	58.2		
23 - POAM aft 7/1/11-Offi							
Active Employees	21	\$ 1,155,000	17	\$ 912,248	29.5	3.5	4.1
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
50 - Fire Hired after 7/1							
Active Employees	21	\$ 1,041,449	10	\$ 539,317	30.6	1.7	2.6
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		

**Table 3 (continued)**

Division	2016 Valuation		2015 Valuation		2016 Valuation		
	Number	Annual Payroll <sup>1</sup>	Number	Annual Payroll <sup>1</sup>	Average Age	Average Benefit Service <sup>2</sup>	Average Eligibility Service <sup>2</sup>
HA - New hires after 11/1							
Active Employees	117	\$ 6,222,488	118	\$ 6,140,823	43.4	3.6	8.7
Vested Former Employees	19	52,369	15	34,787	46.5	3.2	12.0
Retirees and Beneficiaries	5	14,684	3	3,775	68.0		
HB - Gen.Aux FOP-hired af							
Active Employees	8	\$ 202,773	8	\$ 201,084	32.2	2.8	4.3
Vested Former Employees	2	1,676	2	1,676	28.5	2.3	4.8
Retirees and Beneficiaries	0	0	0	0	0.0		
<b>Total Municipality</b>							
<b>Active Employees</b>	<b>268</b>	<b>\$ 15,609,738</b>	<b>272</b>	<b>\$ 15,728,750</b>	<b>42.2</b>	<b>9.7</b>	<b>12.2</b>
<b>Vested Former Employees</b>	<b>76</b>	<b>764,185</b>	<b>75</b>	<b>805,585</b>	<b>47.4</b>	<b>8.5</b>	<b>14.7</b>
<b>Retirees and Beneficiaries</b>	<b>373</b>	<b>12,708,765</b>	<b>355</b>	<b>11,766,640</b>	<b>68.7</b>		
<b>Total Participants</b>	<b>717</b>		<b>702</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 - Gnl NonUnio	\$ 9,621,217	\$ 35,665	\$ 9,915,836	\$ 24,830
02 - Plc NonComm	15,805,608	106,338	14,754,448	88,407
05 - Fire	22,268,762	1,066,058	21,006,837	1,386,665
08 - NewHires 54B	1,105,603	17,675	966,379	15,454
10 - Gnl DPW	5,985,238	203,628	6,045,663	260,334
11 - Gnl Auxlry	3,130,005	21,352	2,989,243	17,441
12 - Gnl 54B Crt	2,410,465	8,215	2,291,625	6,712
13 - Jail Serv	514,303	5,628	452,439	4,580
14 - Water&Sewer	2,929,105	0	2,443,737	610
15 - Junior Empl	569,060	43,748	520,564	61,451
16 - Comm Devlpm	40,623	0	35,161	0
17 - Supervisory Independent Union	2,585,393	239	2,867,167	6,180
18 - UAW Non Sup	5,173,202	19,034	5,154,827	18,408
19 - UAW Jr Unit	628,965	96,599	571,614	91,849
20 - Plc Sprvsrs	9,535,670	181,363	9,021,732	149,945
21 - Police/Fire	3,601,286	47,489	3,668,845	39,209
22 - Sup of Info & Tech/Records	837,908	0	800,913	0
23 - POAM aft 7/1/11-Officers Only	501,906	959	328,682	1,086
50 - Fire Hired after 7/1/2011	247,766	0	136,946	0
HA - New hires after 11/1/10	2,919,753	0	2,092,126	0
HB - Gen.Aux FOP-hired aft 7/1/2011	60,753	0	42,789	0
<b>Municipality Total</b>	<b>\$ 90,472,591</b>	<b>\$ 1,853,990</b>	<b>\$ 86,107,573</b>	<b>\$ 2,173,161</b>
<b>Combined Reserves</b>	<b>\$ 92,326,581</b>		<b>\$ 88,280,734</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	\$ 2,872,809		\$ 223,768	\$ 7,259,387	\$ (6,301,344)	\$ (3,929)	\$ (1)	\$ 95,551,414
2007	3,099,813		208,680	7,716,280	(7,120,650)	0	(85,503)	99,370,034
2008	3,361,359		202,060	4,153,119	(7,587,334)	(7,614)	0	99,491,624
2009	3,687,481		207,792	3,615,006	(8,020,321)	0	0	98,981,582
2010	4,012,231		255,594	4,585,229	(8,680,299)	0	0	99,154,337
2011	4,758,607	\$ 60,489	168,721	4,557,810	(9,463,412)	0	(9,383)	99,227,169
2012	5,339,237	40,326	253,023	4,028,779	(10,312,446)	0	0	98,576,088
2013	5,688,698	0	243,464	5,347,999	(10,760,384)	0	(918,225)	98,177,640
2014	5,788,683	0	246,570	5,389,258	(11,030,534)	0	0	98,571,617
2015	5,863,235	2,062,725	255,686	4,833,627	(11,354,535)	0	0	100,232,355
2016	6,183,576	254,800	236,080	4,768,479	(12,230,658)	(135)	0	99,444,497

**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 - Gnl NonUnio				
Active Employees	\$ 2,604,320	\$ 30,498	1.2%	\$ 2,573,822
Vested Former Employees	392,512	3,783	1.0%	388,729
Retirees And Beneficiaries	16,799,058	10,367,098	61.7%	6,431,960
Pending Refunds	0	0	0.0%	0
Total	<b>\$ 19,795,890</b>	<b>\$ 10,401,379</b>	<b>52.5%</b>	<b>\$ 9,394,511</b>
02 - Plc NonComm				
Active Employees	\$ 6,992,564	\$ 940,527	13.5%	\$ 6,052,037
Vested Former Employees	807,990	807,990	100.0%	0
Retirees And Beneficiaries	15,390,160	15,390,160	100.0%	0
Pending Refunds	0	0	0.0%	0
Total	<b>\$ 23,190,714</b>	<b>\$ 17,138,677</b>	<b>73.9%</b>	<b>\$ 6,052,037</b>
05 - Fire				
Active Employees	\$ 12,263,954	\$ 1,044,747	8.5%	\$ 11,219,207
Vested Former Employees	87,328	20,821	23.8%	66,507
Retirees And Beneficiaries	42,586,862	24,067,760	56.5%	18,519,102
Pending Refunds	490	490	100.0%	0
Total	<b>\$ 54,938,634</b>	<b>\$ 25,133,818</b>	<b>45.7%</b>	<b>\$ 29,804,816</b>
08 - NewHires 54B				
Active Employees	\$ 692,234	\$ 774,963	112.0%	\$ (82,729)
Vested Former Employees	282,573	282,573	100.0%	0
Retirees And Beneficiaries	152,341	152,341	100.0%	0
Pending Refunds	0	0	0.0%	0
Total	<b>\$ 1,127,148</b>	<b>\$ 1,209,877</b>	<b>107.3%</b>	<b>\$ (82,729)</b>
10 - Gnl DPW				
Active Employees	\$ 1,021,527	\$ 201,993	19.8%	\$ 819,534
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	13,001,858	6,462,369	49.7%	6,539,489
Pending Refunds	1,635	1,635	100.0%	0
Total	<b>\$ 14,025,020</b>	<b>\$ 6,665,997</b>	<b>47.5%</b>	<b>\$ 7,359,023</b>
11 - Gnl Auxlry				
Active Employees	\$ 1,807,214	\$ 21,175	1.2%	\$ 1,786,039
Vested Former Employees	257,147	177	0.1%	256,970
Retirees And Beneficiaries	3,423,762	3,372,959	98.5%	50,803
Pending Refunds	0	0	0.0%	0
Total	<b>\$ 5,488,123</b>	<b>\$ 3,394,311</b>	<b>61.8%</b>	<b>\$ 2,093,812</b>

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets <sup>1</sup>	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
12 - Gnl 54B Crt				
Active Employees	\$ 1,147,851	\$ 8,205	0.7%	\$ 1,139,646
Vested Former Employees	445,501	10	0.0%	445,491
Retirees And Beneficiaries	3,386,755	2,596,933	76.7%	789,822
Pending Refunds	0	0	0.0%	0
Total	<b>\$ 4,980,107</b>	<b>\$ 2,605,148</b>	<b>52.3%</b>	<b>\$ 2,374,959</b>
13 - Jail Serv				
Active Employees	\$ 580,645	\$ 426,925	73.5%	\$ 153,720
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	133,090	133,090	100.0%	0
Pending Refunds	0	0	0.0%	0
Total	<b>\$ 713,735</b>	<b>\$ 560,015</b>	<b>78.5%</b>	<b>\$ 153,720</b>
14 - Water&Sewer				
Active Employees	\$ 1,526,731	\$ 913,406	59.8%	\$ 613,325
Vested Former Employees	308,583	308,583	100.0%	0
Retirees And Beneficiaries	1,932,935	1,932,935	100.0%	0
Pending Refunds	0	0	0.0%	0
Total	<b>\$ 3,768,249</b>	<b>\$ 3,154,924</b>	<b>83.7%</b>	<b>\$ 613,325</b>
15 - Junior Empl				
Active Employees	\$ 0	\$ 2,662	0.0%	\$ (2,662)
Vested Former Employees	65,201	65,201	100.0%	0
Retirees And Beneficiaries	574,905	574,905	100.0%	0
Pending Refunds	<u>17,284</u>	<u>17,284</u>	100.0%	0
Total	<b>\$ 657,390</b>	<b>\$ 660,052</b>	<b>100.4%</b>	<b>\$ (2,662)</b>
16 - Comm Devlpm				
Active Employees	\$ 0	\$ 0	0.0%	\$ 0
Vested Former Employees	54,844	43,755	79.8%	11,089
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	<b>\$ 54,844</b>	<b>\$ 43,755</b>	<b>79.8%</b>	<b>\$ 11,089</b>
17 - Supervisory Independent Union				
Active Employees	\$ 0	\$ 0	0.0%	\$ 0
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	8,371,292	2,784,971	33.3%	5,586,321
Pending Refunds	0	0	0.0%	0
Total	<b>\$ 8,371,292</b>	<b>\$ 2,784,971</b>	<b>33.3%</b>	<b>\$ 5,586,321</b>
18 - UAW Non Sup				
Active Employees	\$ 1,753,699	\$ 16,327	0.9%	\$ 1,737,372
Vested Former Employees	345,063	2,707	0.8%	342,356
Retirees And Beneficiaries	8,201,731	5,573,497	68.0%	2,628,234
Pending Refunds	0	0	0.0%	0
Total	<b>\$ 10,300,493</b>	<b>\$ 5,592,531</b>	<b>54.3%</b>	<b>\$ 4,707,962</b>

**Table 6 (continued)**

<b>Division</b>	<b>Actuarial Accrued Liability</b>	<b>Valuation Assets<sup>1</sup></b>	<b>Percent Funded</b>	<b>Unfunded (Overfunded) Accrued Liabilities</b>
<b>19 - UAW Jr Unit</b>				
Active Employees	\$ 532,664	\$ 320,008	60.1%	\$ 212,656
Vested Former Employees	131,221	131,221	100.0%	0
Retirees And Beneficiaries	313,627	313,627	100.0%	0
Pending Refunds	<u>16,645</u>	<u>16,645</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 994,157</b>	<b>\$ 781,501</b>	<b>78.6%</b>	<b>\$ 212,656</b>
<b>20 - Plc Sprvsrs</b>				
Active Employees	\$ 7,576,865	\$ 165,694	2.2%	\$ 7,411,171
Vested Former Employees	355,006	21,098	5.9%	333,908
Retirees And Beneficiaries	13,762,165	10,279,376	74.7%	3,482,789
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 21,694,036</b>	<b>\$ 10,466,168</b>	<b>48.2%</b>	<b>\$ 11,227,868</b>
<b>21 - Police/Fire</b>				
Active Employees	\$ 1,952,682	\$ 47,489	2.4%	\$ 1,905,193
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	9,784,648	3,882,588	39.7%	5,902,060
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 11,737,330</b>	<b>\$ 3,930,077</b>	<b>33.5%</b>	<b>\$ 7,807,253</b>
<b>22 - Sup of Info &amp; Tech/Records</b>				
Active Employees	\$ 351,834	\$ 0	0.0%	\$ 351,834
Vested Former Employees	89,475	28,341	31.7%	61,134
Retirees And Beneficiaries	874,166	874,166	100.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 1,315,475</b>	<b>\$ 902,507</b>	<b>68.6%</b>	<b>\$ 412,968</b>
<b>23 - POAM aft 7/1/11-Officers Only</b>				
Active Employees	\$ 622,494	\$ 541,633	87.0%	\$ 80,861
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>
<b>Total</b>	<b>\$ 622,494</b>	<b>\$ 541,633</b>	<b>87.0%</b>	<b>\$ 80,861</b>
<b>50 - Fire Hired after 7/1/2011</b>				
Active Employees	\$ 307,236	\$ 266,868	86.9%	\$ 40,368
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>
<b>Total</b>	<b>\$ 307,236</b>	<b>\$ 266,868</b>	<b>86.9%</b>	<b>\$ 40,368</b>
<b>HA - New hires after 11/1/10</b>				
Active Employees	\$ 2,595,905	\$ 2,762,503	106.4%	\$ (166,598)
Vested Former Employees	241,639	241,639	100.0%	0
Retirees And Beneficiaries	140,709	140,709	100.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 2,978,253</b>	<b>\$ 3,144,851</b>	<b>105.6%</b>	<b>\$ (166,598)</b>

**Table 6 (continued)**

<b>Division</b>	<b>Actuarial Accrued Liability</b>	<b>Valuation Assets<sup>1</sup></b>	<b>Percent Funded</b>	<b>Unfunded (Overfunded) Accrued Liabilities</b>
HB - Gen.Aux FOP-hired aft 7/1/2011				
Active Employees	\$ 53,357	\$ 63,815	119.6%	\$ (10,458)
Vested Former Employees	1,622	1,622	100.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 54,979</b>	<b>\$ 65,437</b>	<b>119.0%</b>	<b>\$ (10,458)</b>
<b>Total Municipality</b>				
<b>Active Employees</b>	<b>\$ 44,383,776</b>	<b>\$ 8,549,438</b>	<b>19.3%</b>	<b>\$ 35,834,338</b>
<b>Vested Former Employees</b>	<b>3,865,705</b>	<b>1,959,521</b>	<b>50.7%</b>	<b>1,906,184</b>
<b>Retirees and Beneficiaries</b>	<b>138,830,064</b>	<b>88,899,484</b>	<b>64.0%</b>	<b>49,930,580</b>
<b>Pending Refunds</b>	<b><u>36,054</u></b>	<b><u>36,054</u></b>	<b>100.0%</b>	<b><u>0</u></b>
<b>Total Participants</b>	<b>\$ 187,115,599</b>	<b>\$ 99,444,497</b>	<b>53.1%</b>	<b>\$ 87,671,102</b>
The following results show the combined accrued liabilities and assets for each set of linked divisions. These results are already included in the table above.				
Linked Divisions HA, 01, 08, 10, 13, 15, 17, 18, 19, 21				
Active Employees	\$ 11,733,676	\$ 4,583,368	39.1%	\$ 7,150,308
Vested Former Employees	1,458,209	727,124	49.9%	731,085
Retirees and Beneficiaries	57,473,259	30,385,195	52.9%	27,088,064
Pending Refunds	<u>35,564</u>	<u>35,564</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 70,700,708</b>	<b>\$ 35,731,251</b>	<b>50.5%</b>	<b>\$ 34,969,457</b>
Linked Divisions 23, 02				
Active Employees	\$ 7,615,058	\$ 1,482,160	19.5%	\$ 6,132,898
Vested Former Employees	807,990	807,990	100.0%	0
Retirees and Beneficiaries	15,390,160	15,390,160	100.0%	0
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 23,813,208</b>	<b>\$ 17,680,310</b>	<b>74.2%</b>	<b>\$ 6,132,898</b>
Linked Divisions 50, 05				
Active Employees	\$ 12,571,190	\$ 1,311,615	10.4%	\$ 11,259,575
Vested Former Employees	87,328	20,821	23.8%	66,507
Retirees and Beneficiaries	42,586,862	24,067,760	56.5%	18,519,102
Pending Refunds	<u>490</u>	<u>490</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 55,245,870</b>	<b>\$ 25,400,686</b>	<b>46.0%</b>	<b>\$ 29,845,184</b>
Linked Divisions HB, 11				
Active Employees	\$ 1,860,571	\$ 84,990	4.6%	\$ 1,775,581
Vested Former Employees	258,769	1,799	0.7%	256,970
Retirees and Beneficiaries	3,423,762	3,372,959	98.5%	50,803
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 5,543,102</b>	<b>\$ 3,459,748</b>	<b>62.4%</b>	<b>\$ 2,083,354</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	\$ 104,281,739	\$ 83,016,541	80%	\$ 21,265,198
2003	110,274,433	86,106,367	78%	24,168,066
2004	116,298,037	88,846,287	76%	27,451,750
2005	123,228,403	91,500,724	74%	31,727,679
2006	131,102,892	95,551,414	73%	35,551,478
2007	136,758,375	99,370,034	73%	37,388,341
2008	141,681,794	99,491,624	70%	42,190,170
2009	146,543,143	98,981,582	68%	47,561,561
2010	151,237,873	99,154,337	66%	52,083,536
2011	157,959,599	99,227,169	63%	58,732,430
2012	161,482,472	98,576,088	61%	62,906,384
2013	164,533,111	98,177,640	60%	66,355,471
2014	169,548,861	98,571,617	58%	70,977,244
2015	182,024,044	100,232,355	55%	81,791,689
2016	187,115,599	99,444,497	53%	87,671,102

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

## Division 01 - Gnl NonUnio

Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 18,946,406	\$ 16,753,188	88%	\$ 2,193,218
2007	19,060,264	16,989,147	89%	2,071,117
2008	19,224,406	16,467,261	86%	2,757,145
2009	19,973,841	15,939,175	80%	4,034,666
2010	20,061,073	15,197,835	76%	4,863,238
2011	20,449,610	14,420,331	71%	6,029,279
2012	20,350,691	13,538,212	67%	6,812,479
2013	19,998,697	12,923,936	65%	7,074,761
2014	19,237,541	12,277,183	64%	6,960,358
2015	20,005,653	11,286,453	56%	8,719,200
2016	19,795,890	10,401,379	53%	9,394,511

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	26	\$ 1,605,920	\$ 25,029	0.00%
2007	23	1,415,386	\$ 21,321	0.00%
2008	21	1,285,059	\$ 28,285	0.00%
2009	21	1,363,302	\$ 41,126	0.00%
2010	16	1,029,370	\$ 49,176	0.00%
2011	13	817,547	\$ 65,371	1.00%
2012	9	574,825	\$ 83,814	1.00%
2013	8	541,763	\$ 36,505	1.00%
2014	7	437,240	\$ 38,114	1.00%
2015	6	359,223	\$ 52,517	1.00%
2016	6	420,722	\$ 57,531	1.00%

<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 80 for past benefit provision changes.

## Division 02 - Plc NonComm

Table 8-02: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 14,276,321	\$ 12,318,200	86%	\$ 1,958,121
2007	15,325,872	13,131,897	86%	2,193,975
2008	16,779,520	13,547,662	81%	3,231,858
2009	17,441,079	13,967,222	80%	3,473,857
2010	18,391,688	14,347,870	78%	4,043,818
2011	18,967,800	14,567,054	77%	4,400,746
2012	18,829,106	14,659,964	78%	4,169,142
2013	19,171,104	14,757,268	77%	4,413,836
2014	20,086,792	15,323,093	76%	4,763,699
2015	22,434,283	16,852,310	75%	5,581,973
2016	23,190,714	17,138,677	74%	6,052,037

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	43	\$ 2,520,835	16.10%	0.00%
2007	42	2,510,490	16.64%	0.00%
2008	42	2,655,565	22.06%	0.00%
2009	42	2,732,878	22.91%	0.00%
2010	40	2,514,074	25.24%	0.00%
2011	37	2,348,547	\$ 52,832	1.00%
2012	29	1,859,066	\$ 45,326	1.00%
2013	27	1,760,196	\$ 46,115	1.00%
2014	27	1,775,259	\$ 48,673	1.50%
2015	23	1,541,578	\$ 52,246	2.00%
2016	19	1,312,506	\$ 53,544	2.00%

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

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

**Note:** The contributions shown in Table 9 for the 12/31/2015 through 12/31/2019 valuations do **not** reflect the phase-in of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 7.

See the Benefit Provision History on page 80 for past benefit provision changes.

## Division 05 - Fire

Table 8-05: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 36,246,725	\$ 24,207,397	67%	\$ 12,039,328
2007	38,187,618	24,963,844	65%	13,223,774
2008	38,882,384	24,705,671	64%	14,176,713
2009	40,406,124	24,358,508	60%	16,047,616
2010	41,375,165	24,270,179	59%	17,104,986
2011	43,303,796	24,202,131	56%	19,101,665
2012	45,078,129	23,894,591	53%	21,183,538
2013	46,003,416	24,041,383	52%	21,962,033
2014	48,586,633	24,245,075	50%	24,341,558
2015	52,016,770	25,425,179	49%	26,591,591
2016	54,938,634	25,133,818	46%	29,804,816

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

Table 9-05: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	47	\$ 3,060,703	30.54%	3.00%
2007	47	3,115,272	32.60%	3.00%
2008	48	3,093,775	36.85%	3.00%
2009	48	3,270,354	39.12%	3.00%
2010	48	3,184,288	42.04%	3.00%
2011	47	3,241,288	\$ 130,126	4.00%
2012	43	2,963,188	\$ 139,439	4.00%
2013	43	2,985,505	\$ 143,950	4.00%
2014	40	2,926,149	\$ 158,683	4.50%
2015	37	2,766,652	\$ 178,993	5.00%
2016	28	2,177,493	\$ 197,763	5.00%

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

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

**Note:** The contributions shown in Table 9 for the 12/31/2015 through 12/31/2019 valuations do **not** reflect the phase-in of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 7.

See the Benefit Provision History on page 80 for past benefit provision changes.

## Division 08 - NewHires 54B

Table 8-08: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 463,406	\$ 375,997	81%	\$ 87,409
2007	448,047	388,365	87%	59,682
2008	530,341	459,264	87%	71,077
2009	651,453	641,847	99%	9,606
2010	659,939	724,777	110%	(64,838)
2011	795,945	807,365	101%	(11,420)
2012	882,664	873,087	99%	9,577
2013	983,943	948,586	96%	35,357
2014	1,107,625	1,030,921	93%	76,704
2015	1,130,111	1,114,756	99%	15,355
2016	1,127,148	1,209,877	107%	(82,729)

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

Table 9-08: 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	\$ 449,573	\$ 4,472	0.00%
2007	8	344,918	\$ 2,753	0.00%
2008	8	354,543	\$ 3,388	0.00%
2009	9	433,353	\$ 3,628	0.00%
2010	8	378,684	\$ 2,310	0.00%
2011	7	335,363	\$ 2,672	1.00%
2012	7	347,505	\$ 3,011	1.00%
2013	7	350,693	\$ 3,192	1.00%
2014	7	357,997	\$ 3,573	1.00%
2015	5	256,717	\$ 2,162	1.00%
2016	4	208,983	\$ 1,022	1.00%

<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 80 for past benefit provision changes.

## Division 10 - Gnl DPW

Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 11,048,681	\$ 8,070,633	73%	\$ 2,978,048
2007	11,568,965	8,458,056	73%	3,110,909
2008	11,819,820	8,532,085	72%	3,287,735
2009	12,180,422	8,511,565	70%	3,668,857
2010	12,526,651	8,532,429	68%	3,994,222
2011	13,144,739	8,454,200	64%	4,690,539
2012	13,325,156	8,244,265	62%	5,080,891
2013	13,623,198	8,013,636	59%	5,609,562
2014	13,808,012	7,656,206	55%	6,151,806
2015	14,129,151	7,159,715	51%	6,969,436
2016	14,025,020	6,665,997	48%	7,359,023

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	23	\$ 1,132,638	\$ 20,809	6.70%
2007	22	1,154,193	\$ 22,448	6.70%
2008	20	1,056,409	\$ 25,742	6.70%
2009	19	1,046,561	\$ 29,906	6.70%
2010	16	836,006	\$ 33,766	6.70%
2011	13	738,045	\$ 25,482	6.70%
2012	10	564,489	\$ 27,705	6.70%
2013	7	416,945	\$ 30,997	6.70%
2014	6	385,278	\$ 34,549	6.70%
2015	4	253,621	\$ 41,079	6.70%
2016	3	200,260	\$ 43,942	6.70%

<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 80 for past benefit provision changes.

## Division 11 - Gnl Auxlry

Table 8-11: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 3,892,998	\$ 3,078,150	79%	\$ 814,848
2007	4,027,223	3,231,694	80%	795,529
2008	4,193,222	3,275,942	78%	917,280
2009	4,303,714	3,285,712	76%	1,018,002
2010	4,381,666	3,302,115	75%	1,079,551
2011	4,471,936	3,293,412	74%	1,178,524
2012	4,536,628	3,283,029	72%	1,253,599
2013	4,619,662	3,304,485	72%	1,315,177
2014	5,035,417	3,448,208	69%	1,587,209
2015	5,406,367	3,413,735	63%	1,992,632
2016	5,488,123	3,394,311	62%	2,093,812

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	20	\$ 697,153	14.75%	0.00%
2007	20	729,786	14.34%	0.00%
2008	20	736,336	17.33%	0.00%
2009	17	657,692	19.03%	0.00%
2010	18	677,778	19.52%	0.00%
2011	12	475,869	\$ 9,693	1.00%
2012	11	437,356	\$ 9,779	1.00%
2013	10	407,660	\$ 10,035	1.00%
2014	9	372,337	\$ 11,731	1.00%
2015	9	376,267	\$ 14,731	1.00%
2016	9	376,797	\$ 15,201	1.00%

<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 80 for past benefit provision changes.

## Division 12 - Gnl 54B Crt

Table 8-12: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 3,786,693	\$ 2,613,098	69%	\$ 1,173,595
2007	3,943,983	2,761,537	70%	1,182,446
2008	4,049,357	2,863,425	71%	1,185,932
2009	4,002,162	2,797,066	70%	1,205,096
2010	4,212,209	2,835,322	67%	1,376,887
2011	4,456,075	2,787,499	63%	1,668,576
2012	4,527,153	2,680,489	59%	1,846,664
2013	4,588,733	2,635,128	57%	1,953,605
2014	4,637,785	2,619,925	57%	2,017,860
2015	4,931,489	2,609,490	53%	2,321,999
2016	4,980,107	2,605,148	52%	2,374,959

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	12	\$ 536,835	\$ 9,707	0.00%
2007	11	515,189	\$ 9,175	0.00%
2008	11	521,175	\$ 10,468	0.00%
2009	9	425,635	\$ 9,864	0.00%
2010	6	268,444	\$ 10,508	0.00%
2011	4	188,823	\$ 12,860	1.00%
2012	4	193,613	\$ 15,065	1.00%
2013	4	194,583	\$ 17,062	1.00%
2014	4	196,422	\$ 19,600	1.00%
2015	4	200,366	\$ 26,493	1.00%
2016	3	152,492	\$ 31,191	1.00%

<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 80 for past benefit provision changes.

## Division 13 - Jail Serv

Table 8-13: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 483,491	\$ 314,121	65%	\$ 169,370
2007	525,611	345,640	66%	179,971
2008	565,515	370,758	66%	194,757
2009	581,517	402,615	69%	178,902
2010	601,420	443,259	74%	158,161
2011	680,081	485,390	71%	194,691
2012	695,698	527,409	76%	168,289
2013	779,791	576,983	74%	202,808
2014	618,378	478,894	77%	139,484
2015	664,868	518,891	78%	145,977
2016	713,735	560,015	79%	153,720

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	3	\$ 134,846	\$ 1,814	0.00%
2007	3	140,398	\$ 1,985	0.00%
2008	3	143,649	\$ 2,450	0.00%
2009	3	150,730	\$ 2,432	0.00%
2010	3	144,395	\$ 2,318	0.00%
2011	3	153,393	\$ 2,137	1.00%
2012	3	147,906	\$ 1,988	1.00%
2013	3	154,878	\$ 2,296	1.00%
2014	2	102,972	\$ 1,532	1.00%
2015	2	97,316	\$ 1,589	1.00%
2016	2	100,874	\$ 1,623	1.00%

<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 80 for past benefit provision changes.

## Division 14 - Water&amp;Sewer

Table 8-14: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 1,840,842	\$ 1,739,018	94%	\$ 101,824
2007	2,003,905	1,931,182	96%	72,723
2008	2,210,406	2,037,878	92%	172,528
2009	2,366,362	2,160,355	91%	206,007
2010	2,498,013	2,299,513	92%	198,500
2011	2,775,293	2,435,606	88%	339,687
2012	2,888,641	2,499,514	87%	389,127
2013	3,053,214	2,588,910	85%	464,304
2014	3,231,348	2,685,585	83%	545,763
2015	3,567,681	2,775,268	78%	792,413
2016	3,768,249	3,154,924	84%	613,325

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	11	\$ 615,286	9.56%	0.00%
2007	9	540,209	\$ 4,133	0.00%
2008	8	493,377	\$ 5,178	0.00%
2009	8	525,594	\$ 5,411	0.00%
2010	8	503,606	\$ 5,040	0.00%
2011	7	425,230	\$ 5,903	0.00%
2012	7	429,664	\$ 6,491	0.00%
2013	6	379,136	\$ 7,002	0.00%
2014	6	383,241	\$ 8,200	0.00%
2015	5	315,535	\$ 10,963	0.00%
2016	5	344,379	\$ 10,170	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 80 for past benefit provision changes.

## Division 15 - Junior Empl

**Table 8-15: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 323,782	\$ 338,917	105%	\$ (15,135)
2007	376,660	384,171	102%	(7,511)
2008	449,397	429,140	95%	20,257
2009	472,636	489,079	103%	(16,443)
2010	508,315	555,112	109%	(46,797)
2011	563,673	609,754	108%	(46,081)
2012	651,793	641,939	99%	9,854
2013	701,939	649,471	93%	52,468
2014	730,077	657,244	90%	72,833
2015	660,082	660,809	100%	(727)
2016	657,390	660,052	100%	(2,662)

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

**Table 9-15: Computed Employer Contributions - Comparative Schedule**

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	4	\$ 218,262	\$ 1,647	3.00%
2007	4	220,907	\$ 1,632	3.00%
2008	4	237,322	\$ 2,063	3.00%
2009	4	250,080	\$ 1,623	3.00%
2010	2	155,974	\$ 491	3.00%
2011	2	156,544	\$ 593	3.00%
2012	1	60,278	\$ 460	3.00%
2013	1	60,578	\$ 714	3.00%
2014	1	61,419	\$ 845	3.00%
2015	0	0	\$ 0	3.00%
2016	0	0	\$ 0	3.00%

<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 80 for past benefit provision changes.

## Division 16 - Comm Devlpm

**Table 8-16: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 23,303	\$ 25,191	108%	\$ (1,888)
2007	25,213	26,548	105%	(1,335)
2008	27,285	26,844	98%	441
2009	30,124	27,399	91%	2,725
2010	32,614	28,247	87%	4,367
2011	35,321	29,164	83%	6,157
2012	38,262	31,072	81%	7,190
2013	41,135	33,744	82%	7,391
2014	44,592	36,709	82%	7,883
2015	50,642	39,921	79%	10,721
2016	54,844	43,755	80%	11,089

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

**Table 9-16: 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	0	\$ 0	\$ 0	0.00%
2007	0	0	\$ 0	0.00%
2008	0	0	\$ 3	0.00%
2009	0	0	\$ 23	0.00%
2010	0	0	\$ 40	0.00%
2011	0	0	\$ 63	0.00%
2012	0	0	\$ 85	0.00%
2013	0	0	\$ 107	0.00%
2014	0	0	\$ 129	0.00%
2015	0	0	\$ 221	0.00%
2016	0	0	\$ 241	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 80 for past benefit provision changes.

## Division 17 - Supervisory Independent Union

**Table 8-17: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 7,478,411	\$ 4,198,108	56%	\$ 3,280,303
2007	7,689,023	4,273,712	56%	3,415,311
2008	7,810,447	4,239,129	54%	3,571,318
2009	8,039,930	4,174,538	52%	3,865,392
2010	8,193,690	4,183,702	51%	4,009,988
2011	8,467,855	4,173,593	49%	4,294,262
2012	8,691,641	4,089,188	47%	4,602,453
2013	8,750,964	3,934,536	45%	4,816,428
2014	8,712,964	3,620,907	42%	5,092,057
2015	8,856,694	3,262,346	37%	5,594,348
2016	8,371,292	2,784,971	33%	5,586,321

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

**Table 9-17: Computed Employer Contributions - Comparative Schedule**

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	8	\$ 485,492	\$ 22,804	0.30%
2007	8	520,439	\$ 24,776	0.30%
2008	8	541,487	\$ 28,714	0.30%
2009	7	498,221	\$ 32,710	0.30%
2010	6	416,960	\$ 36,547	0.30%
2011	5	374,444	\$ 22,076	1.30%
2012	3	221,859	\$ 24,235	1.30%
2013	2	140,341	\$ 25,816	1.30%
2014	1	64,884	\$ 27,455	1.30%
2015	1	65,289	\$ 32,326	1.30%
2016	0	0	\$ 32,251	1.30%

<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 80 for past benefit provision changes.

## Division 18 - UAW Non Sup

**Table 8-18: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 9,299,412	\$ 6,198,609	67%	\$ 3,100,803
2007	9,592,146	6,526,873	68%	3,065,273
2008	9,995,980	6,516,654	65%	3,479,326
2009	9,694,164	6,259,227	65%	3,434,937
2010	9,790,162	6,212,910	63%	3,577,252
2011	9,874,441	6,161,203	62%	3,713,238
2012	9,424,480	6,102,784	65%	3,321,696
2013	9,658,601	6,132,453	64%	3,526,148
2014	9,560,924	6,062,205	63%	3,498,719
2015	10,318,083	5,873,598	57%	4,444,485
2016	10,300,493	5,592,531	54%	4,707,962

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

**Table 9-18: Computed Employer Contributions - Comparative Schedule**

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	20	\$ 990,009	\$ 25,460	0.00%
2007	18	881,119	\$ 24,806	0.00%
2008	15	760,764	\$ 30,051	0.00%
2009	14	718,240	\$ 31,025	0.00%
2010	13	653,696	\$ 34,891	0.00%
2011	11	555,665	\$ 21,004	1.00%
2012	11	553,399	\$ 19,729	1.00%
2013	10	517,746	\$ 21,527	1.00%
2014	9	485,268	\$ 21,545	1.00%
2015	6	313,654	\$ 27,683	1.00%
2016	5	273,070	\$ 29,226	1.00%

<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 80 for past benefit provision changes.

## Division 19 - UAW Jr Unit

Table 8-19: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 379,522	\$ 292,663	77%	\$ 86,859
2007	430,306	343,259	80%	87,047
2008	493,414	393,099	80%	100,315
2009	524,422	456,455	87%	67,967
2010	567,899	527,741	93%	40,158
2011	642,120	593,874	93%	48,246
2012	684,070	656,624	96%	27,446
2013	794,104	701,202	88%	92,902
2014	846,159	729,180	86%	116,979
2015	991,463	753,284	76%	238,179
2016	994,157	781,501	79%	212,656

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

Table 9-19: 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	5	\$ 233,787	\$ 1,970	3.00%
2007	5	236,976	\$ 1,891	3.00%
2008	5	245,102	\$ 2,227	3.00%
2009	5	260,937	\$ 2,047	3.00%
2010	4	223,965	\$ 1,528	3.00%
2011	4	224,335	\$ 1,523	3.00%
2012	3	182,927	\$ 1,419	3.00%
2013	2	128,880	\$ 1,405	3.00%
2014	2	128,625	\$ 1,585	3.00%
2015	2	143,641	\$ 2,536	3.00%
2016	2	132,293	\$ 2,251	3.00%

<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 80 for past benefit provision changes.

## Division 20 - Plc Sprvsrs

Table 8-20: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 13,850,891	\$ 10,141,279	73%	\$ 3,709,612
2007	14,511,390	10,524,171	73%	3,987,219
2008	15,268,297	10,438,858	68%	4,829,439
2009	16,014,958	10,208,555	64%	5,806,403
2010	17,065,153	10,243,989	60%	6,821,164
2011	18,285,627	10,352,264	57%	7,933,363
2012	18,078,990	9,837,916	54%	8,241,074
2013	19,463,731	10,454,697	54%	9,009,034
2014	20,022,646	10,645,366	53%	9,377,280
2015	20,995,235	10,413,357	50%	10,581,878
2016	21,694,036	10,466,168	48%	11,227,868

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	13	\$ 964,673	30.63%	1.00%
2007	12	876,372	34.85%	1.00%
2008	11	842,688	45.03%	1.00%
2009	10	808,068	53.35%	1.00%
2010	9	695,108	67.85%	1.00%
2011	11	875,018	65.08%	1.00%
2012	11	836,271	73.40%	3.00%
2013	13	1,018,126	67.19%	3.00%
2014	13	1,060,198	67.18%	3.00%
2015	12	987,216	82.88%	3.00%
2016	12	1,017,853	85.94%	3.00%

<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 80 for past benefit provision changes.

## Division 21 - Police/Fire

Table 8-21: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 7,261,836	\$ 3,956,075	54%	\$ 3,305,761
2007	7,429,351	4,025,565	54%	3,403,786
2008	7,635,938	3,999,571	52%	3,636,367
2009	7,905,113	3,944,187	50%	3,960,926
2010	8,278,430	3,896,511	47%	4,381,919
2011	8,485,781	3,792,670	45%	4,693,111
2012	10,176,299	4,386,632	43%	5,789,667
2013	9,865,867	4,236,241	43%	5,629,626
2014	10,071,397	4,074,292	41%	5,997,105
2015	11,604,954	4,210,058	36%	7,394,896
2016	11,737,330	3,930,077	34%	7,807,253

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

Table 9-21: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	4	\$ 342,707	\$ 23,279	3.00%
2007	4	353,369	\$ 24,095	3.00%
2008	4	370,041	\$ 28,996	3.00%
2009	3	296,207	\$ 33,131	3.00%
2010	1	96,585	\$ 38,369	3.00%
2011	1	100,081	\$ 23,066	4.00%
2012	3	284,706	\$ 31,964	4.00%
2013	2	197,469	\$ 30,748	4.00%
2014	2	205,329	\$ 32,869	4.00%
2015	2	186,521	\$ 44,207	4.00%
2016	2	198,677	\$ 47,158	4.00%

<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 80 for past benefit provision changes.

## Division 22 - Sup of Info & Tech/Records

### Table 8-22: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2006	\$ 1,500,172	\$ 930,770	62%	\$ 569,402
2007	1,612,798	1,064,373	66%	548,425
2008	1,746,065	1,188,383	68%	557,682
2009	1,955,122	1,358,077	69%	597,045
2010	2,093,786	1,552,826	74%	540,960
2011	2,374,925	1,825,498	77%	549,427
2012	1,995,716	1,960,105	98%	35,611
2013	1,155,863	942,711	82%	213,152
2014	1,193,032	926,470	78%	266,562
2015	1,292,875	909,342	70%	383,533
2016	1,315,475	902,507	69%	412,968

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

### Table 9-22: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2006	13	\$ 623,677	14.23%	0.00%
2007	14	667,835	13.92%	0.00%
2008	14	679,634	16.33%	0.00%
2009	15	806,584	16.10%	0.00%
2010	15	772,838	16.12%	0.00%
2011	15	790,618	17.00%	0.00%
2012	12	454,606	13.37%	0.00%
2013	1	63,306	35.57%	0.00%
2014	1	66,753	38.34%	0.00%
2015	1	71,682	47.80%	0.00%
2016	1	71,629	50.82%	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 80 for past benefit provision changes.

## Division 23 - POAM aft 7/1/11-Officers Only

**Table 8-23: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2011	\$ 5,993	\$ 2,496	42%	\$ 3,497
2012	54,475	41,902	77%	12,573
2013	181,879	145,880	80%	35,999
2014	295,103	246,444	84%	48,659
2015	421,028	374,413	89%	46,615
2016	622,494	541,633	87%	80,861

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

**Table 9-23: 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	3	\$ 113,149	11.53%	0.00%
2012	13	524,707	11.43%	0.00%
2013	15	705,284	11.52%	0.00%
2014	14	719,632	11.60%	0.00%
2015	17	912,248	11.48%	0.00%
2016	21	1,155,000	11.60%	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 80 for past benefit provision changes.

## Division 50 - Fire Hired after 7/1/2011

### Table 8-50: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2011	\$ (1,002)	\$ 2,066	-206%	\$ (3,068)
2012	2,941	19,000	646%	(16,059)
2013	35,529	51,836	146%	(16,307)
2014	89,996	94,072	105%	(4,076)
2015	163,959	155,486	95%	8,473
2016	307,236	266,868	87%	40,368

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

### Table 9-50: 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	2	\$ 107,303	10.79%	0.00%
2012	5	216,832	10.53%	0.00%
2013	6	298,544	10.79%	0.00%
2014	8	400,438	11.23%	0.00%
2015	10	539,317	11.41%	0.00%
2016	21	1,041,449	11.47%	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 80 for past benefit provision changes.

## Division HA - New hires after 11/1/10

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2011	\$ 180,114	\$ 230,291	128%	\$ (50,177)
2012	564,646	597,740	106%	(33,094)
2013	1,050,051	1,083,659	103%	(33,608)
2014	1,609,814	1,679,828	104%	(70,014)
2015	2,343,546	2,375,362	101%	(31,816)
2016	2,978,253	3,144,851	106%	(166,598)

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	78	\$ 4,066,941	9.33%	0.00%
2012	82	4,411,956	9.21%	0.00%
2013	96	4,856,376	9.01%	0.00%
2014	111	5,544,114	8.61%	0.00%
2015	118	6,140,823	9.02%	0.00%
2016	117	6,222,488	8.62%	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 80 for past benefit provision changes.

## Division HB - Gen.Aux FOP-hired aft 7/1/2011

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2011	\$ (524)	\$ 1,308	-250%	\$ (1,832)
2012	5,293	10,626	201%	(5,333)
2013	11,690	20,895	179%	(9,205)
2014	22,626	33,810	149%	(11,184)
2015	39,110	48,582	124%	(9,472)
2016	54,979	65,437	119%	(10,458)

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		
2011	4	\$ 92,267	6.60%	0.00%
2012	5	111,071	5.95%	0.00%
2013	6	122,780	5.64%	0.00%
2014	8	191,653	6.47%	0.00%
2015	8	201,084	6.82%	0.00%
2016	8	202,773	6.82%	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 80 for past benefit provision changes.

## Division 01 - Gnl NonUnio

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 8,719,200	23	\$ 9,172,952	22	\$ 625,548
Gain/Loss	12/31/2016	433,985	22	485,401	22	33,108
<b>Total</b>				<b>\$ 9,658,353</b>		<b>\$ 658,656</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 - Plc NonComm

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 5,581,973	23	\$ 5,788,269	22	\$ 394,728
Gain/Loss	12/31/2016	348,691	22	390,002	22	26,592
<b>Total</b>				<b>\$ 6,178,271</b>		<b>\$ 421,320</b>

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

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

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

**Division 05 - Fire**

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 26,591,591	23	\$ 27,646,190	22	\$ 1,885,344
Gain/Loss	12/31/2016	2,631,385	22	2,943,136	22	200,712
<b>Total</b>				<b>\$ 30,589,326</b>		<b>\$ 2,086,056</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 08 - NewHires 54B

**Table 10-08: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 15,355	23	\$ (6,292)	10	\$ (768)
Gain/Loss	12/31/2016	(87,008)	15	(97,316)	15	(8,664)
<b>Total</b>				<b>\$ (103,608)</b>		<b>\$ (9,432)</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 - Gnl DPW

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 6,969,436	23	\$ 7,254,710	22	\$ 494,736
Gain/Loss	12/31/2016	238,498	22	266,754	22	18,192
<b>Total</b>				<b>\$ 7,521,464</b>		<b>\$ 512,928</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 - Gnl Auxlry

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 1,992,632	23	\$ 2,101,396	22	\$ 143,304
Gain/Loss	12/31/2016	39,304	22	43,960	22	3,000
<b>Total</b>				<b>\$ 2,145,356</b>		<b>\$ 146,304</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 - Gnl 54B Crt

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 2,321,999	9	\$ 2,134,003	7	\$ 353,388
Gain/Loss	12/31/2016	79,152	10	88,529	10	10,824
<b>Total</b>				<b>\$ 2,222,532</b>		<b>\$ 364,212</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 - Jail Serv

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 145,977	23	\$ 145,986	22	\$ 9,960
Gain/Loss	12/31/2016	10,330	22	11,554	22	792
<b>Total</b>				<b>\$ 157,540</b>		<b>\$ 10,752</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 - Water&Sewer**

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 792,413	10	\$ 757,285	8	\$ 111,720
Gain/Loss	12/31/2016	(182,631)	10	(204,268)	10	(24,984)
<b>Total</b>				<b>\$ 553,017</b>		<b>\$ 86,736</b>

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

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

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

## Division 15 - Junior Empl

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ (727)	10	\$ (15,253)	10	\$ (1,872)
Gain/Loss	12/31/2016	7,822	15	8,749	15	780
<b>Total</b>				<b>\$ (6,504)</b>		<b>\$ (1,092)</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 16 - Comm Devlpm

**Table 10-16: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 10,721	4	\$ 7,683	3	\$ 2,760
Gain/Loss	12/31/2016	1,005	10	1,124	10	132
<b>Total</b>				<b>\$ 8,807</b>		<b>\$ 2,892</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 17 - Supervisory Independent Union

**Table 10-17: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 5,594,348	23	\$ 5,808,734	22	\$ 396,132
Gain/Loss	12/31/2016	(119,604)	22	(133,774)	22	(9,120)
<b>Total</b>				<b>\$ 5,674,960</b>		<b>\$ 387,012</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 18 - UAW Non Sup

**Table 10-18: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 4,444,485	23	\$ 4,651,495	22	\$ 317,208
Gain/Loss	12/31/2016	154,599	22	172,915	22	11,796
<b>Total</b>				<b>\$ 4,824,410</b>		<b>\$ 329,004</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 19 - UAW Jr Unit

**Table 10-19: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 238,179	23	\$ 260,567	22	\$ 17,772
Gain/Loss	12/31/2016	(39,522)	22	(44,204)	22	(3,012)
<b>Total</b>				<b>\$ 216,363</b>		<b>\$ 14,760</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 - Plc Sprvsrs

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 10,581,878	23	\$ 11,088,949	22	\$ 756,216
Gain/Loss	12/31/2016	376,994	22	421,658	22	28,752
<b>Total</b>				<b>\$ 11,510,607</b>		<b>\$ 784,968</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 21 - Police/Fire

**Table 10-21: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 7,394,896	23	\$ 7,768,928	22	\$ 529,800
Gain/Loss	12/31/2016	211,870	22	236,971	22	16,164
<b>Total</b>				<b>\$ 8,005,899</b>		<b>\$ 545,964</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 22 - Sup of Info & Tech/Records

**Table 10-22: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 383,533	23	\$ 404,732	22	\$ 27,600
Gain/Loss	12/31/2016	17,791	22	19,899	22	1,356
<b>Total</b>				<b>\$ 424,631</b>		<b>\$ 28,956</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 23 - POAM aft 7/1/11-Officers Only

**Table 10-23: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 46,615	23	\$ 46,816	22	\$ 3,192
Gain/Loss	12/31/2016	33,647	22	37,633	22	2,568
<b>Total</b>				<b>\$ 84,449</b>		<b>\$ 5,760</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 50 - Fire Hired after 7/1/2011

**Table 10-50: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ 8,473	23	\$ 12,715	22	\$ 864
Gain/Loss	12/31/2016	28,370	22	31,731	22	2,160
<b>Total</b>				<b>\$ 44,446</b>		<b>\$ 3,024</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 - New hires after 11/1/10

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

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ (31,816)	10	\$ (5,612)	10	\$ (684)
Gain/Loss	12/31/2016	(153,659)	15	(171,864)	15	(15,288)
<b>Total</b>				<b>\$ (177,476)</b>		<b>\$ (15,972)</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 - Gen.Aux FOP-hired aft 7/1/2011

### Table 10-HB: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance	Original Amortization Period**	Amounts for Fiscal Year Beginning 7/1/2018		
				Outstanding UAL Balance*	Amortization Period**	Amortization Payment
Initial	12/31/2015	\$ (9,472)	10	\$ (6,760)	10	\$ (828)
Gain/Loss	12/31/2016	(2,795)	15	(3,126)	15	(276)
<b>Total</b>				<b>\$ (9,886)</b>		<b>\$ (1,104)</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

---

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:	373
Inactive employees entitled to but not yet receiving benefits:	76
Active employees:	<u>268</u>
	717

Total Pension Liability as of 12/31/2015 measurement date:	\$ 177,485,820
Total Pension Liability as of 12/31/2016 measurement date:	\$ 182,474,592
Service Cost for the year ending on the 12/31/2016 measurement date:	\$ 1,846,363

Change in the Total Pension Liability due to:

- Benefit changes <sup>1</sup> :	\$ 0
- Differences between expected and actual experience <sup>2</sup> :	\$ 1,589,712
- 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)	\$ 15,609,738

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:	\$ 19,834,700	-	\$ (16,736,538)

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 - Gnl NonUnio

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
7/1/2011	Member Contribution Rate 1.00%
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
7/1/2000	Benefit B-3 (80% max)
7/1/1998	Benefit B-2
7/1/1990	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1988	Benefit C-2/Base B-1
7/1/1987	Blanket Resolution (All Service)
7/1/1987	Benefit F55 (With 25 Years of Service)
7/1/1983	Member Contribution Rate 0.00%
11/1/1970	Benefit C-1 (Old)
11/1/1947	Benefit FAC-5 (5 Year Final Average Compensation)
11/1/1947	10 Year Vesting
11/1/1947	Benefit C (Old)
11/1/1947	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
	Fiscal Month - July

### 02 - Plc NonComm

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
7/1/2015	Participant Contribution Rate 2%
7/1/2014	Member Contribution Rate 1.50%
7/1/2011	Member Contribution Rate 1.00%
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
7/1/1997	2.75% Multiplier (80% max)
1/1/1994	Benefit B-4 (80% max)
1/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1992	Benefit B-3 (80% max)
1/1/1988	E2 2.5% COLA for future retirees (07/01/1987)
7/1/1987	Blanket Resolution (All Service)
1/1/1987	Benefit F50 (With 25 Years of Service)
1/1/1987	Member Contribution Rate 0.00%
3/1/1980	Benefit B-2
11/1/1969	Benefit B-1
11/1/1947	Benefit FAC-5 (5 Year Final Average Compensation)
11/1/1947	10 Year Vesting
11/1/1947	Benefit B

**02 - Plc NonComm**

11/1/1947 Member Contribution Rate 5.00%  
Fiscal Month - July

**05 - Fire**

12/1/2016 Service Credit Purchase Estimates - Yes  
10/25/2016 Covered by Act 88  
7/1/2015 Participant Contribution Rate 5%  
7/1/2014 Member Contribution Rate 4.50%  
7/1/2011 Member Contribution Rate 4.00%  
2/1/2004 Part-time Full-time Conversion  
1/14/2004 Day of work defined as 80 Hours a Month for All employees.  
7/1/1997 Member Contribution Rate 3.00%  
1/1/1996 2.75% Multiplier (80% max)  
1/1/1996 Member Contribution Rate 2.50%  
3/1/1993 Blanket Resolution (All Service)  
1/1/1993 Benefit B-4 (80% max)  
1/1/1989 Benefit FAC-3 (3 Year Final Average Compensation)  
1/1/1989 Benefit B-3 (80% max)  
1/1/1989 Benefit F50 (With 25 Years of Service)  
1/1/1989 E2 2.5% COLA for future retirees (07/01/1988)  
7/1/1984 Member Contribution Rate 0.00%  
1/1/1984 Member Contribution Rate 1.00%  
11/1/1969 Benefit B-1  
11/1/1947 Benefit FAC-5 (5 Year Final Average Compensation)  
11/1/1947 10 Year Vesting  
11/1/1947 Benefit B  
11/1/1947 Member Contribution Rate 5.00%  
Fiscal Month - July

**08 - NewHires 54B**

12/1/2016 Service Credit Purchase Estimates - Yes  
10/25/2016 Covered by Act 88  
7/1/2011 Member Contribution Rate 1.00%  
2/1/2004 Part-time Full-time Conversion  
1/14/2004 Day of work defined as 80 Hours a Month for All employees.  
10/1/1997 Benefit FAC-3 (3 Year Final Average Compensation)  
10/1/1997 10 Year Vesting  
10/1/1997 Benefit B-3 (80% max)  
10/1/1997 Benefit F55 (With 25 Years of Service)  
10/1/1997 Member Contribution Rate 0.00%  
7/1/1987 Blanket Resolution (All Service)  
Fiscal Month - July

**10 - Gnl DPW**

12/1/2016 Service Credit Purchase Estimates - Yes

**10 - Gnl DPW**

10/25/2016	Covered by Act 88
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
7/1/1999	Benefit B-4 (80% max)
7/1/1999	Member Contribution Rate 6.70%
7/1/1993	Benefit B-2
7/1/1993	Member Contribution Rate 2.00%
7/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/1992	Member Contribution Rate 1.00%
7/1/1987	Blanket Resolution (All Service)
7/1/1987	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1987	10 Year Vesting
7/1/1987	Benefit C-2/Base B-1
7/1/1987	Benefit F50 (With 25 Years of Service)
	Fiscal Month - July

**11 - Gnl Auxlry**

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
7/1/2011	Member Contribution Rate 1.00%
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
5/1/2001	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1994	Benefit B-3 (80% max)
1/1/1992	Benefit C-2/Base B-1
7/1/1987	Blanket Resolution (All Service)
7/1/1987	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1987	10 Year Vesting
7/1/1987	Benefit F50 (With 25 Years of Service)
7/1/1983	Member Contribution Rate 0.00%
	Fiscal Month - July

**12 - Gnl 54B Crt**

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
7/1/2011	Member Contribution Rate 1.00%
7/1/2006	DC Adoption Date 07-01-2006
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
10/1/1997	Benefit B-3 (80% max)
7/1/1996	Benefit B-2
7/1/1993	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/1991	Benefit F50 (With 25 Years of Service)
7/1/1987	Blanket Resolution (All Service)
7/1/1983	Benefit FAC-5 (5 Year Final Average Compensation)

**12 - Gnl 54B Crt**

7/1/1983	10 Year Vesting
7/1/1983	Benefit C-1 (Old)
7/1/1983	Member Contribution Rate 0.00%
	Fiscal Month - July

**13 - Jail Serv**

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
7/1/2011	Member Contribution Rate 1.00%
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
4/1/2001	Benefit B-3 (80% max)
1/1/1991	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1991	10 Year Vesting
1/1/1991	Benefit C-2/Base B-1
1/1/1991	Benefit F55 (With 25 Years of Service)
1/1/1991	Member Contribution Rate 0.00%
7/1/1987	Blanket Resolution (All Service)
	Fiscal Month - July

**14 - Water&Sewer**

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
7/1/2007	DC Adoption Date 07-01-2007
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
9/1/2000	Benefit B-3 (80% max)
7/1/1998	Benefit B-2
1/1/1991	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1991	10 Year Vesting
1/1/1991	Benefit C-2/Base B-1
1/1/1991	Benefit F55 (With 25 Years of Service)
1/1/1991	Member Contribution Rate 0.00%
7/1/1987	Blanket Resolution (All Service)
	Fiscal Month - July

**15 - Junior Empl**

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
7/1/2000	Benefit B-3 (80% max)
7/1/1998	Benefit B-2
9/1/1994	Benefit FAC-3 (3 Year Final Average Compensation)
9/1/1994	10 Year Vesting

**15 - Junior Empl**

9/1/1994	Benefit C-2/Base B-1
9/1/1994	Benefit F55 (With 25 Years of Service)
9/1/1994	Member Contribution Rate 3.00%
7/1/1987	Blanket Resolution (All Service)
	Fiscal Month - July

**16 - Comm Devlpm**

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
6/18/1996	Benefit FAC-3 (3 Year Final Average Compensation)
6/18/1996	6 Year Vesting
6/18/1996	Benefit C-2/Base B-1
6/18/1996	Benefit F55 (With 25 Years of Service)
6/18/1996	Member Contribution Rate 0.00%
7/1/1987	Blanket Resolution (All Service)
	Fiscal Month - July

**17 - Supervisory Independent Union**

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
7/1/2011	Member Contribution Rate 1.30%
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
10/1/2000	Benefit B-3 (80% max)
7/1/1998	Benefit B-2
7/1/1998	Member Contribution Rate 0.30%
10/1/1996	Benefit FAC-3 (3 Year Final Average Compensation)
10/1/1996	10 Year Vesting
10/1/1996	Benefit C-2/Base B-1
10/1/1996	Benefit F55 (With 25 Years of Service)
10/1/1996	Member Contribution Rate 0.00%
7/1/1987	Blanket Resolution (All Service)
	Fiscal Month - July

**18 - UAW Non Sup**

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
7/1/2011	Member Contribution Rate 1.00%
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
7/1/2001	Benefit B-3 (80% max)
3/1/1998	Benefit B-2
10/1/1996	Benefit FAC-3 (3 Year Final Average Compensation)

**18 - UAW Non Sup**

10/1/1996	10 Year Vesting
10/1/1996	Benefit C-2/Base B-1
10/1/1996	Benefit F55 (With 25 Years of Service)
10/1/1996	Member Contribution Rate 0.00%
7/1/1987	Blanket Resolution (All Service)
	Fiscal Month - July

**19 - UAW Jr Unit**

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
7/1/2001	Benefit B-3 (80% max)
3/1/1998	Benefit B-2
10/1/1996	Benefit FAC-3 (3 Year Final Average Compensation)
10/1/1996	10 Year Vesting
10/1/1996	Benefit C-2/Base B-1
10/1/1996	Benefit F55 (With 25 Years of Service)
10/1/1996	Member Contribution Rate 3.00%
7/1/1987	Blanket Resolution (All Service)
	Fiscal Month - July

**20 - Plc Sprvsrs**

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
7/1/2012	Member Contribution Rate 3.00%
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
1/1/2000	Member Contribution Rate 1.00%
7/1/1996	2.75% Multiplier (80% max)
6/1/1994	Member Contribution Rate 2.00%
5/31/1994	Member Contribution Rate 0.00%
10/1/1993	Blanket Resolution (All Service)
7/1/1992	Benefit B-4 (80% max)
7/1/1990	Member Contribution Rate 3.00%
2/1/1989	Benefit FAC-3 (3 Year Final Average Compensation)
2/1/1989	Member Contribution Rate 5.00%
1/1/1989	2.25% Multiplier (no max)
4/1/1987	Benefit F50 (With 25 Years of Service)
1/1/1987	E2 2.5% COLA for future retirees (07/01/1986)
7/1/1986	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1986	10 Year Vesting
	Fiscal Month - July

**21 - Police/Fire**

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
7/1/2011	Member Contribution Rate 4.00%
2/1/2004	Part-time Full-time Conversion
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
5/1/2000	Temporary 8 Year Vesting (05/01/2000 - 10/03/2000)
5/1/1997	2.75% Multiplier (80% max)
1/1/1993	Benefit B-4 (80% max)
7/1/1992	Member Contribution Rate 3.00%
7/1/1991	Member Contribution Rate 4.00%
7/1/1990	Member Contribution Rate 7.00%
7/1/1988	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/1988	10 Year Vesting
7/1/1988	Benefit B-3 (80% max)
7/1/1988	Benefit F50 (With 25 Years of Service)
7/1/1988	Member Contribution Rate 8.00%
1/1/1988	E2 2.5% COLA for future retirees (01/01/1988)
12/1/1987	Blanket Resolution (All Service)
	Fiscal Month - July

**22 - Sup of Info & Tech/Records**

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
9/1/2006	Benefit B-4 (80% max)
1/1/2006	Blanket Resolution (All Service)
1/1/2006	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2006	Part-time Full-time Conversion
1/1/2006	10 Year Vesting
1/1/2006	Benefit B-3 (80% max)
1/1/2006	Benefit F50 (With 25 Years of Service)
1/1/2006	Member Contribution Rate 0.00%
1/14/2004	Day of work defined as 80 Hours a Month for All employees.
	Fiscal Month - July

**23 - POAM aft 7/1/11-Officers Only**

12/1/2016	Service Credit Purchase Estimates - Yes
10/25/2016	Covered by Act 88
7/1/2011	Day of work defined as 80 Hours a Month for All employees.
7/1/2011	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/2011	Non Standard Compensation Definition
7/1/2011	Exclude Temporary Employees requiring less than 12 months
7/1/2011	10 Year Vesting
7/1/2011	Benefit B-3 (80% max)
7/1/2011	Benefit F55 (With 25 Years of Service)
7/1/2011	Member Contribution Rate 0.00%

**23 - POAM aft 7/1/11-Officers Only**

Fiscal Month - July

**50 - Fire Hired after 7/1/2011**

12/1/2016 Service Credit Purchase Estimates - Yes  
 10/25/2016 Covered by Act 88  
 7/1/2011 Day of work defined as 80 Hours a Month for All employees.  
 7/1/2011 Benefit FAC-3 (3 Year Final Average Compensation)  
 7/1/2011 Non Standard Compensation Definition  
 7/1/2011 Exclude Temporary Employees requiring less than 12 months  
 7/1/2011 10 Year Vesting  
 7/1/2011 Benefit B-3 (80% max)  
 7/1/2011 Benefit F55 (With 25 Years of Service)  
 7/1/2011 Member Contribution Rate 0.00%  
 Fiscal Month - July

**HA - New hires after 11/1/10**

10/25/2016 Covered by ACT 88  
 10/1/2015 Hybrid Elapsed Time  
 11/1/2010 60  
 11/1/2010 Day of work defined as 80 Hours a Month for Group employees.  
 11/1/2010 Benefit FAC-3 (3 Year Final Average Compensation)  
 11/1/2010 Loans  
 11/1/2010 Pickup  
 11/1/2010 Rollovers  
 11/1/2010 6 Year Vesting  
 11/1/2010 1.5% Multiplier  
 Fiscal Month - July

**HB - Gen.Aux FOP-hired aft 7/1/2011**

10/25/2016 Covered by ACT 88  
 10/1/2015 Hybrid Elapsed Time  
 7/1/2011 Benefit FAC-3 (3 Year Final Average Compensation)  
 7/1/2011 Loans  
 7/1/2011 Pickup  
 7/1/2011 Rollovers  
 7/1/2011 6 Year Vesting  
 7/1/2011 1.5% Multiplier  
 Fiscal Month - July

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

---

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

### Increase in Final Average Compensation

Division	FAC Increase Assumption
All Divisions	5.00%

### Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
All Divisions	80%

### Miscellaneous and Technical Assumptions

Loads – None.

### Amortization Policy for Closed Divisions

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