



**MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN**  
ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2017  
FLAT ROCK, CITY OF (8212)



Spring, 2018

Flat Rock, 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, 2017. The report includes the determination of liabilities and contribution rates resulting from the participation of Flat Rock, City of (8212) in the Municipal Employees' Retirement System of Michigan ("MERS"). MERS is an independent, professional retirement services company that was created to administer retirement plans for Michigan municipalities on a not-for-profit basis. This report contains the minimum actuarially determined contribution requirement, in alignment with the MERS Plan Documents, funding policy and Michigan Constitution. Flat Rock, 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, 2017 annual actuarial valuation is to:

- Measure funding progress
- Establish contribution requirements for the fiscal year beginning July 1, 2019
- 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, 2017 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-2017AnnualActuarialValuation-Appendix.pdf](http://www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2017AnnualActuarialValuation-Appendix.pdf).



The actuarial assumptions used for this valuation produce results that we believe are reasonable.

To the best of our knowledge, this report is complete and accurate, was prepared in conformity with generally recognized actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board, and is in compliance with Act No. 220 of the Public Acts of 1996, as amended, and the MERS Plan Document as revised. All of the undersigned are members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The Retirement Board of the Municipal Employees' Retirement System of Michigan confirms that the System provides for payment of the required employer contribution as described in Section 20m of Act No. 314 of 1965 (MCL 38.1140m).

This information is purely actuarial in nature. It is not intended to serve as a substitute for legal, accounting or investment advice.

**This report was prepared at the request of the Retirement Board and may be provided only in its entirety by the municipality to other interested parties (MERS customarily provides the full report on request to associated third parties such as the auditor for the municipality). CBIZ Retirement Plan Services is not responsible for the consequences of any unauthorized use.**

You should notify MERS if you disagree with anything contained in the report or are aware of any information that would affect the results of the report that have not been communicated to us. If you have reason to believe that the plan provisions are incorrectly described, that important plan provisions relevant to this valuation are not described, that conditions have changed since the calculations were made, that the information provided in this report is inaccurate or is in anyway incomplete, or if you need further information in order to make an informed decision on the subject matter in this report, please contact your Regional Manager at 1.800.767.MERS (6377).

Sincerely,

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

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## Executive Summary

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### 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:

	12/31/2017 *	12/31/2016
<b>Funded Ratio</b>	48%	49%

\* Reflects assets from Surplus divisions, if any.

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 third 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 2018 your municipality is making employer contributions based on rates without the phase-in applied, contact MERS to ensure the No Phase-in rate is used again for 2019 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:	12/31/2017	12/31/2017	12/31/2016	12/31/2016	12/31/2017	12/31/2017	12/31/2016	12/31/2016
Fiscal Year Beginning:	July 1, 2019	July 1, 2019	July 1, 2018	July 1, 2018	July 1, 2019	July 1, 2019	July 1, 2018	July 1, 2018
<b>Division</b>								
01 - Gnrl Clercl	-	-	-	-	\$ 677	\$ 859	\$ 1,365	\$ 1,638
02 - Police POAM	-	-	-	-	1,294	1,752	361	1,048
10 - Gnrl Union	-	-	-	-	19,886	20,750	19,234	20,530
11 - Dept Heads	-	-	-	-	42,574	42,716	31,305	31,518
12 - Admn Emplys	-	-	-	-	2,843	2,997	2,166	2,397
13 - Admin EE's after 9/1/2	2.13%	2.18%	1.83%	1.90%	561	573	479	497
14 - Dept Heads after 9/201	0.00%	0.00%	0.00%	0.00%	0	0	0	0
15 - General Clerical aft 7	1.08%	1.17%	1.45%	1.59%	139	151	182	200
16 - General Union aft 7/1/	0.00%	0.00%	0.00%	0.00%	0	0	0	0
21 - COAM Cmnd Of	73.18%	75.32%	56.26%	58.84%	34,147	35,145	32,606	34,103
22 - Police after 5/1/2014	1.07%	1.07%	0.49%	0.49%	761	761	213	213
<b>Municipality Total</b>					<b>\$ 102,882</b>	<b>\$ 105,704</b>	<b>\$ 87,911</b>	<b>\$ 92,144</b>

Employee contribution rates reflected in the valuations are shown below:

Valuation Date:	Employee Contribution Rate	
	12/31/2017	12/31/2016
<b>Division</b>		
01 - Gnrl Clercl	3% < ; 5% >	3% < ; 5% >
02 - Police POAM	3% < ; 5% >	3% < ; 5% >
10 - Gnrl Union	3% < ; 5% >	3% < ; 5% >
11 - Dept Heads	3% < ; 5% >	3% < ; 5% >
12 - Admn Emplys	3% < ; 5% >	3% < ; 5% >
13 - Admin EE's after 9/1/2	5.00%	5.00%

Valuation Date:	Employee Contribution Rate	
	12/31/2017	12/31/2016
<b>Division</b>		
14 - Dept Heads after 9/201	5.00%	5.00%
15 - General Clerical aft 7	5.00%	5.00%
16 - General Union aft 7/1/	5.00%	5.00%
21 - COAM Cmnd Of	3% < ; 5% >	3% < ; 5% >
22 - Police after 5/1/2014	5.00%	5.00%

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. Employers making contributions in excess of the minimum requirements may elect to apply the excess contribution immediately to a particular division, or segregate the excess into one or more of what MERS calls "Surplus" divisions. An election in the first case would immediately reduce any unfunded accrued liability and lower the amortization payments throughout the remaining amortization period. An election to set up Surplus divisions would not immediately lower future contributions, however the assets from the Surplus divisions could be transferred to an unfunded division in the future to reduce the unfunded liability in future years, or to be used to pay all or a portion of the minimum required contribution in a future year. For purposes of this report, the assets in any Surplus division have been included in the municipality's total assets, unfunded accrued liability and funded status, however, these assets are not used in calculating the minimum required contribution.

**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 fiscal year beginning in 2019 for the entire employer would be \$155,287, instead of \$105,704.

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 Investment Return Assumption and Asset Smoothing**

A defined benefit plan is funded by employer contributions, participant contributions, and investment earnings. Investment earnings have historically provided **more than half** of the funding. The larger the share of benefits being provided from investment returns, the smaller the required contributions, and vice versa. Determining the contributions required to prefund the promised retirement benefits requires an assumption of what investment earnings are expected to add to the fund over a long period of time. This is called the **Investment Return Assumption**.

The MERS Investment Return Assumption is **7.75%** per year. This, along with all of our other actuarial assumptions, is reviewed every five years in an Experience Study that compares the assumptions used against actual experience and recommends adjustments if necessary. If your municipality would like to explore contributions at lower investment return assumptions, please review the budget projection scenarios later in this report.

To avoid dramatic spikes and dips in annual contribution requirements due to short term fluctuations in asset markets, MERS applies a technique called **asset smoothing**. This spreads out each year's investment gains or losses over the prior year and the following four years. This smoothing method is used to determine your actuarial value of assets (valuation assets), which is then used to determine both your funded ratio and your required contributions. The (smoothed) **actuarial rate of return for 2017 was 6.08%, while the actual market rate of return was 13.07%**. To see historical details of the market rate of return, compared to the smoothed actuarial rate of return, refer to this report's [Appendix](#), or visit our [Defined Benefit resource page](#) on the MERS website.



As of December 31, 2017 the actuarial value of assets is 101% of market value due to asset smoothing. 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, or contribution requirements will continue to increase.

If the December 31, 2017 valuation results were based on market value instead of the actuarial value:

- The funded percent of your entire municipality would be 47% (instead of 48%); and
- Your total employer contribution requirement for the fiscal year starting July 1, 2019 would be \$1,279,260 (instead of \$1,268,448).

## 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. An Experience Study is completed every five years to review the assumptions and methods. The next Experience Study will be completed in 2020.

Risk can also be managed through a plan design that provides benefits that are sustainable in the long run.

The Actuarial Standards Board has issued Actuarial Standards of Practice (ASOP) No. 51. This standard will be effective for any actuarial work with a measurement date on or after November 1, 2018. This means, the December 31, 2018 and later annual actuarial valuation reports for MERS will have to comply with this standard. This standard will require the actuary to identify risks that, in the actuary's professional judgment may significantly impact the plan's future financial condition. The actuary will have to assess the potential effects of the identified risks on the plan's future financial condition. The assessment may or may not be based on numerical calculations. However, the assessment should reflect the specifics of the plan (i.e. funded status, plan demographics, funding policy, etc.). If the actuary concludes that numerical calculations are necessary to assess the risk, the actuary can use various methods to quantify the risk such as scenario tests, sensitivity tests, stress tests, etc.

Some of these risk assessment measures have already been incorporated in the MERS annual valuation reports. For example, the projections of funded percentage and employer contributions shown on the following pages could be used to gauge the risk associated with long term investment rates of return different than the assumed 7.75% annual rate. A history of the municipality's funded percentage as shown in Table 7, could indicate the trend in funded status over time.

## 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 the Investment Return Assumption. 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, 2017 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 Investment Return Assumption			
	Lower Future Annual Returns		Valuation Assumption	Higher Returns
	5.75%	6.75%	7.75%	8.75%
<b>12/31/2017 Valuation Results</b>				
Accrued Liability	\$ 32,650,445	\$ 29,300,623	\$ 26,475,931	\$ 24,078,782
Valuation Assets <sup>1</sup>	\$ 12,646,374	\$ 12,646,374	\$ 12,646,374	\$ 12,646,374
Unfunded Accrued Liability	\$ 20,004,071	\$ 16,654,249	\$ 13,829,557	\$ 11,432,408
<b>Funded Ratio</b>	39%	43%	48%	53%
Monthly Normal Cost	\$ 27,688	\$ 19,036	\$ 12,479	\$ 7,500
Monthly Amortization Payment	\$ 106,768	\$ 98,752	\$ 92,069	\$ 83,007
<b>Total Employer Contribution<sup>2</sup></b>	\$ 134,456	\$ 117,922	\$ 105,704	\$ 93,269

<sup>1</sup> The Valuation Assets include assets from Surplus divisions, if any.

<sup>2</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 assumption scenarios. All four projections take into account the past investment losses that will continue to affect the actuarial rate of return in the short term. Under the 7.75% scenarios in the table on the next page, 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 annual investment returns of 6.75% and 5.75% over the long-term.

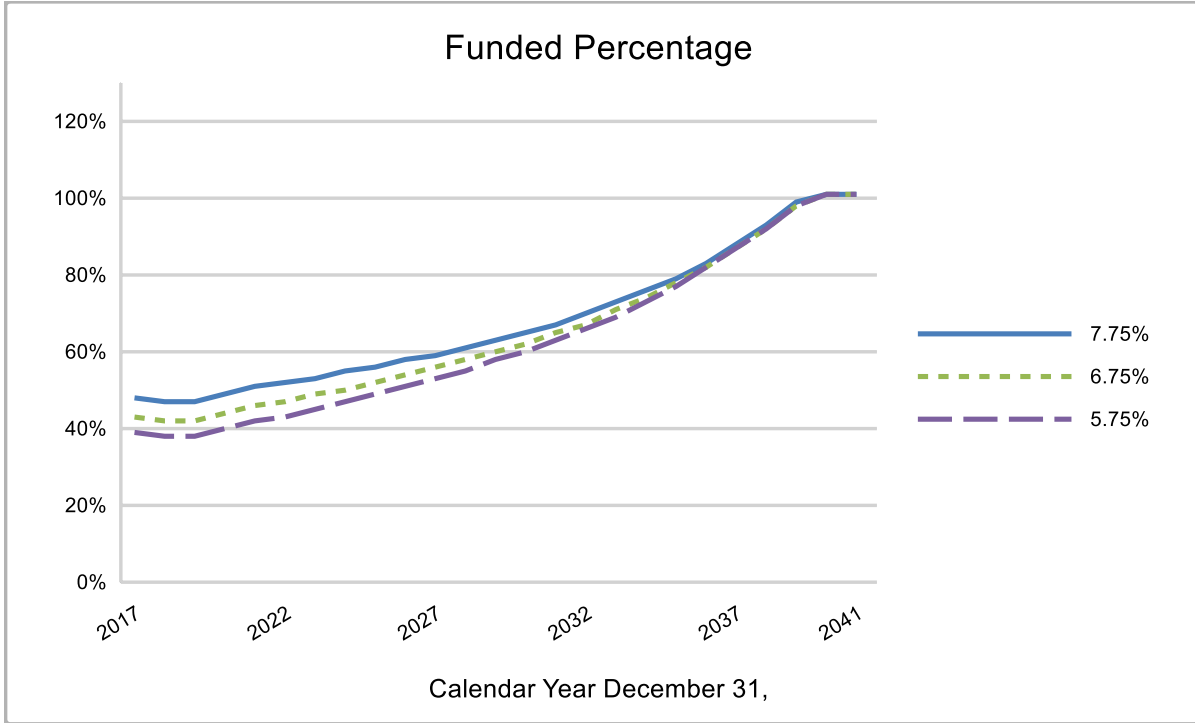
The projections are shown both in tabular and graphical form in total for the employer. The tables show projections for six years. The graphs show projections for twenty five years.

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 <sup>2</sup>	Funded Percentage	Computed Annual Employer Contribution
<b>7.75%<sup>1</sup></b>					
<b>WITH 5-YEAR PHASE-IN</b>					
2017	2019	\$ 26,475,931	\$ 12,646,374	48%	\$ 1,234,584
2018	2020	26,900,000	12,700,000	47%	1,310,000
2019	2021	27,500,000	12,900,000	47%	1,370,000
2020	2022	28,000,000	13,600,000	49%	1,390,000
2021	2023	28,500,000	14,400,000	50%	1,410,000
2022	2024	28,900,000	15,000,000	52%	1,440,000
<b>NO 5-YEAR PHASE-IN</b>					
2017	2019	\$ 26,475,931	\$ 12,646,374	48%	\$ 1,268,448
2018	2020	26,900,000	12,700,000	47%	1,320,000
2019	2021	27,500,000	12,900,000	47%	1,370,000
2020	2022	28,000,000	13,700,000	49%	1,380,000
2021	2023	28,500,000	14,400,000	51%	1,400,000
2022	2024	28,900,000	15,000,000	52%	1,430,000
<b>6.75%<sup>1</sup></b>					
<b>NO 5-YEAR PHASE-IN</b>					
2017	2019	\$ 29,300,623	\$ 12,646,374	43%	\$ 1,415,064
2018	2020	29,800,000	12,600,000	42%	1,510,000
2019	2021	30,300,000	12,800,000	42%	1,570,000
2020	2022	30,900,000	13,600,000	44%	1,590,000
2021	2023	31,300,000	14,300,000	46%	1,620,000
2022	2024	31,800,000	15,000,000	47%	1,660,000
<b>5.75%<sup>1</sup></b>					
<b>NO 5-YEAR PHASE-IN</b>					
2017	2019	\$ 32,650,445	\$ 12,646,374	39%	\$ 1,613,472
2018	2020	33,100,000	12,500,000	38%	1,740,000
2019	2021	33,700,000	12,600,000	38%	1,800,000
2020	2022	34,200,000	13,500,000	40%	1,840,000
2021	2023	34,700,000	14,400,000	42%	1,870,000
2022	2024	35,100,000	15,200,000	43%	1,920,000

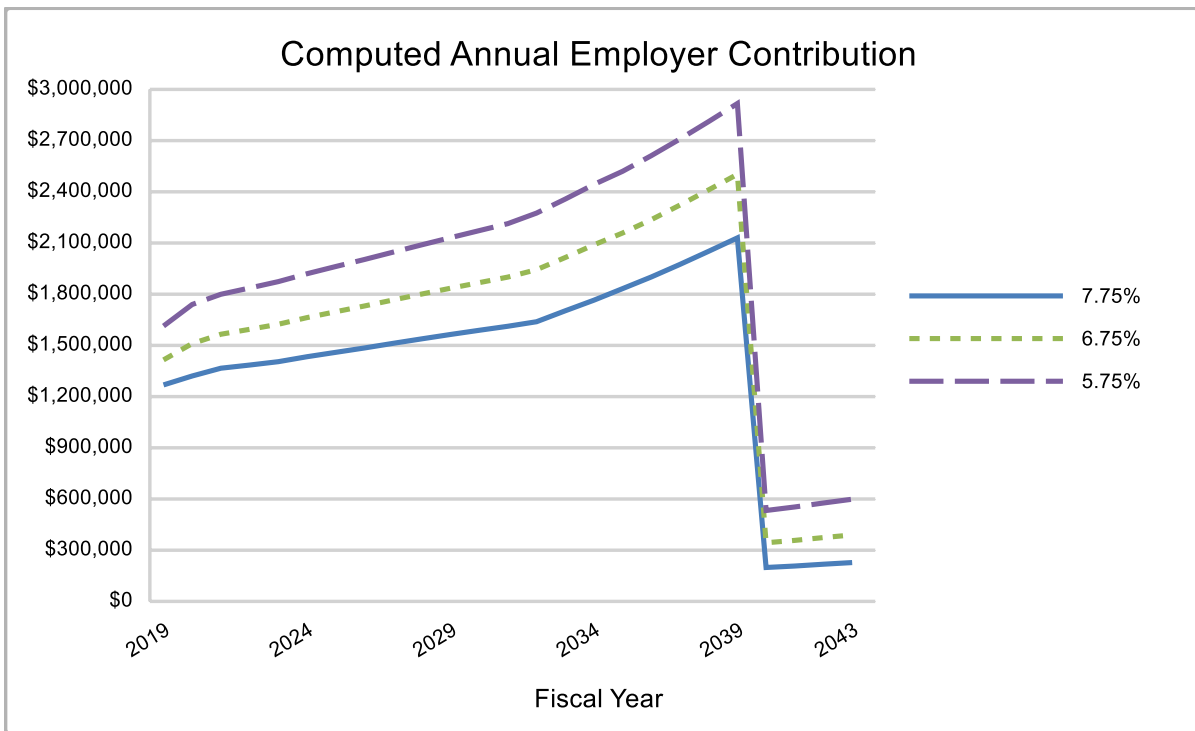
<sup>1</sup> Represents both the interest rate for discounting liabilities and the future investment return assumption on the Market Value of assets.

<sup>2</sup> Valuation Assets do not include assets from Surplus divisions, if any.



Notes:

All projected funded percentages are shown with no phase-in.



Notes:

All projected contributions are shown with no phase-in.

Valuation Year Ending 12/31	Fiscal Year Beginning 7/1	7.75% Phase-In	7.75% No Phase-In	6.75% No Phase-In	5.75% No Phase-In
2017	2019	11	11	11	11
2018	2020	11	11	11	11
2019	2021	11	11	11	11
2020	2022	11	11	11	11
2021	2023	11	11	11	11
2022	2024	11	11	11	11

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, 2019

Table 1

Division	Total Normal Cost	Employee Contribut. Rate	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. Conversion Factor <sup>2</sup>
			Employer Normal Cost	Payment of the Unfunded Accrued Liability <sup>4</sup>	Computed Employer Contribut. No Phase-In				
<b>Percentage of Payroll</b>									
01 - Gnrl Clercl	12.24%	3% < ; 5% >	-	-	-	-	4.61%	3.72%	
02 - Police POAM	11.87%	3% < ; 5% >	-	-	-	-	3.23%	2.64%	
10 - Gnrl Union	10.29%	3% < ; 5% >	-	-	-	-	39.51%	37.84%	
11 - Dept Heads	14.06%	3% < ; 5% >	-	-	-	-			
12 - Admn Emplys	11.59%	3% < ; 5% >	-	-	-	-	6.76%	6.44%	
13 - Admin EE's after 9	7.31%	5.00%	2.31%	-0.13%	2.18%	2.13%	6.76%	6.44%	0.84%
14 - Dept Heads after 9	7.97%	5.00%	2.97%	-4.65%	0.00%	0.00%			0.86%
15 - General Clerical a	6.83%	5.00%	1.83%	-0.66%	1.17%	1.08%	4.61%	3.72%	0.81%
16 - General Union aft	5.46%	5.00%	0.46%	-2.40%	0.00%	0.00%	39.51%	37.84%	0.75%
21 - COAM Cmnd Of	12.30%	3% < ; 5% >	7.37%	67.95%	75.32%	73.18%			0.78%
22 - Police after 5/1/2	6.83%	5.00%	1.83%	-0.76%	1.07%	1.07%	3.23%	2.64%	0.74%
<b>Estimated Monthly Contribution<sup>3</sup></b>									
01 - Gnrl Clercl			\$ 672	\$ 187	\$ 859	\$ 677			
02 - Police POAM			468	1,284	1,752	1,294			
10 - Gnrl Union			1,884	18,866	20,750	19,886			
11 - Dept Heads			561	42,155	42,716	42,574			
12 - Admn Emplys			1,769	1,228	2,997	2,843			
13 - Admin EE's after 9			608	(35)	573	561			
14 - Dept Heads after 9			1,468	(2,296)	0	0			



**Table 1 (continued)**

Division	Total Normal Cost	Employee Contribut. Rate	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. Conversion Factor <sup>2</sup>
			Employer Normal Cost	Payment of the Unfunded Accrued Liability <sup>4</sup>	Computed Employer Contribut. No Phase-In				
15 - General Clerical a			235	(84)	151	139			
16 - General Union aft			78	(406)	0	0			
21 - COAM Cmnd Of			3,439	31,706	35,145	34,147			
22 - Police after 5/1/2			1,297	(536)	761	761			
<b>Total Municipality</b>			<b>\$ 12,479</b>	<b>\$ 92,069</b>	<b>\$ 105,704</b>	<b>\$ 102,882</b>			
<b>Estimated Annual Contribution<sup>3</sup></b>			<b>\$ 149,748</b>	<b>\$ 1,104,828</b>	<b>\$ 1,268,448</b>	<b>\$ 1,234,584</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 (i.e. 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, 2019 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-MERS (6377).

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

## Benefit Provisions

Table 2

### 01 - Gnrl Clercl: Closed to new hires, linked to Division 15

	2017 Valuation	2016 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>	-	-
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>COLA for Current Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	3% under \$4,200; 5% over \$4,200	3% under \$4,200; 5% over \$4,200
<b>Act 88:</b>	Yes (Adopted 7/7/1975)	Yes (Adopted 7/7/1975)

### 02 - Police POAM: Closed to new hires, linked to Division 22

	2017 Valuation	2016 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>	5 years	5 years
<b>COLA for Current Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	3% under \$4,200; 5% over \$4,200	3% under \$4,200; 5% over \$4,200
<b>Act 88:</b>	Yes (Adopted 7/7/1975)	Yes (Adopted 7/7/1975)

### 10 - Gnrl Union: Closed to new hires, linked to Division 16

	2017 Valuation	2016 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>	-	-
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>COLA for Current Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	3% under \$4,200; 5% over \$4,200	3% under \$4,200; 5% over \$4,200
<b>Act 88:</b>	Yes (Adopted 7/7/1975)	Yes (Adopted 7/7/1975)

Table 2 (continued)

<b>11 - Dept Heads: Closed to new hires, linked to Division 14</b>		
	<b>2017 Valuation</b>	<b>2016 Valuation</b>
<b>Benefit Multiplier:</b>	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>COLA for Future Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>COLA for Current Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	3% under \$4,200; 5% over \$4,200	3% under \$4,200; 5% over \$4,200
<b>Act 88:</b>	Yes (Adopted 7/7/1975)	Yes (Adopted 7/7/1975)
<b>12 - Admn Empls: Closed to new hires, linked to Division 13</b>		
	<b>2017 Valuation</b>	<b>2016 Valuation</b>
<b>Benefit Multiplier:</b>	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>COLA for Current Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	3% under \$4,200; 5% over \$4,200	3% under \$4,200; 5% over \$4,200
<b>Act 88:</b>	Yes (Adopted 7/7/1975)	Yes (Adopted 7/7/1975)
<b>13 - Admin EE's after 9/1/2011: Open Division, linked to Division 12</b>		
	<b>2017 Valuation</b>	<b>2016 Valuation</b>
<b>Benefit Multiplier:</b>	1.30% Multiplier (no max)	1.30% Multiplier (no max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>Employee Contributions:</b>	5%	5%
<b>Act 88:</b>	Yes (Adopted 7/7/1975)	Yes (Adopted 7/7/1975)

Table 2 (continued)

<b>14 - Dept Heads after 9/2011: Open Division, linked to Division 11</b>		
	<b>2017 Valuation</b>	<b>2016 Valuation</b>
<b>Benefit Multiplier:</b>	1.30% Multiplier (no max)	1.30% Multiplier (no 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>	5 years	5 years
<b>Employee Contributions:</b>	5%	5%
<b>Act 88:</b>	Yes (Adopted 7/7/1975)	Yes (Adopted 7/7/1975)
<b>15 - General Clerical aft 7/1/15: Open Division, linked to Division 01</b>		
	<b>2017 Valuation</b>	<b>2016 Valuation</b>
<b>Benefit Multiplier:</b>	1.30% Multiplier (no max)	1.30% Multiplier (no max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>Employee Contributions:</b>	5%	5%
<b>Act 88:</b>	Yes (Adopted 7/1/1975)	Yes (Adopted 7/1/1975)
<b>16 - General Union aft 7/1/12: Open Division, linked to Division 10</b>		
	<b>2017 Valuation</b>	<b>2016 Valuation</b>
<b>Benefit Multiplier:</b>	1.30% Multiplier (no max)	1.30% Multiplier (no max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	50/25	50/25
	55/15	55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>Employee Contributions:</b>	5%	5%
<b>Act 88:</b>	Yes (Adopted 7/1/1975)	Yes (Adopted 7/1/1975)
<b>21 - COAM Cmnd Of: Open Division</b>		
	<b>2017 Valuation</b>	<b>2016 Valuation</b>
<b>Benefit Multiplier:</b>	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	50/25	50/25
<b>Early Retirement (Reduced):</b>	55/15	55/15
<b>Final Average Compensation:</b>	3 years	3 years
<b>COLA for Current Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	3% under \$4,200; 5% over \$4,200	3% under \$4,200; 5% over \$4,200
<b>Act 88:</b>	Yes (Adopted 7/7/1975)	Yes (Adopted 7/7/1975)

**Table 2 (continued)**

<b>22 - Police after 5/1/2014: Open Division, linked to Division 02</b>		
	<b>2017 Valuation</b>	<b>2016 Valuation</b>
<b>Benefit Multiplier:</b>	1.30% Multiplier (no max)	1.30% Multiplier (no 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>	5 years	5 years
<b>Employee Contributions:</b>	5%	5%
<b>Act 88:</b>	Yes (Adopted 7/7/1975)	Yes (Adopted 7/7/1975)

## Participant Summary

**Table 3**

Division	2017 Valuation		2016 Valuation		2017 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 - Gnrl Clercl							
Active Employees	3	\$ 127,457	3	\$ 129,841	57.0	16.9	16.9
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	4	77,091	6	96,938	70.8		
02 - Police POAM							
Active Employees	1	\$ 77,027	1	\$ 74,444	48.0	20.3	20.3
Vested Former Employees	4	73,670	3	52,141	45.6	12.7	15.4
Retirees and Beneficiaries	8	169,565	9	181,918	71.8		
10 - Gnrl Union							
Active Employees	8	\$ 431,235	10	\$ 509,153	52.9	21.0	21.0
Vested Former Employees	1	34,355	1	2,147	44.4	23.0	23.0
Retirees and Beneficiaries	16	391,936	15	362,391	69.9		
11 - Dept Heads							
Active Employees	2	\$ 135,719	2	\$ 132,897	60.9	28.3	28.3
Vested Former Employees	1	27,893	1	27,893	49.1	19.6	25.0
Retirees and Beneficiaries	13	461,205	13	452,320	70.2		
12 - Admn Empl's							
Active Employees	4	\$ 312,386	6	\$ 374,290	50.2	13.6	13.6
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	4	49,343	2	19,473	63.1		
13 - Admin EE's after 9/1							
Active Employees	6	\$ 265,648	5	\$ 230,941	48.9	2.1	6.2
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	1	8,067	1	8,067	64.4		
14 - Dept Heads after 9/2							
Active Employees	7	\$ 471,890	6	\$ 403,926	48.1	3.1	8.2
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
15 - General Clerical aft							
Active Employees	3	\$ 112,118	3	\$ 111,983	46.8	1.8	2.9
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
16 - General Union aft 7/							
Active Employees	4	\$ 134,511	4	\$ 140,345	25.3	1.4	1.4
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	2017 Valuation		2016 Valuation		2017 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>
<b>21 - COAM Cmnd Of</b>							
Active Employees	5	\$ 510,627	7	\$ 634,250	47.6	21.5	21.5
Vested Former Employees	2	97,119	1	40,052	50.2	22.5	22.5
Retirees and Beneficiaries	11	570,896	10	527,972	57.6		
<b>22 - Police after 5/1/201</b>							
Active Employees	13	\$ 772,038	8	\$ 468,703	25.2	1.2	1.3
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
<b>Total Municipality</b>							
<b>Active Employees</b>	<b>56</b>	<b>\$ 3,350,656</b>	<b>55</b>	<b>\$ 3,210,773</b>	<b>42.9</b>	<b>9.3</b>	<b>10.4</b>
<b>Vested Former Employees</b>	<b>8</b>	<b>233,037</b>	<b>6</b>	<b>122,233</b>	<b>47.0</b>	<b>17.3</b>	<b>19.3</b>
<b>Retirees and Beneficiaries</b>	<b>57</b>	<b>1,728,103</b>	<b>56</b>	<b>1,649,079</b>	<b>67.4</b>		
<b>Total Participants</b>	<b>121</b>		<b>117</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	2017 Valuation		2016 Valuation	
	Employer and Retiree <sup>1</sup>	Employee <sup>2</sup>	Employer and Retiree <sup>1</sup>	Employee <sup>2</sup>
01 - Gnrl Clercl	\$ 1,009,370	\$ 66,765	\$ 904,257	\$ 108,478
02 - Police POAM	1,482,552	213,758	1,383,587	258,577
10 - Gnrl Union	1,458,760	491,932	1,343,453	522,051
11 - Dept Heads	1,015,601	137,641	964,004	207,465
12 - Admn Empls	981,943	221,236	797,958	259,784
13 - Admin EE's after 9/1/2011	100,231	32,858	81,843	19,934
14 - Dept Heads after 9/2011	283,263	72,751	243,059	49,818
15 - General Clerical aft 7/1/15	17,211	10,205	7,852	4,520
16 - General Union aft 7/1/12	50,564	11,057	28,891	4,280
21 - COAM Cmnd Of	4,137,266	566,706	3,641,626	598,808
22 - Police after 5/1/2014	84,673	58,464	66,879	33,902
<b>Municipality Total</b>	<b>\$ 10,621,434</b>	<b>\$ 1,883,373</b>	<b>\$ 9,463,409</b>	<b>\$ 2,067,617</b>
<b>Combined Assets</b>	<b>\$12,504,807</b>		<b>\$11,531,026</b>	

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

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

The December 31, 2017 valuation assets (actuarial value of assets) are equal to 1.011321 times the reported market value of assets (compared to 1.077095 as of December 31, 2016). 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 (Valuation Assets)	Benefit Payments	Employee Contribution Refunds	Net Transfers	Valuation Asset Balance
	Required	Additional						
2007	\$ 578,568		\$ 200,276	\$ 844,161	\$ (881,150)	\$ (23,457)	\$ 0	\$ 11,172,960
2008	593,359		184,415	497,977	(978,250)	(43,193)	0	11,427,268
2009	571,075		175,418	467,656	(1,038,823)	(49,376)	0	11,553,218
2010	559,361		162,976	575,751	(1,081,095)	(43,997)	25,319	11,751,533
2011	578,096	\$ 14,000	150,958	560,852	(1,185,473)	0	0	11,869,966
2012	560,292	24,000	149,552	509,117	(1,180,076)	0	13,158	11,946,009
2013	582,166	24,000	149,078	683,746	(1,214,222)	0	0	12,170,777
2014	632,534	18,000	153,808	677,811	(1,280,604)	(22,564)	(1)	12,349,761
2015	734,717	0	153,679	591,545	(1,360,549)	(11,372)	0	12,457,781
2016	794,184	0	161,652	590,674	(1,529,593)	(54,688)	0	12,420,010
2017	1,011,341	0	170,854	723,249	(1,661,020)	(18,060)	0	12,646,374

**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.

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

The Valuation Assets include assets from Surplus divisions, if any.

## Actuarial Accrued Liabilities and Valuation Assets As of December 31, 2017

Table 6

Division	Actuarial Accrued Liability	Valuation Assets <sup>1</sup>	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
01 - Gnrl Clercl				
Active Employees	\$ 445,461	\$ 402,081	90.3%	\$ 43,380
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	668,799	668,799	100.0%	0
Pending Refunds	<u>17,438</u>	<u>17,438</u>	100.0%	<u>0</u>
Total	<b>\$ 1,131,698</b>	<b>\$ 1,088,318</b>	<b>96.2%</b>	<b>\$ 43,380</b>
02 - Police POAM				
Active Employees	\$ 353,088	\$ 134,554	38.1%	\$ 218,534
Vested Former Employees	284,953	284,953	100.0%	0
Retirees And Beneficiaries	1,294,290	1,294,290	100.0%	0
Pending Refunds	<u>1,717</u>	<u>1,717</u>	100.0%	<u>0</u>
Total	<b>\$ 1,934,048</b>	<b>\$ 1,715,514</b>	<b>88.7%</b>	<b>\$ 218,534</b>
10 - Gnrl Union				
Active Employees	\$ 1,801,720	\$ 431,374	23.9%	\$ 1,370,346
Vested Former Employees	111,106	60,558	54.5%	50,548
Retirees And Beneficiaries	3,248,838	1,480,844	45.6%	1,767,994
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	<b>\$ 5,161,664</b>	<b>\$ 1,972,776</b>	<b>38.2%</b>	<b>\$ 3,188,888</b>
11 - Dept Heads				
Active Employees	\$ 1,046,975	\$ 91,914	8.8%	\$ 955,061
Vested Former Employees	390,858	45,727	11.7%	345,131
Retirees And Beneficiaries	4,970,251	1,028,657	20.7%	3,941,594
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	<b>\$ 6,408,084</b>	<b>\$ 1,166,298</b>	<b>18.2%</b>	<b>\$ 5,241,786</b>
12 - Admn Emplys				
Active Employees	\$ 803,358	\$ 608,457	75.7%	\$ 194,901
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	558,621	558,621	100.0%	0
Pending Refunds	<u>49,722</u>	<u>49,722</u>	100.0%	<u>0</u>
Total	<b>\$ 1,411,701</b>	<b>\$ 1,216,800</b>	<b>86.2%</b>	<b>\$ 194,901</b>
13 - Admin EE's after 9/1/2011				
Active Employees	\$ 43,788	\$ 47,315	108.1%	\$ (3,527)
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	79,820	79,820	100.0%	0
Pending Refunds	<u>7,461</u>	<u>7,461</u>	100.0%	<u>0</u>
Total	<b>\$ 131,069</b>	<b>\$ 134,596</b>	<b>102.7%</b>	<b>\$ (3,527)</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>14 - Dept Heads after 9/2011</b>				
Active Employees	\$ 132,286	\$ 360,044	272.2%	\$ (227,758)
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>\$ 132,286</b>	<b>\$ 360,044</b>	<b>272.2%</b>	<b>\$ (227,758)</b>
<b>15 - General Clerical aft 7/1/15</b>				
Active Employees	\$ 17,383	\$ 27,726	159.5%	\$ (10,343)
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>\$ 17,383</b>	<b>\$ 27,726</b>	<b>159.5%</b>	<b>\$ (10,343)</b>
<b>16 - General Union aft 7/1/12</b>				
Active Employees	\$ 10,535	\$ 60,627	575.5%	\$ (50,092)
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	<u>1,692</u>	<u>1,692</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 12,227</b>	<b>\$ 62,319</b>	<b>509.7%</b>	<b>\$ (50,092)</b>
<b>21 - COAM Cmnd Of</b>				
Active Employees	\$ 2,690,974	\$ 398,203	14.8%	\$ 2,292,771
Vested Former Employees	813,233	167,263	20.6%	645,970
Retirees And Beneficiaries	6,551,091	4,191,760	64.0%	2,359,331
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 10,055,298</b>	<b>\$ 4,757,226</b>	<b>47.3%</b>	<b>\$ 5,298,072</b>
<b>22 - Police after 5/1/2014</b>				
Active Employees	\$ 68,326	\$ 132,610	194.1%	\$ (64,284)
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	<u>12,147</u>	<u>12,147</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 80,473</b>	<b>\$ 144,757</b>	<b>179.9%</b>	<b>\$ (64,284)</b>
<b>Total Municipality</b>				
<b>Active Employees</b>	<b>\$ 7,413,894</b>	<b>\$ 2,694,905</b>	<b>36.3%</b>	<b>\$ 4,718,989</b>
<b>Vested Former Employees</b>	<b>1,600,150</b>	<b>558,501</b>	<b>34.9%</b>	<b>1,041,649</b>
<b>Retirees and Beneficiaries</b>	<b>17,371,710</b>	<b>9,302,791</b>	<b>53.6%</b>	<b>8,068,919</b>
<b>Pending Refunds</b>	<b><u>90,177</u></b>	<b><u>90,177</u></b>	<b><u>100.0%</u></b>	<b><u>0</u></b>
<b>Total</b>	<b>\$ 26,475,931</b>	<b>\$ 12,646,374</b>	<b>47.8%</b>	<b>\$ 13,829,557</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.				

**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>
Linked Divisions 15, 01				
Active Employees	\$ 462,844	\$ 429,807	92.9%	\$ 33,037
Vested Former Employees	0	0	0.0%	0
Retirees and Beneficiaries	668,799	668,799	100.0%	0
Pending Refunds	<u>17,438</u>	<u>17,438</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 1,149,081</b>	<b>\$ 1,116,044</b>	<b>97.1%</b>	<b>\$ 33,037</b>
Linked Divisions 22, 02				
Active Employees	\$ 421,414	\$ 267,164	63.4%	\$ 154,250
Vested Former Employees	284,953	284,953	100.0%	0
Retirees and Beneficiaries	1,294,290	1,294,290	100.0%	0
Pending Refunds	<u>13,864</u>	<u>13,864</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 2,014,521</b>	<b>\$ 1,860,271</b>	<b>92.3%</b>	<b>\$ 154,250</b>
Linked Divisions 16, 10				
Active Employees	\$ 1,812,255	\$ 492,001	27.1%	\$ 1,320,254
Vested Former Employees	111,106	60,558	54.5%	50,548
Retirees and Beneficiaries	3,248,838	1,480,844	45.6%	1,767,994
Pending Refunds	<u>1,692</u>	<u>1,692</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 5,173,891</b>	<b>\$ 2,035,095</b>	<b>39.3%</b>	<b>\$ 3,138,796</b>
Linked Divisions 14, 11				
Active Employees	\$ 1,179,261	\$ 451,958	38.3%	\$ 727,303
Vested Former Employees	390,858	45,727	11.7%	345,131
Retirees and Beneficiaries	4,970,251	1,028,657	20.7%	3,941,594
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
<b>Total</b>	<b>\$ 6,540,370</b>	<b>\$ 1,526,342</b>	<b>23.3%</b>	<b>\$ 5,014,028</b>
Linked Divisions 13, 12				
Active Employees	\$ 847,146	\$ 655,772	77.4%	\$ 191,374
Vested Former Employees	0	0	0.0%	0
Retirees and Beneficiaries	638,441	638,441	100.0%	0
Pending Refunds	<u>57,183</u>	<u>57,183</u>	100.0%	<u>0</u>
<b>Total</b>	<b>\$ 1,542,770</b>	<b>\$ 1,351,396</b>	<b>87.6%</b>	<b>\$ 191,374</b>

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

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

## Actuarial Accrued Liabilities - Comparative Schedule

**Table 7**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2003	\$ 14,559,592	\$ 8,923,963	61%	\$ 5,635,629
2004	15,927,160	9,377,358	59%	6,549,802
2005	16,606,659	9,817,249	59%	6,789,410
2006	17,205,222	10,454,562	61%	6,750,660
2007	17,909,581	11,172,960	62%	6,736,621
2008	18,959,513	11,427,268	60%	7,532,245
2009	19,012,367	11,553,218	61%	7,459,149
2010	19,479,412	11,751,533	60%	7,727,879
2011	21,046,896	11,869,966	56%	9,176,930
2012	21,006,439	11,946,009	57%	9,060,430
2013	21,619,300	12,170,777	56%	9,448,523
2014	23,249,926	12,349,761	53%	10,900,165
2015	24,735,814	12,457,781	50%	12,278,033
2016	25,575,326	12,420,010	49%	13,155,316
2017	26,475,931	12,646,374	48%	13,829,557

Notes: Actuarial assumptions were revised for the 2004, 2008, 2009, 2010, 2011, 2012 and 2015 actuarial valuations.  
The Valuation Assets include assets from Surplus divisions, if any.

Division 01 - Gnrl Clercl

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 1,222,290	\$ 1,315,146	108%	\$ (92,856)
2008	1,177,680	1,226,085	104%	(48,405)
2009	1,166,091	1,195,695	103%	(29,604)
2010	1,187,621	1,151,012	97%	36,609
2011	1,240,276	1,113,794	90%	126,482
2012	1,268,067	1,071,750	85%	196,317
2013	1,084,922	1,062,698	98%	22,224
2014	1,128,198	1,084,443	96%	43,755
2015	1,221,856	1,091,530	89%	130,326
2016	1,249,595	1,090,812	87%	158,783
2017	1,131,698	1,088,318	96%	43,380

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		
2007	8	\$ 297,020	3.15%	4.83%
2008	7	245,171	5.21%	4.81%
2009	7	247,658	5.94%	4.80%
2010	5	186,400	8.39%	4.80%
2011	5	193,212	10.87%	4.81%
2012	5	195,625	13.28%	4.81%
2013	5	194,659	7.37%	4.81%
2014	5	201,729	8.31%	4.82%
2015	5	200,703	\$ 1,839	4.82%
2016	3	129,841	\$ 1,638	3% < ; 5% >
2017	3	127,457	\$ 859	3% < ; 5% >

<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 6.

See the Benefit Provision History on page 53 for past benefit provision changes.

**Division 02 - Police POAM**

**Table 8-02: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 3,158,021	\$ 2,535,886	80%	\$ 622,135
2008	3,243,434	2,550,696	79%	692,738
2009	3,219,478	2,549,319	79%	670,159
2010	3,196,411	2,541,414	80%	654,997
2011	3,425,527	2,561,387	75%	864,140
2012	3,084,015	2,643,863	86%	440,152
2013	3,248,488	2,783,175	86%	465,313
2014	3,720,481	2,914,310	78%	806,171
2015	3,260,413	2,728,585	84%	531,828
2016	1,941,564	1,768,767	91%	172,797
2017	1,934,048	1,715,514	89%	218,534

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		
2007	16	\$ 983,535	8.80%	4.91%
2008	14	855,390	10.78%	4.91%
2009	14	841,161	10.89%	4.89%
2010	10	656,209	12.21%	4.89%
2011	10	679,916	13.81%	4.90%
2012	10	738,404	10.20%	4.91%
2013	10	712,614	10.79%	4.90%
2014	9	726,817	\$ 8,894	4.91%
2015	6	435,063	\$ 5,335	4.90%
2016	1	74,444	\$ 1,048	3% < ; 5% >
2017	1	77,027	\$ 1,752	3% < ; 5% >

<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 6.

See the Benefit Provision History on page 53 for past benefit provision changes.

**Division 10 - Gnrl Union**

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 3,949,107	\$ 2,487,813	63%	\$ 1,461,294
2008	4,136,649	2,466,714	60%	1,669,935
2009	4,131,939	2,424,060	59%	1,707,879
2010	4,141,274	2,368,082	57%	1,773,192
2011	4,395,937	2,312,055	53%	2,083,882
2012	4,404,566	2,252,919	51%	2,151,647
2013	4,558,413	2,256,069	50%	2,302,344
2014	4,938,214	2,190,857	44%	2,747,357
2015	5,232,134	2,098,032	40%	3,134,102
2016	5,179,903	2,009,325	39%	3,170,578
2017	5,161,664	1,972,776	38%	3,188,888

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		
2007	18	\$ 822,600	14.33%	4.87%
2008	17	758,282	17.02%	4.87%
2009	17	774,463	16.88%	4.86%
2010	14	638,628	20.07%	4.85%
2011	14	678,560	21.85%	4.86%
2012	14	694,633	23.69%	4.86%
2013	14	687,103	25.35%	4.86%
2014	11	584,821	33.72%	4.87%
2015	11	552,836	41.14%	4.86%
2016	10	509,153	\$ 20,530	3% < ; 5% >
2017	8	431,235	\$ 20,750	3% < ; 5% >

<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 6.

See the Benefit Provision History on page 53 for past benefit provision changes.



Division 11 - Dept Heads

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 4,625,950	\$ 1,926,306	42%	\$ 2,699,644
2008	5,143,911	1,975,237	38%	3,168,674
2009	5,169,265	1,879,696	36%	3,289,569
2010	5,244,196	1,821,295	35%	3,422,901
2011	5,501,468	1,799,096	33%	3,702,372
2012	5,438,796	1,761,029	32%	3,677,767
2013	5,611,449	1,718,314	31%	3,893,135
2014	5,763,778	1,572,595	27%	4,191,183
2015	6,156,103	1,362,899	22%	4,793,204
2016	6,147,688	1,261,783	21%	4,885,905
2017	6,408,084	1,166,298	18%	5,241,786

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		
2007	7	\$ 425,077	41.90%	4.88%
2008	7	420,962	48.77%	4.88%
2009	7	424,066	51.44%	4.87%
2010	7	399,258	56.09%	4.86%
2011	6	373,217	65.02%	4.87%
2012	6	376,900	69.09%	4.86%
2013	4	261,909	102.84%	4.87%
2014	3	192,764	\$ 23,280	4.87%
2015	2	130,937	\$ 33,815	4.87%
2016	2	132,897	\$ 31,518	3% < ; 5% >
2017	2	135,719	\$ 42,716	3% < ; 5% >

<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 6.

See the Benefit Provision History on page 53 for past benefit provision changes.

Division 12 - Admn Emplys

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 525,721	\$ 510,040	97%	\$ 15,681
2008	526,957	593,687	113%	(66,730)
2009	547,647	695,502	127%	(147,855)
2010	626,135	805,779	129%	(179,644)
2011	700,601	904,512	129%	(203,911)
2012	711,163	833,922	117%	(122,759)
2013	877,165	910,606	104%	(33,441)
2014	994,933	987,916	99%	7,017
2015	1,162,823	1,064,634	92%	98,189
2016	1,206,769	1,139,289	94%	67,480
2017	1,411,701	1,216,800	86%	194,901

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		
2007	16	\$ 722,870	7.06%	4.87%
2008	12	562,407	5.45%	4.87%
2009	11	566,334	3.94%	4.87%
2010	9	498,018	2.97%	4.88%
2011	9	452,043	\$ 244	4.87%
2012	8	424,103	\$ 1,409	4.87%
2013	8	471,271	\$ 2,667	4.89%
2014	8	470,198	\$ 2,829	4.89%
2015	7	411,191	\$ 2,899	4.89%
2016	6	374,290	\$ 2,397	3% < ; 5% >
2017	4	312,386	\$ 2,997	3% < ; 5% >

<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 6.

See the Benefit Provision History on page 53 for past benefit provision changes.

**Division 13 - Admin EE's after 9/1/2011**

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	64,103	172,086	269%	(107,983)
2013	80,285	197,914	247%	(117,629)
2014	90,908	197,312	217%	(106,404)
2015	98,899	94,228	95%	4,671
2016	113,192	109,623	97%	3,569
2017	131,069	134,596	103%	(3,527)

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		
2011	0	\$ 0	0.00%	0.00%
2012	3	89,454	0.00%	5.00%
2013	6	253,401	0.00%	5.00%
2014	1	32,809	0.00%	5.00%
2015	3	134,072	1.84%	5.00%
2016	5	230,941	1.90%	5.00%
2017	6	265,648	2.18%	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 6.

See the Benefit Provision History on page 53 for past benefit provision changes.

**Division 14 - Dept Heads after 9/2011**

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2014	\$ 19,902	\$ 56,202	282%	\$ (36,300)
2015	50,486	294,960	584%	(244,474)
2016	88,058	315,456	358%	(227,398)
2017	132,286	360,044	272%	(227,758)

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		
2014	5	\$ 355,109	2.06%	5.00%
2015	6	402,917	0.00%	5.00%
2016	6	403,926	0.00%	5.00%
2017	7	471,890	0.00%	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 6.

See the Benefit Provision History on page 53 for past benefit provision changes.

**Division 15 - General Clerical aft 7/1/15**

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2015	\$ 2,680	\$ 2,247	84%	\$ 433
2016	9,190	13,326	145%	(4,136)
2017	17,383	27,726	160%	(10,343)

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		
2015	1	\$ 38,229	2.85%	5.00%
2016	3	111,983	1.59%	5.00%
2017	3	112,118	1.17%	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 6.

See the Benefit Provision History on page 53 for past benefit provision changes.

**Division 16 - General Union aft 7/1/12**

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2016	\$ 4,398	\$ 35,728	812%	\$ (31,330)
2017	12,227	62,319	510%	(50,092)

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		
2016	4	\$ 140,345	0.00%	5.00%
2017	4	134,511	0.00%	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 6.

See the Benefit Provision History on page 53 for past benefit provision changes.

Division 21 - COAM Cmnd Of

**Table 8-21: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 4,428,492	\$ 2,397,769	54%	\$ 2,030,723
2008	4,730,882	2,614,849	55%	2,116,033
2009	4,777,947	2,808,946	59%	1,969,001
2010	5,083,775	3,063,951	60%	2,019,824
2011	5,783,087	3,179,122	55%	2,603,965
2012	6,035,729	3,210,440	53%	2,825,289
2013	6,158,578	3,242,001	53%	2,916,577
2014	6,589,536	3,342,950	51%	3,246,586
2015	7,528,426	3,684,597	49%	3,843,829
2016	9,590,013	4,567,350	48%	5,022,663
2017	10,055,298	4,757,226	47%	5,298,072

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		
2007	11	\$ 849,830	17.84%	4.91%
2008	10	761,721	21.54%	4.91%
2009	10	755,077	20.89%	4.90%
2010	10	763,471	21.32%	4.89%
2011	8	651,889	29.52%	4.90%
2012	6	521,972	40.71%	4.91%
2013	6	501,174	42.74%	4.91%
2014	6	539,333	43.49%	4.91%
2015	5	432,864	64.30%	4.91%
2016	7	634,250	58.84%	3% < ; 5% >
2017	5	510,627	75.32%	3% < ; 5% >

<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 6.

See the Benefit Provision History on page 53 for past benefit provision changes.

**Division 22 - Police after 5/1/2014**

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

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2014	\$ 3,976	\$ 3,176	80%	\$ 800
2015	21,994	36,069	164%	(14,075)
2016	44,956	108,551	242%	(63,595)
2017	80,473	144,757	180%	(64,284)

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		
2014	2	\$ 107,937	1.94%	5.00%
2015	4	240,330	1.18%	5.00%
2016	8	468,703	0.49%	5.00%
2017	13	772,038	1.07%	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 6.

See the Benefit Provision History on page 53 for past benefit provision changes.



**Division 01 - Gnrl Clercl**

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

Type of UAL	Date Established	Original Balance <sup>1</sup>	Original Amortization Period <sup>2</sup>	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance <sup>3</sup>	Remaining Amortization Period <sup>2</sup>	Annual Amortization Payment
Initial	12/31/2015	\$ 130,326	23	\$ 144,916	21	\$ 10,188
(Gain)/Loss	12/31/2016	17,825	22	20,074	21	1,416
(Gain)/Loss	12/31/2017	(119,118)	21	(133,230)	21	(9,360)
<b>Total</b>				<b>\$ 31,760</b>		<b>\$ 2,244</b>

<sup>1</sup> For each type of UAL (layer), this is the original balance as of the date the layer was established.

<sup>2</sup> According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see [Appendix](#) on MERS website).

<sup>3</sup> This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2017 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2017 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the [Appendix](#) on the MERS website for a detailed description of the amortization policy.

**Division 02 - Police POAM**

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

Type of UAL	Date Established	Original Balance <sup>1</sup>	Original Amortization Period <sup>2</sup>	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance <sup>3</sup>	Remaining Amortization Period <sup>2</sup>	Annual Amortization Payment
Initial	12/31/2015	\$ 531,828	23	\$ 500,173	21	\$ 35,148
(Gain)/Loss	12/31/2016	(351,399)	22	(395,657)	21	(27,804)
(Gain)/Loss	12/31/2017	102,630	21	114,789	21	8,064
<b>Total</b>				<b>\$ 219,305</b>		<b>\$ 15,408</b>

<sup>1</sup> For each type of UAL (layer), this is the original balance as of the date the layer was established.

<sup>2</sup> According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see [Appendix](#) on MERS website).

<sup>3</sup> This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2017 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2017 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the [Appendix](#) on the MERS website for a detailed description of the amortization policy.

**Division 10 - Gnrl Union**

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

Type of UAL	Date Established	Original Balance <sup>1</sup>	Original Amortization Period <sup>2</sup>	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance <sup>3</sup>	Remaining Amortization Period <sup>2</sup>	Annual Amortization Payment
Initial	12/31/2015	\$ 3,134,102	23	\$ 3,323,108	21	\$ 233,556
(Gain)/Loss	12/31/2016	(62,583)	22	(70,463)	21	(4,956)
(Gain)/Loss	12/31/2017	(28,080)	21	(31,407)	21	(2,208)
<b>Total</b>				<b>\$ 3,221,238</b>		<b>\$ 226,392</b>

<sup>1</sup> For each type of UAL (layer), this is the original balance as of the date the layer was established.

<sup>2</sup> According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see [Appendix](#) on MERS website).

<sup>3</sup> This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2017 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2017 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the [Appendix](#) on the MERS website for a detailed description of the amortization policy.

**Division 11 - Dept Heads**

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

Type of UAL	Date Established	Original Balance <sup>1</sup>	Original Amortization Period <sup>2</sup>	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance <sup>3</sup>	Remaining Amortization Period <sup>2</sup>	Annual Amortization Payment
Initial	12/31/2015	\$ 4,793,204	23	\$ 4,908,409	21	\$ 480,948
(Gain)/Loss	12/31/2016	(5,173)	22	(5,823)	21	(408)
(Gain)/Loss	12/31/2017	322,052	21	360,207	21	25,320
<b>Total</b>				<b>\$ 5,262,793</b>		<b>\$ 505,860</b>

<sup>1</sup> For each type of UAL (layer), this is the original balance as of the date the layer was established.

<sup>2</sup> According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see [Appendix](#) on MERS website).

<sup>3</sup> This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2017 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2017 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the [Appendix](#) on the MERS website for a detailed description of the amortization policy.

**Division 12 - Admn Emplys**

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

Type of UAL	Date Established	Original Balance <sup>1</sup>	Original Amortization Period <sup>2</sup>	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance <sup>3</sup>	Remaining Amortization Period <sup>2</sup>	Annual Amortization Payment
Initial	12/31/2015	\$ 98,189	23	\$ 104,873	21	\$ 7,368
(Gain)/Loss	12/31/2016	(35,870)	22	(40,389)	21	(2,844)
(Gain)/Loss	12/31/2017	129,964	21	145,361	21	10,212
<b>Total</b>				<b>\$ 209,845</b>		<b>\$ 14,736</b>

<sup>1</sup> For each type of UAL (layer), this is the original balance as of the date the layer was established.

<sup>2</sup> According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see [Appendix](#) on MERS website).

<sup>3</sup> This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2017 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2017 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the [Appendix](#) on the MERS website for a detailed description of the amortization policy.

**Division 13 - Admin EE's after 9/1/2011**

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

Type of UAL	Date Established	Original Balance <sup>1</sup>	Original Amortization Period <sup>2</sup>	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance <sup>3</sup>	Remaining Amortization Period <sup>2</sup>	Annual Amortization Payment
(Gain)/Loss	12/31/2017	\$ (4,209)	15	\$ (4,708)	15	\$ (420)
<b>Total</b>				<b>\$ (4,708)</b>		<b>\$ (420)</b>

<sup>1</sup> For each type of UAL (layer), this is the original balance as of the date the layer was established.

<sup>2</sup> According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see [Appendix](#) on MERS website).

<sup>3</sup> This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2017 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2017 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the [Appendix](#) on the MERS website for a detailed description of the amortization policy.

**Division 14 - Dept Heads after 9/2011**

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

Type of UAL	Date Established	Original Balance <sup>1</sup>	Original Amortization Period <sup>2</sup>	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance <sup>3</sup>	Remaining Amortization Period <sup>2</sup>	Annual Amortization Payment
Initial	12/31/2015	\$ (244,474)	10	\$ (257,074)	10	\$ (31,440)
(Gain)/Loss	12/31/2016	31,096	15	34,261	14	3,216
(Gain)/Loss	12/31/2017	6,805	15	7,611	15	672
<b>Total</b>				<b>\$ (215,202)</b>		<b>\$ (27,552)</b>

<sup>1</sup> For each type of UAL (layer), this is the original balance as of the date the layer was established.

<sup>2</sup> According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see [Appendix](#) on MERS website).

<sup>3</sup> This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2017 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2017 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the [Appendix](#) on the MERS website for a detailed description of the amortization policy.

**Division 15 - General Clerical aft 7/1/15**

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

Type of UAL	Date Established	Original Balance <sup>1</sup>	Original Amortization Period <sup>2</sup>	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance <sup>3</sup>	Remaining Amortization Period <sup>2</sup>	Annual Amortization Payment
(Gain)/Loss	12/31/2016	\$ (4,549)	15	\$ (5,009)	14	\$ (468)
(Gain)/Loss	12/31/2017	(5,460)	15	(6,107)	15	(540)
<b>Total</b>				<b>\$ (11,116)</b>		<b>\$ (1,008)</b>

<sup>1</sup> For each type of UAL (layer), this is the original balance as of the date the layer was established.

<sup>2</sup> According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see [Appendix](#) on MERS website).

<sup>3</sup> This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2017 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2017 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the [Appendix](#) on the MERS website for a detailed description of the amortization policy.



**Division 16 - General Union aft 7/1/12**

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

Type of UAL	Date Established	Original Balance <sup>1</sup>	Original Amortization Period <sup>2</sup>	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance <sup>3</sup>	Remaining Amortization Period <sup>2</sup>	Annual Amortization Payment
(Gain)/Loss	12/31/2016	\$ (31,012)	15	\$ (34,172)	14	\$ (3,204)
(Gain)/Loss	12/31/2017	(16,712)	15	(18,692)	15	(1,668)
<b>Total</b>				<b>\$ (52,864)</b>		<b>\$ (4,872)</b>

<sup>1</sup> For each type of UAL (layer), this is the original balance as of the date the layer was established.

<sup>2</sup> According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see [Appendix](#) on MERS website).

<sup>3</sup> This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2017 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2017 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the [Appendix](#) on the MERS website for a detailed description of the amortization policy.

**Division 21 - COAM Cmnd Of**

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

Type of UAL	Date Established	Original Balance <sup>1</sup>	Original Amortization Period <sup>2</sup>	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance <sup>3</sup>	Remaining Amortization Period <sup>2</sup>	Annual Amortization Payment
Initial	12/31/2015	\$ 3,843,829	23	\$ 4,108,641	21	\$ 288,768
(Gain)/Loss	12/31/2016	1,012,420	22	1,139,949	21	80,124
(Gain)/Loss	12/31/2017	147,344	21	164,801	21	11,580
<b>Total</b>				<b>\$ 5,413,391</b>		<b>\$ 380,472</b>

<sup>1</sup> For each type of UAL (layer), this is the original balance as of the date the layer was established.

<sup>2</sup> According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see [Appendix](#) on MERS website).

<sup>3</sup> This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2017 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2017 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the [Appendix](#) on the MERS website for a detailed description of the amortization policy.

**Division 22 - Police after 5/1/2014**

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

Type of UAL	Date Established	Original Balance <sup>1</sup>	Original Amortization Period <sup>2</sup>	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance <sup>3</sup>	Remaining Amortization Period <sup>2</sup>	Annual Amortization Payment
Initial	12/31/2015	\$ (14,075)	10	\$ (14,601)	10	\$ (1,788)
(Gain)/Loss	12/31/2016	(48,420)	15	(53,346)	14	(5,004)
(Gain)/Loss	12/31/2017	3,619	15	4,048	15	360
<b>Total</b>				<b>\$ (63,899)</b>		<b>\$ (6,432)</b>

<sup>1</sup> For each type of UAL (layer), this is the original balance as of the date the layer was established.

<sup>2</sup> According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see [Appendix](#) on MERS website).

<sup>3</sup> This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

The unfunded accrued liability (UAL) as of December 31, 2017 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2017 valuation to take into account the expected future contributions that are based on past valuations. Each type of UAL (layer) is amortized over the appropriate period. Please see the [Appendix](#) on the MERS website for a detailed description of the amortization policy.

## 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:	12/31/2017
Measurement Date of Total Pension Liability (TPL):	12/31/2017

At 12/31/2017, the following employees were covered by the benefit terms:

Inactive employees or beneficiaries currently receiving benefits:	57
Inactive employees entitled to but not yet receiving benefits:	8
Active employees:	<u>56</u>
	121

Covered employee payroll: (Needed for Required Supplementary Information)	\$	3,350,656
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Average expected remaining service lives of all employees (active and inactive):		4
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Total Pension Liability as of 12/31/2016 measurement date:	\$	24,956,391
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Total Pension Liability as of 12/31/2017 measurement date:	\$	25,839,297
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Service Cost for the year ending on the 12/31/2017 measurement date:	\$	297,216
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Change in the Total Pension Liability due to:

- Benefit changes <sup>1</sup> :	\$	0
- Differences between expected and actual experience <sup>2</sup> :	\$	323,533
- 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.

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

	1% Decrease (7.00%)	Current Discount Rate (8.00%)	1% Increase (9.00%)
Change in Net Pension Liability as of 12/31/2017:	\$ 2,710,374	-	\$ (2,303,201)

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 - Gnrl Clercl

12/1/2016	Service Credit Purchase Estimates - Yes
1/1/2009	E 2% COLA Adopted (01/01/2009)
1/1/2008	E 2% COLA Adopted (01/01/2008)
1/1/2007	E 2% COLA Adopted (01/01/2007)
1/1/2006	E 2% COLA Adopted (01/01/2006)
1/1/1998	E1 2.5% COLA for past retirees (01/01/1998)
5/1/1997	Temporary 8 Year Vesting (05/01/1997 - 07/01/1997)
1/1/1997	E1 2.5% COLA for past retirees (01/01/1997)
1/1/1996	Flexible E 2% COLA Adopted (01/01/1996)
4/1/1994	Temporary Benefit FAC-3 (3 Year Final Average Compensation) (04/01/1994 - 08/01/1994)
1/1/1994	Benefit B-4 (80% max)
1/1/1994	Flexible E 2% COLA Adopted (01/01/1994)
1/1/1993	Flexible E 2% COLA Adopted (01/01/1993)
1/1/1992	Flexible E 2% COLA Adopted (01/01/1992)
1/1/1991	Flexible E 2% COLA Adopted (01/01/1991)
1/1/1990	Flexible E 2% COLA Adopted (01/01/1990)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)
2/1/1987	Benefit C-2/Base B-1
1/1/1987	Flexible E 2% COLA Adopted (01/01/1987)
7/7/1975	Covered by Act 88
4/21/1975	Exclude Temporary Employees
11/1/1968	Benefit C-1 (Old)
9/1/1967	Benefit FAC-5 (5 Year Final Average Compensation)
9/1/1967	10 Year Vesting
9/1/1967	Benefit C (Old)
9/1/1967	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
9/1/1967	Fiscal Month - July
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

### 02 - Police POAM

12/1/2016	Service Credit Purchase Estimates - Yes
1/1/2009	E 2% COLA Adopted (01/01/2009)
1/1/2008	E 2% COLA Adopted (01/01/2008)
1/1/2007	E 2% COLA Adopted (01/01/2007)
1/1/2006	E 2% COLA Adopted (01/01/2006)
1/1/1997	E1 2.5% COLA for past retirees (01/01/1997)
6/15/1996	Temporary Benefit FAC-3 (3 Year Final Average Compensation) (06/15/1996 - 08/02/1996)
12/19/1994	Temporary Benefit FAC-3 (3 Year Final Average Compensation) (12/19/1994 - 04/01/1995)

**02 - Police POAM**

4/1/1994	Benefit B-4 (80% max)
4/1/1994	Benefit F50 (With 25 Years of Service)
1/1/1994	Flexible E 2% COLA Adopted (01/01/1994)
1/1/1993	Flexible E 2% COLA Adopted (01/01/1993)
1/1/1992	Flexible E 2% COLA Adopted (01/01/1992)
1/1/1991	Flexible E 2% COLA Adopted (01/01/1991)
1/1/1990	Flexible E 2% COLA Adopted (01/01/1990)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)
1/1/1987	Flexible E 2% COLA Adopted (01/01/1987)
7/1/1985	Benefit C-2/Base B-1
4/1/1985	Benefit F55 (With 25 Years of Service)
7/7/1975	Covered by Act 88
4/21/1975	Exclude Temporary Employees
11/1/1968	Benefit C-1 (Old)
9/1/1967	Benefit FAC-5 (5 Year Final Average Compensation)
9/1/1967	10 Year Vesting
9/1/1967	Benefit C (Old)
9/1/1967	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
9/1/1967	Fiscal Month - July
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

**10 - Grnl Union**

12/1/2016	Service Credit Purchase Estimates - Yes
1/1/2009	E 2% COLA Adopted (01/01/2009)
1/1/2008	E 2% COLA Adopted (01/01/2008)
1/1/2007	E 2% COLA Adopted (01/01/2007)
1/1/2006	E 2% COLA Adopted (01/01/2006)
1/1/1999	E1 2.5% COLA for past retirees (01/01/1999)
4/2/1998	Benefit FAC-5 (5 Year Final Average Compensation)
2/2/1998	Benefit FAC-3 (3 Year Final Average Compensation)
1/31/1998	Temporary Benefit FAC-3 (3 Year Final Average Compensation) (01/31/1998 - 02/01/1998)
1/1/1997	E1 2.5% COLA for past retirees (01/01/1997)
1/1/1996	Flexible E 2% COLA Adopted (01/01/1996)
5/1/1995	Temporary Benefit FAC-3 (3 Year Final Average Compensation) (05/01/1995 - 09/30/1995)
4/1/1994	Temporary Benefit FAC-3 (3 Year Final Average Compensation) (04/01/1994 - 08/01/1994)
1/1/1994	Benefit B-4 (80% max)
1/1/1994	Flexible E 2% COLA Adopted (01/01/1994)
1/1/1993	Flexible E 2% COLA Adopted (01/01/1993)
1/1/1992	Flexible E 2% COLA Adopted (01/01/1992)
1/1/1991	Flexible E 2% COLA Adopted (01/01/1991)
7/1/1990	Benefit B-2
1/1/1990	Flexible E 2% COLA Adopted (01/01/1990)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)

**10 - Gnrl Union**

1/1/1987	Flexible E 2% COLA Adopted (01/01/1987)
9/1/1985	Benefit FAC-5 (5 Year Final Average Compensation)
9/1/1985	10 Year Vesting
9/1/1985	Benefit C-2/Base B-1
9/1/1985	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
7/7/1975	Covered by Act 88
4/21/1975	Exclude Temporary Employees
9/1/1967	Fiscal Month - July
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

**11 - Dept Heads**

12/1/2016	Service Credit Purchase Estimates - Yes
1/1/2006	E 2% COLA Adopted (01/01/2006)
8/1/2000	E2 2.5% COLA for future retirees (08/01/2000)
9/1/1997	Benefit FAC-3 (3 Year Final Average Compensation)
9/1/1997	Benefit F50 (With 25 Years of Service)
1/1/1997	E1 2.5% COLA for past retirees (01/01/1997)
4/1/1994	Temporary Benefit FAC-3 (3 Year Final Average Compensation) (04/01/1994 - 08/01/1994)
1/2/1994	Benefit B-4 (80% max)
1/1/1994	2.5% Multiplier (no max)
1/1/1994	Flexible E 2% COLA Adopted (01/01/1994)
7/1/1993	Temporary Benefit FAC-3 (3 Year Final Average Compensation) (07/01/1993 - 01/01/1994)
7/1/1993	Temporary Benefit B-4 (80% max) (07/01/1993 - 01/01/1994)
7/1/1993	Temporary Benefit F55 (With 30 Years of Service) (07/01/1993 - 01/01/1994)
1/1/1993	Flexible E 2% COLA Adopted (01/01/1993)
1/1/1992	Flexible E 2% COLA Adopted (01/01/1992)
1/1/1991	Flexible E 2% COLA Adopted (01/01/1991)
1/1/1990	Flexible E 2% COLA Adopted (01/01/1990)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)
1/1/1987	Flexible E 2% COLA Adopted (01/01/1987)
2/1/1985	Benefit FAC-5 (5 Year Final Average Compensation)
2/1/1985	10 Year Vesting
2/1/1985	Benefit C-2/Base B-1
2/1/1985	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
7/7/1975	Covered by Act 88
4/21/1975	Exclude Temporary Employees
9/1/1967	Fiscal Month - July
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

**12 - Admn Emplys**

12/1/2016	Service Credit Purchase Estimates - Yes
1/1/1999	E1 2.5% COLA for past retirees (01/01/1997)

**12 - Admn Emplys**

9/1/1997 Benefit B-4 (80% max)  
 9/1/1997 Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%  
 9/1/1997 10 Year Vesting  
 9/1/1997 Benefit FAC-5 (5 Year Final Average Compensation)  
 7/7/1975 Covered by Act 88  
 4/21/1975 Exclude Temporary Employees  
 9/1/1967 Fiscal Month - July  
 Defined Benefit Normal Retirement Age - 60  
 Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

**13 - Admin EE's after 9/1/2011**

12/1/2016 Service Credit Purchase Estimates - Yes  
 9/1/2011 Day of work defined as 8 Hours a Day for All employees.  
 9/1/2011 Benefit FAC-5 (5 Year Final Average Compensation)  
 9/1/2011 Exclude Temporary Employees  
 9/1/2011 10 Year Vesting  
 9/1/2011 Benefit C (New)  
 9/1/2011 Member Contribution Rate 5.00%  
 7/7/1975 Covered by Act 88  
 9/1/1967 Fiscal Month - July  
 Defined Benefit Normal Retirement Age - 60  
 Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

**14 - Dept Heads after 9/2011**

12/1/2016 Service Credit Purchase Estimates - Yes  
 9/1/2011 Day of work defined as 80 Hours a Month for All employees.  
 9/1/2011 Benefit FAC-5 (5 Year Final Average Compensation)  
 9/1/2011 Exclude Temporary Employees requiring less than 6 months  
 9/1/2011 10 Year Vesting  
 9/1/2011 Benefit C (New)  
 9/1/2011 Benefit F50 (With 25 Years of Service)  
 9/1/2011 Member Contribution Rate 5.00%  
 7/7/1975 Covered by Act 88  
 9/1/1967 Fiscal Month - July  
 Defined Benefit Normal Retirement Age - 60  
 Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

**15 - General Clerical aft 7/1/15**

12/1/2016 Service Credit Purchase Estimates - Yes  
 7/1/2015 Day of work defined as 8 Hours a Day for All employees.  
 7/1/2015 Benefit FAC-5 (5 Year Final Average Compensation)  
 7/1/2015 Exclude Temporary Employees requiring less than 6 months  
 7/1/2015 Benefit C (New)  
 7/1/2015 Participant Contribution Rate 5%  
 7/1/2015 10 Year Vesting



**15 - General Clerical aft 7/1/15**

7/1/1975 Covered by Act 88  
 9/1/1967 Fiscal Month - July  
 Defined Benefit Normal Retirement Age - 60  
 Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

**16 - General Union aft 7/1/12**

12/1/2016 Service Credit Purchase Estimates - Yes  
 7/1/2012 Day of work defined as 8 Hours a Day for All employees.  
 7/1/2012 Benefit FAC-5 (5 Year Final Average Compensation)  
 7/1/2012 Exclude Temporary Employees requiring less than 6 months  
 7/1/2012 10 Year Vesting  
 7/1/2012 Benefit C (New)  
 7/1/2012 Participant Contribution Rate 5%  
 7/1/1975 Covered by Act 88  
 9/1/1967 Fiscal Month - July  
 Defined Benefit Normal Retirement Age - 60  
 Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

**21 - COAM Cmnd Of**

12/1/2016 Service Credit Purchase Estimates - Yes  
 1/1/2007 E 2% COLA Adopted (01/01/2007)  
 1/1/2006 E 2% COLA Adopted (01/01/2006)  
 1/1/1999 E1 2.5% COLA for past retirees (01/01/1997)  
 7/1/1997 Benefit FAC-3 (3 Year Final Average Compensation)  
 7/1/1997 10 Year Vesting  
 7/1/1997 Benefit B-4 (80% max)  
 7/1/1997 Benefit F50 (With 25 Years of Service)  
 7/1/1997 Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%  
 7/7/1975 Covered by Act 88  
 4/21/1975 Exclude Temporary Employees  
 9/1/1967 Fiscal Month - July  
 Defined Benefit Normal Retirement Age - 60  
 Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

**22 - Police after 5/1/2014**

12/1/2016 Service Credit Purchase Estimates - Yes  
 5/1/2014 Day of work defined as 84 Hours a Month for All employees.  
 5/1/2014 Benefit FAC-5 (5 Year Final Average Compensation)  
 5/1/2014 Exclude Temporary Employees requiring less than 6 months  
 5/1/2014 10 Year Vesting  
 5/1/2014 Benefit C (New)  
 5/1/2014 Benefit F50 (With 25 Years of Service)  
 5/1/2014 Member Contribution Rate 5.00%  
 7/7/1975 Covered by Act 88  
 9/1/1967 Fiscal Month - July

**22 - Police after 5/1/2014**

Defined Benefit Normal Retirement Age - 60

Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

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

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

### Increase in Final Average Compensation

Division	FAC Increase Assumption
All Divisions	2.00%

### Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
All Divisions	100%

### Miscellaneous and Technical Assumptions

Loads – None.